Implementation of a resistance skills training program to improve grade-seven students reported self-efficacy to resist drugs.

By

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ABSTRACT

At the start of the 1990's, researchers took great joy in describing the decrease in adolescent drug use across North America (Adlaf & Smart, 1991; Johnson, O'Malley & Bachman, 1992). Some researchers even predicted that this trend would continue (Adlaf & Smart, 1991). However, studies across North America have shown this trend has not only come to an end, but has reversed (Adlaf, Ivis, Smart &Walsh, 1995; Johnson, O'Malley & Bachman, 1994). This increase in drug use by adolescents is cause for alarm. Currently, the misuse of alcohol and other drugs is the greatest cause of disability and death in adolescents and young adults. "Over half of all accidents in the 15-24 year age group are due to motor vehicle fatalities, of which 45% are related to alcohol abuse. For those under 21 years of age 51% were alcohol related. Other drugs certainly play a role as well" (Comerci & MacDonald, 1990, p.77).

This study looks at the results of a short-term prevention program that attempted to increase drug use refusal self-efficacy for smoking, alcohol and marijuana amongst grade-seven students. Seventy-three students from three grade-seven classrooms in the Greater Victoria Area participated in the study. The study included a pretest, an implementation of a prevention program based on Social Learning Theory constructs, an immediate post-test and a post-test at a 3 week follow up. The results do not show a significant increase in drug use refusal self-efficacy, but do raise questions about the different effects of participating in a drug use refusal skills training program for current

drug users and non-users. The researcher discusses implications for future research and prevention programs.

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Chapter One

Introduction

Researchers have studied adolescent drug use trends for many years. At the start of the 1990's, researchers took great joy in describing the decrease in adolescent drug use across North America (Adlaf & Smart, 1991; Johnson, O'Malley & Bachman, 1992). Some researchers even predicted that this would continue to be the trend (Adlaf & Smart, 1991). However, The School-Based Prevention Project: Student Survey Report, Spring 1995 Evaluation, which was based on a survey of 18 secondary schools in British Columbia, reports that not only has this trend come to an end, but it has reversed. This finding is supported by the most recently published addition of The Ontario Student Drug Use Survey (Adlaf, Ivis, Smart &Walsh, 1995). American studies, such as the Monitoring Our Future Survey, have reached the same conclusion (Johnson, O'Malley & Bachman, 1994). They found that the trend towards increased drug use has been occurring across North America since the beginning of the 1990's. Johnston, et al., (1992) state that the historical peak for annual marijuana use in the United States was 51% of high school seniors in 1979. The School Based Prevention Project: Student Survey Report (1995) states that the annual marijuana use by British Columbia high school seniors is at 66% for males and 52% for females.

This increase in drug use by adolescents is cause for alarm. The misuse of alcohol and other drugs is the greatest cause of disability and death in adolescents and young adults. "Over half of all accidents in the 15-24 year age group are due to motor

vehicle fatalities, of which 45% are related to alcohol abuse. For those under 21 years of age 51% were alcohol related. Other drugs certainly play a role as well" (Comerci & MacDonald, 1990, p.77). These statistics along with the previously reported trend towards increased drug use, show the value and importance of continuing research into adolescent drug use.

> Perhaps no area has proven more clearly appropriate for the application of systematic research and reporting than the drug field, given its rapid rate of change, its importance for the well-being of the nation and the amount of legislative and administrative intervention which continues to be addressed to it (Johnson, et al., 1992, p. 4).

Researchers' attempts to understand and prevent substance misuse have only been minimally effective. "In spite of the considerable effort directed toward the development of therapeutic strategies to control addictive behaviors (smoking, alcoholism, obesity and drug addiction), the long-range clinical efficacy of programs thus far has been consistently weak" (Condiotte & Lichtenstein, 1981). As a consequence, researchers are constantly seeking information about the factors that affect an individual's ability to succeed in avoiding substance abuse and to succeed when choosing abstinence. Although there has been some promising breakthroughs in the field of chemical dependence treatment, treatment programs alone cannot be counted on to deal with societies growing drug problems. "It is better not to suffer a disease than to have it and try to repair the damage afterward" (Russel, 1986, p.2).

Researchers have recently turned their attention to Albert Bandura's, Social Learning Theory (1977) and the construct of self-efficacy (Bandura, 1998) for its

predictive value in determining who will begin to use alcohol and other drugs at an early age, who will develop a substance misuse problem and who can successfully end drug and alcohol abuse. Self-efficacy is the belief that one can successfully complete a behavior necessary to produce a desired outcome (Bandura, 1977, p.191). Researchers have found this construct to be useful across a number of clinical problems, including: desensitization to phobias, pain management, academic underachievement, smoking cessation and other areas of substance misuse. Research has shown self-efficacy to be more predictive of a treatment outcome than level of skill or past experience. O'Leary (1985), in her review of research on self-efficacy, said the following about self-efficacy's relationship to smoking cessation, "self-efficacy to abstain is a better predictor of relapse than the amount of psychological dependence, coping history, motivation to quit, confidence in treatment rationale and expectancies concerning the rewards of smoking" (p.442). Researchers also found self-efficacy to be a good predictor of abstinence and reduction of drug use for alcohol (Burling, Reilly, Moltzen & Ziff, 1989, Rychtarik, Prue, Rapp & King, 1992), marijuana (Stephens, Wertz & Roger, 1995), and illicit opioid use (Reilly et al., 1995). Although the majority of research on self-efficacy and use of drugs and alcohol has used adult subjects, its predictive nature has been demonstrated with adolescents (Aas, Klepp, Laberg & Aaro, 1994). In addition, initial research has found to be predictive of adolescents' abilities to resist drug use (Botvin, 1986; Ellickson, 1986; Ellickson, 1995; Ellickson & Hays, 1991; Hansen, Johnson, Flay, Graham & Sobel, 1988).

The predictive value of self-efficacy with adolescent drug use has led to the widespread implementation of prevention programs that include social learning theory

constructs in an attempt to increase self-efficacy. These programs have produced positive results in decreasing drug use and delaying the onset of drug use (Botvin, 1986; Ellickson, 1986; Ellickson, 1995; Hansen et al., 1988). These results are very exciting in a field where previous prevention programs have only produced minimal or neutral results and in some cases have even increased drug use (Botvin, 1986, Ellickson, 1995, and Hansen et al, 1988). However, researchers have not isolated the social learning variables known to increase self-efficacy to resist using drugs, but have grouped social learning approaches with components of other prevention strategies. Very little research has isolated self-efficacy promoting constructs from other prevention strategies to discover if they are capable of standing alone as a prevention strategy.

Purpose

The purpose of this study is to determine whether a drug use refusal skills training program that uses constructs from Social Learning Theory can enhance self-efficacy to refuse drug use. It also examines if any self-efficacy gains diminish over a 3 week period. A self-efficacy scale was used to determine changes of self-efficacy to resist drug use in 73 grade seven students. Their self-efficacy to resist drug use was tested prior to the implementation of a 1 week resistance skills training program, immediately after exposure to the program and 3 weeks after completion.

Research Questions

The study attempts to answer the following questions,

1. Will self-efficacy to resist drug use increase as a result of participation in a drug use refusal skills training program?

2. If self-efficacy to resist drug use is increased, will it be maintained over a 3 week period?
3. Will current drug users be influenced differently by a drug refusal skills training program compared to non-users?

Chapter Two

Literature Review

The literature review will: a) present the current adolescent drug use trends; b) review prevention programs of the past and present; and, c) compare traditional prevention models to prevention programs based on social learning theory constructs. In addition, this chapter will discuss: the construct of self-efficacy and its relationship to health behaviors; how it has been used in dealing with substance use; and, the need to study the effectiveness of skills training in increasing self-efficacy. The literature review will show how the questions examined in this thesis fill a gap in current literature.

Adolescence and Drug Use Trends

Adolescence is the transition from childhood into adulthood and is characterized by many physical and psychological changes. During adolescence there are several developmental challenges including: the development of a personal identity; the formation of values; the formation of relationships with peers; the separation from parents; and the identification and establishment of their sexual identity. In addition, adolescents are dealing with making decisions regarding social, religious, family, cultural, and societal taboos and expectations. (Norman, 1997; Pagliaro & Pagliaro, 1996). The decisions adolescents make at this point and the skills they develop will

profoundly affect their adult lives. In addition, the development of substance misuse problems at this age can disrupt the healthy development of the youth:

> Heavy drug use as a teenager in turn further interferes with the mastery of critical developmental skills, such as the formation of pro-social identity, gaining interpersonal and education skill, and learning to take on family and work responsibilities. It also fosters precocious development i.e., it accelerates development by leading to premature adoption of adult roles, of jobs and family, without the necessary growth and development typically needed to ensure success with these roles. Thus, drug users may develop a psuedo-maturity that does not adequately prepare them for the real difficulties of adult life. (Bentlar, 1992, p.57)

The Addictions Research Foundation's The Ontario Student Drug Use Survey (Adlaf, Ivis, Smart and Walsh, 1977-1995) now spans 18 years and is the longest on-going study of adolescent drug use in Canada. Based upon their research of adolescent trends over the past decade, researchers involved with the program predicted in 1991, "Declines in illicit drug use among the current cohort of adolescents are likely enduring phenomena, although the future rate of decline may be lower" (Adlaf & Smart, 1991, p.70). This sentiment was echoed in the high profile American study Monitoring Our Futures (Johnson, O'Malley & Bachman, 1992), which found decreases in lifetime prevalence of drug use for every drug, other than inhalants, that they had studied since 1980. One of the highlights of the Johnson et al.(1992) study concerned marijuana use. "In 1991, annual use continued to decline significantly and now stands 27 percentage

points below its all-time high of 51% in 1979" (1992, p.71). However, this trend of decreased drug use and positive predictions for the future did not continue.

The 1995 report of the Canadian study declared "The declines in drug use that have occurred during the past decade have ended. Between 1993 and 1995, the past year use of eight drugs significantly increased (no drug declined in use)" (Adlaf et al., 1995). The drugs that they noticed increased use for were cigarettes (23.8% to 27.9%), marijuana (12.7% to 22.7%), glue (1.6% to 2.4%), methamphetamines (2.0% to 4.6%), hallucinogens other than LSD or PCP (3.1% to 7.6%), PCP (0.6% to 1.7%), cocaine (1.5% to 2.4%) and ecstasy (0.6% to 1.8%).

There were also important findings about methods of drug use and frequency of drug use. The percentage of students injecting drugs increased from 5.4% in 1993 to 8.8% in 1995. The percentage of students consuming five or more alcoholic drinks on a single occasion during the past 4 weeks increased from 30.5% in 1993 to 34.9% in 1995. The frequency of marijuana use increased between 1993 and 1995 with students who used 40 or more times during the 12 months before the survey increasing from 13.6% to 19.4%. There was also more poly-drug use in 1995. The percentage of students using three or more drugs increased from 15.2% in 1993 to 22.7% in 1995. Increases in drug use for this time period were not restricted to the Province of Ontario. Although, the Ontario studies show an increase in marijuana use, Ontario still has the lowest rate of marijuana use in Canada and British Columbia has the highest (Poulin, 1997). Johnston, et al., (1992) state that the peak historical annual use level for marijuana in the United States was 51% of high school seniors in 1979. The School Based Prevention Project:

Student Survey Report, (1995) states that the annual marijuana use by British Columbia high school seniors is at 66% for males and 52% for females.

Similar findings are being reported from the Monitoring the Future Study (Johnson et al., 1994), which is a nationwide survey of American students in grades 8, 10 and 12. When they compared 1991 to 1994 results, they found increases in cigarette use in the past month at grade 8 (14.3% to 18.6%), grade 10 (20.8 to 25.4%), and grade 12 (28.3% to 31.2%). In comparing 1991-1994, they found increases in use of marijuana over the past year by grade 8 students (6.2% to 13.0%), grade 10 students (16.5 to 25.2%), grade 12 students (23.9% to 30.7%). There were also increases from 1991-1994 in the category "any illicit drug use other than cannabis over the past year"; grade 8 students (8.4% to 11.3%), grade 10 students (12.2% to 15.2%), and grade 12 students (16.2 to 18.0). However, the rates of drug use have not risen to the levels of the 1970's and early 1980's. "Overall, use of the three most widely used drugs is still well below 1979 levels: 76.9% drank alcohol in 1979 compared to 58.8% in 1995; 34.7% smoke cigarettes in 1979 compared to 27.9% in 1995, and 31.7% used cannabis in 1979 compared to 22.7% in 1995" (Adlaf et al., 1995).

Based on this latest research from Canada and the United States, it is clear that the drug use decline of the past decade is over. Therefore, it is necessary to put renewed efforts into developing effective prevention programming to combat this trend. To do this, previous substance use prevention programs and research must be reviewed to determine what the best strategy for prevention substance use would be.

Prevention Programs

There has been a long-standing interest in creating a prevention program that would reduce the number of individuals who experience early substance use and abuse. Four prevention models have dominated the field: informational models, alternative activities models, affective models and social influence models (Ellickson, 1995; Kim, Crutchfield, Williams & Helper, 1998; Norland, Eichar & DiChiara, 1996). Each of these models has garnered popularity at different time periods and each has been put to the test of scientific study.

The informational model was popular in the 1960's and early 1970's and involved informing students of the physical, pharmacological and psychological effects of drugs, as well as, the legal sanctions and ramifications of use. A subset of these programs used scare tactics that dramatized the negative aspects of use, exaggerated the harmful effects associated with use and addressed only the adverse consequences of drug use (Norman et al., 1997). This model assumed that adolescents had not yet learned about adverse effects and consequences of drug use and that by filling in this gap of knowledge adolescents would be able to make the appropriate choice and not use drugs. Although these efforts had some positive effect on drug knowledge levels, none of the programs that used the informational approach were found to have a significant positive impact on drug use. Moreover, some lead to an increase in drug use by the subjects of the study (Ellickson, 1995, Moskowitz, Schaps & Scheffer, 1984).

Researchers have hypothesized many reasons for the poor results of information-based programs. Weisheit (1983) suggested that a few hours of classroom instruction on the dangers of drug use could not compete with years of positive messages of drug use

gathered from peers, parents and society. Hawkins, Lishner, Catalano, and Howard (1985) postulated that the exaggerated negative claims made in these programs caused the participants to mistrust the entire program. Further, they suggested that the information supplied in these programs actually aroused curiosity in the participants and increased initial experimentation by adolescents. Regardless of the reasons, the information only approach was found to be ineffective and interest turned to other approaches to prevention.

During the late 1970's, the Alternative Activities Program became popular. "By involving youth in absorbing and satisfying non-drug related activities, the Alternative Activities strategy was intended to reduce or prevent substance use" (Norman et al., 1997). This approach was based on seven basic concepts (Pagliaro & Pagliaro, 1996). First, the assumption that people take drugs because they want to. Second, that people use drugs to feel better or to get high. Third, that people have been taught by society that drugs are an effective way to make you feel better. Fourth, "feeling better" encompasses a huge range of mood or consciousness changes such as sleep changes, emotional shifts, energy modifications, and visions etc. Fifth, with many mood altering drugs the effects of "feeling better" are short-term and these drugs have short-term and long-term negative consequences. Sixth, individuals will not stop using substances until they find something better. Seventh, the key to meeting problems of drug abuse is to focus on positive non-chemical ways of feeling better. The non-use of alcohol and drugs was not a primary focus of these programs as it was felt that the alternatives to drug use would be enough to inhibit use.

The effects of these programs are mixed. Schaps et al. (1981) included 12 Alternative Activities programs in their macro analysis of prevention programs. Five of the prevention programs studied showed positive results while seven showed no impact. Swisher and Hu (1983) suggest that the type of activity used in the program can have a dramatic effect on the outcome of the program. They found that social activities with substance users present, such as sports, entertainment, vocational and extracurricular activities are associated with increased substance use. Whereas, more solitary activities like hobbies, studying, and religious activities are associated with decreased use. The generally poor results of these programs have caused most prevention professionals to discount the use of alternative measures strategies. However, it should be noted that in a meta-analysis Tobler (1986) found that Alternative Activities programs could be effective with high risk youth if it included a high number of programming hours.

During the 1980's affective models gained popularity. "This model assumes that adolescents who turn to using drugs do so because of problems within themselves—low self-esteem or inadequate personal skills in communication and decision making" (Ellickson, 1995, p.101). Proponents of this theory believed that substance use would be reduced by giving adolescents specialized skill training focused on building personal and social competency (Norman et al., 1997). These prevention programs included self-concept building, stress management and stress reduction techniques, rational decision making, problem solving, assertiveness training, communication enhancement and values examination. These programs tended to teach broad based skills and did not focus specifically on alcohol and drug prevention (Hansen, 1988).

The results of scientific study on these prevention programs were disappointing. Researchers found that these programs did not effectively inhibit drug use or improve self-esteem (Schaps, Moskowitz, Malvin & Schaeffer, 1986). In a meta-analysis of prevention programs Schaps et al., (1986) looked at 60 programs of this type. Thirty-seven showed no effect on drug specific outcomes, 20 showed small positive results, and only 3 showed meaningful positive results. Based on these results, the search was on once again for a successful prevention model.

Interest then shifted to social influence models (also sometimes called the social environmental strategy) of drug misuse prevention. "The social influence model is the most recent and most promising, approach to drug prevention" (Ellickson, 1995, p.10l).

> This strategy assumes that social influences from peers, parents, and media encourage substance use. Youngsters can be inoculated against those social pressures by reinforcing social norms against the use of substances and by supplying them with the skills to resist social pressures to use (Norman et al., 1997).

The activities generally included in this model are creating norms of non-use, training in identifying pressures to use and training in resisting pressures to use.

Ellickson (1995), found that the social influences programs were effective at curbing drug use by both high and low-risk adolescents and curbing regular as well as occasional use of drugs in many different environments. Social influence programs were found to be particularly effective for curbing use of cigarettes and marijuana. These findings were also supported by Botvin's (1986) research on prevention programs using the social influences model, "All studies using a social influences approach demonstrated

significant reductions in smoking behavior" (p.71). The results reported by Botvin in one study indicated reductions of 33-39% in the proportion of individuals beginning to smoke in the experimental group compared to the control group. The broader substance abuse programs Botvin reviewed tended to emphasize not only components of the social influence approach but also generic acquisition of inter and intra-personal skills. These generally included: problem solving and decision making skills; cognitive skills for resisting interpersonal and medial influences; skills for increasing self-control and self-esteem; and, adaptive coping strategies for dealing with stress. These programs tended to be longer in application and reported even greater reduction in the initiation of smoking behavior. Reductions in new experimental smoking ranged from 42-75%. The results for reduction in other drug use behavior were not reported.

To gather further insight into the effectiveness of prevention programs, Hansen et al. (1988) conducted a study in which two prevention programs for students in grade seven were compared along with a control group. "The first program focused on prevention through social pressure resistance training. The second featured affective education approaches to prevention" (1988, p.135). The curricula for each of the programs were modeled on programs currently being used and based on either the social influences or affective philosophy. The curriculum for the social pressure resistance training included motivators to use or not use drugs, correction of normative expectations of drug use, consequences of drug use, inoculation against media messages, use of role plays to practice resisting peer pressure, information about parental and other adult influences, positive friendships, and, a public commitment to say "no" to pressures to use drugs. The curriculum for the affective program included: motivators for

using or not using drugs; alternatives to drug use; goal setting skills; consequences of drug uses; decision making skills; self-esteem raising activities; general assertiveness training; and, a public commitment to engage in alternatives instead of using drugs.

A number of significant differences were found between the programs. "Analysis of means indicate that for both tobacco and alcohol, onset among non-users at pretest and use by all available subjects, was less among those who received the social curriculum" (p.143). Marijuana use scores for pretest non-users were only slightly lower among those who received the social curriculum than the control group. The affective curriculum was found to have a negative impact. This negative impact became quite pronounced at the 2-year post-test.

> For example the index mean for tobacco at final post test for affective students was 1.508 while the mean for the control group was 0.878. The index means for alcohol at the final post-test were 1.71 (affective), and 0.724 (control). Likewise, means of marijuana use for these two groups were .846 and 0.408, respectively (p.144).

The indexes used in the study reduced a number of variables into a score that represents average number of cigarettes, alcoholic drinks, or marijuana cigarettes used in one week. This study has two important findings. The most efficacious program for reducing drug use onset is one that includes social influence resilience training. Moreover, affective programs may actually increase drug use with this effect becoming more significant over time.

A later study by Hansen (1992) did a comprehensive review of social influences based prevention programs and found that social learning prevention programs had

predominantly positive effects (63%) with few being neutral (26%) or negative (11%). With the findings of comparative research supporting the benefits of social learning theory as an effective model for prevention programming, it is important to look more thoroughly at the theory of social learning theory, the construct of self-efficacy and how it can be applied to health promotion and prevention programming.

Social Learning Theory and the Construct of Self-Efficacy

Before studying the role self-efficacy plays in prevention programs, it is necessary to describe social learning theory. Social learning theory is a theory about how individuals learn that emphasizes the development of cognitive competencies, expectancies, goal standards and self-regulatory functions through direct experience and observations of others. Self-efficacy is a key component of social learning theory and influences skill acquisition and behavior change.

Self-efficacy is the belief that one can successfully complete the behavior necessary to produce the desired outcome (Bandura, 1977). Schunk (1996) gives a more detailed definition, "Self-efficacy is a belief about what one is capable of doing; it is not simply a matter of knowing what to do. In determining the level of thier self-efficacy, individuals assess their skills and their capabilities to translate those skills into actions" (p.131). It is important to note that self-efficacy is based on an individual's perception of their own skills and abilities, which are not necessarily their actual skills and abilities.

Bandura differentiates self-efficacy from related concepts such as self-esteem or the self-concept by noting that the former term deals with perceived performance competency in specific situations, whereas the latter terms refer to a global self-image

across a wide variety of situations (Marlatt & Gordon, 1985). He also differentiates it from the concept of outcome expectations, "Perceived self-efficacy is a judgment of one's capability to accomplish a certain level of performance, whereas an outcome expectation is a judgment of the likely consequence such a behavior will produce" (Bandura, 1986, p.391).

Self perceptions of efficacy influence choice behavior, effort expenditure, thought patterns, emotional reactions and persistence (Bandura, 1986). Human beings are constantly making choices about activities. When they have high self-efficacy about a particular task, they are more likely to engage in that task. The more they engage in the task, the more skill they develop and their efficacy expectations are confirmed and enhanced. In contrast, when they have low self-efficacy about a particular task, they avoid situations where they would need to engage in it; therefore, limiting opportunities to gain skill and consequently reinforcing their low efficacy expectations.

> The efficacy judgments that are the most functional are probably those that slightly exceed what one can do at any given time. Such self-appraisals lead people to undertake realistically challenging tasks and provide motivation for progressive self-development of their capabilities (Bandura, 1986, p.394).

Efficacy expectations also affect the effort that people will put into a task. The higher their perceived self-efficacy, the more vigorously they will pursue their efforts on difficult tasks. The more perseverance, the more likely the person will be to successfully complete a task, and therefore, reinforce high efficacy expectations. "People's judgements of their capabilities also influence their thought patterns and emotional reactions during actual and anticipated transactions with their environment" (Bandura,

1986, p.394). People who have low self-efficacy about a given task tend to dwell on thoughts of their own inadequacies while people who have high self-efficacy tend to focus on the task at hand.

Efficacy expectations may vary in level, generalizability and strength (Bandura, 1977). The level of self-efficacy may be influenced by the level of difficulty of completing a task. Thus, when tasks are ordered by level of difficulty an individual's high self-efficacy rating may be limited to a simple task, extend to a task of medium difficulty or extend to a task of high difficulty. Generalizability may also differ. Some experiences may give an individual a self-efficacy for completing a task in many situations where others may only be situationally specific. Finally, expectancies vary in strength. Weak expectancies may be further diminished or extinguished by experiences that disconfirm their self-efficacy beliefs, but an individual with a strong expectancy of success at a task will persevere even after initial failure. This perseverance will often lead to success that re-confirms their self-efficacy belief.

The four sources of efficacy expectations are: 1) performance accomplishments; 2) vicarious experiences; 3) verbal persuasion; and, 4) physiological states (Bandura, 1977, 1986). According to Bandura, (1977) performance accomplishments are the most powerful sources of self-efficacy and are achieved through personal experience when a person develops expertise at a formerly difficult or fear arousing task. "Successive mastery over tasks required to engage in a behavior helps the person to develop skills. In addition, it fosters development of a repertoire of coping mechanisms to deal with problems encountered" (Bandura, 1977).

Vicarious experiences can be strong influences on self-efficacy depending on the individuals perception of the model. Models who are perceived to be competent and of high status have greater influence on self-efficacy than lower status models (Schunk, 1996). However, the model should not be perceived as to be so superior in completing the task that the subject attributes the models success to personal characteristics not present in themselves. Moreover, multiple models experiencing success are more advantageous than singular models (Schunk, 1996). Other factors that make a model more likely to positively affect the self-efficacy of a subject include: if the subject is developmentally capable of processing the information provided by the model; use the strategies and compare their performance to the memory of the model's performance; the ability to adopt intrinsic motivators; and, if the subject sees the model being positively rewarded for the desired behavior.

Verbal persuasion is a third source of self-efficacy and is used to talk someone into believing that they have the skills and abilities to achieve a desired task (Bandura, 1986). Verbal persuasion has the greatest effect on people who have good reason to believe that they can produce the desired effect through their actions (Chambliss & Murray, 1979). Verbal persuasion is more effective if the persuader is perceived to be a good and reliable source of information. However, verbal persuasion must be used cautiously in that it must be realistic about the individual's ability to successfully accomplish the task. Raising unrealistic beliefs about competence only invites failure, discredits the persuader and lowers the individual's self-efficacy.

A fourth source of efficacy expectations is physiological states. This refers to people's emotional reaction to a task such as anxiety, fear, excitement or distress. People

rely on information from their physiological state in judging their capabilities. Negative physiological states may be read as signs of vulnerability or dysfunction (Bandura, 1986). "Thus individuals with low self-efficacy about a particular task may ruminate about their personal deficiencies rather than thinking about accomplishments or attending to the task at hand; this in turn, impedes successful performance of the task" (Strecher, McEvoy-De Vellis, Becker & Rosenstock, 1986). Physiological states can be used to positively influence self-efficacy by treating a subject to reduce the emotional arousal to subjective threats (Bandaura & Adams, 1997; Barrius, 1983)

Self -Efficacy and Health Behaviors

Self-efficacy theory has been widely studied since its introduction. Self-efficacy has been found to have a consistently positive effect on behavior change and maintenance, including health behavior (Bandura, 1985, Strecher et. al, 1986; O'leary, 1985). Some of the health behaviors that it has been applied to include cardiac rehabilitation, pain management, weight loss, dental health, smoking cessation and prevention, and drug use treatment and prevention. The first four health areas and their relationship to self-efficacy theory will be discussed in this section. The relationship of self-efficacy and smoking, alcohol and other drug use will be studied in the following section of the literature review.

Recent studies indicate that that perceived physical and cardiac efficacy is a good predictor of a person's activity level after experiencing a heart attack. After experiencing a heart attack many people suffer serious depression, feelings of physical helplessness, and fear of recurrence regardless of their actual prognosis (O'Leary, 1985). To counteract these effects, physicians often use sources of efficacy information (Bandura,

1986). After initial recovery from the myocardial infarction progressive exercises are used to increase exercise tolerance and associated self-efficacy performance. These accomplishments are then built on through strenuous treadmill exercises. This progressively intense exercise also effects the patient's psychological state. The patient has the experience of successfully facing a formerly feared task of physical exertion. In addition, vicarious efficacy information is provided by having former cardiac patients talk with recent heart attack survivors about their successful rehabilitation. Further, verbal persuasion is used when doctors inform patients of what they are capable of achieveing.

Ewart, Taylor, Reese and DeBusk (1984) studied cardiac patients self-efficacy and physical activities. They found that the participants initial self-efficacy ratings predicted peak heart rate achieved during the treadmill test, ($r = 0.36$) which in turn affected post-treadmill self-efficacy ($r = 0.50$). In addition, self-efficacy at the conclusion of the program proved to be a good predictor the duration of physical activity and heart rate achieved when participating in exercise after returning home ($r = 0.53$ and 0.34). A patient's spouse's belief in the efficacy of their partner was also found to be relevant to their recovery by Taylor, Bandura, Ewar, Miller and Debusk (1985) in their study of wives of cardiac patients. "Wives who judge that their husbands have a robust heart are much more likely to encourage them to resume an active life than those who believe the heart is impaired and vulnerable to further damage" (Bandura, 1985). These findings support the power of self-efficacy in dealing with serious health issues, but also its complexities in interacting with other variables (such as the support of a spouse).

The way that human beings experience pain is the result of both physiological and psychological stimuli. Therefore, it has been hypothesized that the way people manage pain is influenced by self-efficacy (Manning & Wright, 1983; O'leary, 1985; Reese, 1982). Reese (1982) completed a study on cold-pressor pain and found that the strength of perceived self-efficacy to tolerate pain was correlated significantly with pain threshold ($r = 0.60$) and pain tolerance ($r = 0.81$). Self-efficacy in reducing pain to a lesser degree also predicted pain threshold ($r = 0.33$) and pain tolerance ($r = 0.36$). Similar findings are reported for other types of pain management as well. Manning and Wright (1983) studied perceived self-efficacy for management of pain for women in child birth labor. They found that the higher the woman's perceived self-efficacy the less likely she was to request medication ($r = -0.47$), and the longer she was able to tolerate labor pain before asking for medication ($r = 0.42$). Self-efficacy ratings were found to be a better predictor of pain tolerance than the subjects' ratings of the importance of having a drug-free delivery. Self-efficacy has also been found to be influential in the management of chronic pains such as arthritis (Shoor & Holman, 1984). When patients in Shoor and Holman's (1984) study were matched for other factors, the individuals with higher self-efficacy in their ability to influence pain and how much their arthritic condition affects them were found to lead more active lives and experience less pain.

Other studies have shown how self-efficacy theory can be used to promote healthy lifestyle changes. Beck and Frankel (1981) studied the persuasiveness of health communication on dental hygiene. In their study they gave subjects varied messages about the seriousness of periodontal disease, their susceptibility to it and the hygiene routine required to avoid it. They found that the subjects perceived self-efficacy

that they could maintain the required hygiene routine was a good predictor of whether they adopted the prescribed routine. Self-efficacy expectations have also found to be powerful in looking at success at weight loss. Jeffrey et al. (1984) looked at subjects emotional state efficacy (ability to refrain from eating when experiencing different emotions) and situational efficacy (ability to refrain from eating in different situations). They found that high pre-treatment levels of emotional state self-efficacy and situational self-efficacy were significantly associated with initial and long-term weight loss. Chambliss and Murray (1979) did a study on weight loss where they manipulated self-efficacy to increase weight loss in clients in a behavioral treatment program. Subjects were first told that weight loss was due to a pill they were being prescribed. Later they were informed that the pill had been a placebo and the weight loss was due to their own skills and abilities. They found that self-efficacy attributions for weight loss increased the ability to lose weight in subjects with an internal locus of control, but not in subjects with an external locus of control. Subjects with an external locus of control soon gained back the weight.

The results of these studies are evidence of the link between self-efficacy and health behaviors. The previously reviewed research indicates that self-efficacy mediates health behaviors for people who are experiencing life threatening illness, pain management issues and lifestyle illness. "There is a good deal of research to indicate that perceived self-efficacy mediates health behavior. Unless people believe they can master and adhere to health promoting habits, they are unlikely to devote the effort necessary to succeed" (Bandura, 1985, p.438). This research lays the foundation for

understanding self-efficacy's relationship to health behavior change and sets the stage to look at self-efficacy's relationship to smoking, alcohol and other drugs.

Self-Efficacy and Drug Use

There is much to be learned through the study of self-efficacy and drug use in the addiction area. Researchers have studied self-efficacy in regard to all phases of treatment and prevention. Through this research various themes have emerged. First, the predictive value of self-efficacy statements will be discussed. Second, the mediating effect of self-efficacy will be explored. Third, the self-efficacy changes throughout the process of attending a treatment program and self-efficacy changes after discharge will be discussed. Finally, self-efficacy and addiction studies with adolescents will be discussed.

Researchers have found self-efficacy to be a very good predictor of drug use and treatment outcomes, but its ability to predict drug use is complex and is dependent on other factors. One of the areas that has been widely studied is smoking cessation and relapse. Two of the leaders in this area are Condiotte and Lichtenstein. In their 1982 study, they looked at self-efficacy scores of adult subjects participating in two different smoking cessation programs. The results of the two smoking cessation programs were not statistically different and were therefore treated as one group. Pre-treatment, post-treatment and follow-up information was gathered on smoking behavior, self-efficacy scores and mood states. They found that low ratings of self-efficacy following treatment were highly correlated with relapse ($r = 0.57$) and length of time before relapse ($r = .69$). Godding and Glasgow (1985) studied the effects of self-efficacy along with outcome

expectations on subsequent control of smoking behavior. Post-treatment self-efficacy was found to be predictive of reduction of nicotine content of cigarettes smoked, the amount of each cigarette smoked, and the number of cigarettes smoked. This was also true at the 6 month follow-up point. Outcome expectancies did not significantly add to the explanatory power of the self-efficacy measure. However, it should be noted that the results of this study are limited by a very small sample size (N = 32).

However, when it came to self-efficacy as a predictor of alcoholism relapse and self-efficacy, the results were conflictual. Some researchers have found self-efficacy to be a good predictor of relapse where others have not. Rychtarik et al. (1992) in their study of male alcoholics participating in a 28 day residential treatment program found self-efficacy scores to be a good predictor of relapse at the 6 month point, "Non-relapsed subjects had significantly higher intake self-efficacy scores (mean = 55.43 $\pm$ 9.63) when compared to the intake scores of subjects who had relapsed (mean = 42.56 $\pm$ 18.62)(t = 2.8876 df, $p<.003$)". The predictive power of self-efficacy at intake was found to a lesser degree at the 12 month point, "Mean intake self-efficacy scores differed significantly for non-relapsed (55.04 $\pm$ 9.94) and relapsed groups (44.32 $\pm$ 18.23) (t = -1.81, 76df, $p<.04$)". No significant differences were found between the two groups for discharge self-efficacy at either the 6 month or 12 month points. However, Burling et al. (1989) in their study of male substance abuse patients or a residential treatment program did not find that self-efficacy at the beginning or at the end of treatment was significantly correlated to post-treatment outcome.

There has been less study of self-efficacy and its relationship to other types of drug treatment programs, but some research is available on marijuana and illicit opiod

treatment programs. Stephens et al. (1995), research on self-efficacy of adult men and women in a marijuana cessation program found self-efficacy to be predictive of relapse and that it was a better predictor of decreased frequency in the use of marijuana ($r = .32$ - .25) than in predicting abstinence ($r = .-15$ - .06). Reilly et al. (1995) studied self-efficacy reports of male and female adult illicit opioid users across the three phases of a 180 day methadone detoxification treatment program. They were interested in finding out how self-efficacy scores reports changed throughout the treatment program and if it was predictive of actual drug use at each stage. They found self-efficacy at intake did not relate to illicit opioid use during the stabilization ($r = .03$, $p = .82$) or the taper stage ($r = .077$ $p = .61$) of treatment. However, self-efficacy ratings at the 30 day point were predictive of illicit opioid use during the stabilization phase ($r = .29$, $p = .0l$) and self-efficacy ratings at day 90 were significantly predictive of illicit drug use during the taper phase ($r = .51$, $P < .001$)

By comparing the research, we can see that although self-efficacy is predictive of future drug use behavior, the predicative validity of drug use depends on the particular drug being used when the self-efficacy scores are taken and the length of time for follow up. It should be noted that the studies mentioned here are based on adult subjects and there is a lack of research on self-efficacy and drug treatment programs involving adolescents. There are more data on adolescents and self-efficacy when it comes to predicting future use of substances and prevention programming.

Self-efficacy scores have been found to be predictive of whether or not an individual who is participating in a drug treatment program will relapse, but is it also capable of predicting in what situations subjects are likely to relapse? Condiotte and

Lichtenstein found that for subjects in two smoking cessation programs, self-efficacy scores for specific situations were predictive of the actual situations in which relapse occurred. However, a later re-analysis of the data indicated that the three lowest (least confident) clusters, out of seven, had been grouped together to give the reported result of 80% of subjects relapsing in their lowest self-efficacy situations cluster. In fact, only 35% of the subjects had relapsed in their lowest self-efficacy cluster (Baer, Holt & Lichtenstein, 1986). Therefore, the specificity of the predictive ability of self-efficacy scores for situations of relapse had been overstated. In addition, researchers have failed in attempts to replicate the findings of statistical relationships between specific self-efficacy items and relapse situations (Baer, 1985; Baer and Lichtenstein, in press).

Many studies have looked at self-efficacy ratings at different stages of the treatment program to see how self-efficacy changes through the treatment process. It is easy to hypothesize that self-efficacy would change as a result of participating in a treatment program as, "psychological procedures, whatever their form; alter the level and strength of self-efficacy" (Bandura, 1977). However, is this change linear with self-efficacy continually increasing with no hills or valleys throughout the treatment experience? Burling et al. (1989) in their research of adult male alcoholics found that self-efficacy increased during inpatient treatment for alcohol abuse and were higher for abstainers during follow up. As mentioned previously, Reilly et. al (1995) in their study of adult illicit opioid users found that self-efficacy changed depending on the stage of the methadone treatment program and dropped substantially at the discontinuation of administering methadone "Efficacy increased between intake and the start of the stabilization phase, $F(1, 146) = 45.97$, $p < .001$; it did not change across the stabilization

phase, F (2, 146) = 1.33, p = .27; and it gradually decreased across the taper phase, F (2, 90) = 5.37, p = .01". Stephan et. al (1995) in their study of a marijuana cessation program found that self-efficacy scores increased through treatment, but also that sources of self-efficacy judgments appeared to be different before and after treatment. Prior to treatment perceived efficacy scores were based on perceived benefits of marijuana use and the likelihood of counteracting temptation to use with coping skills rather than performance accomplishments or vicarious models (through association with drug using peers). Efficacy ratings at the end of treatment were related to performance accomplishments, temptation to use, likelihood of coping, and vicarious models. Burling et. al (1989), found that abstainers had lower self-efficacy scores at intake, but that their self-efficacy scores doubled through the treatment process with an increase of 31.03 points on the self-efficacy scale which is significant at the .05 level. Therefore, we can assume that self-efficacy does increase by the completion of a treatment program, but that this will not be a steady, linear increase throughout the treatment process. As individuals face critical times in their treatment experience, such as the ending of a drug substitute, they may feel more vulnerable to drug relapse and have lower self-efficacy scores. Self-efficacy would increase as a result of participation in a treatment program; although, this increase may not be stable over time.

We have seen that self-efficacy is a good predictor of drug relapse and that it changes through the phases of treatment, but it is a good predictor of future drug use for youth who have not yet established substance abuse problems? Research indicates that self-efficacy is a good predictor of adolescents intentions to use alcohol and other drugs. Aas et al. (1995) found that both alcohol expectancies and self-efficacy were related

significantly to adolescents' intentions to drink alcohol in the near future (r = .30-.50 and r = 37 respectively) although, neither was as significant as previous alcohol use (frequency of alcohol use r = .78, and number of times being drunk over the last 6 months r = .76). Ellickson and Hays (1991) found that low resistance self-efficacy and pro-drug using social influences were predictive of future drug use by students involved in their study who started out as non-users (0.11 and 0.36 respectively). Lawrance (1989) found that self-efficacy was a good predictor of smoking behavior, "within and across time periods" (p.357). It can be concluded that self-efficacy is predictive of both current and future use of alcohol and other drugs for both current users and non-users.

It has been hypothesized that self-efficacy, as well as having a direct influence on drug and alcohol use, acts as a mediator to other variables affecting drug and alcohol use. The majority of research on the mediating effect of self-efficacy and substance use has been on adolescents. Webb and Baer (1995) researched the effects of family disharmony and parental alcohol use on adolescent social skills, self-efficacy and alcohol with 1,237 grade seven-students in four middle-schools. Using LISREL VI they found that development of refusal skills must be accompanied by the self-efficacy beliefs necessary to implement them to influence alcohol usage. Robinson and Walsh (1994) studied 86 adolescents who were either participants in one of four drug and alcohol treatment programs or attending an alternative high school for at risk youth. All of the participants reported at least weekly drug or alcohol use for a minimum of six months immediately prior to the study. The group was then broken down into thee different categories of subjects based on their current levels of use: users, relapsers and abstainers. Adolescents who remained abstinent displayed higher strategy-related self-efficacy when compared to

adolescents who continued to use. Furthermore, self-efficacy was related with reduced perceptions of risk for relapse ($r = .20$; $t = 1.7$, $p < .05$) and enhanced expectations of sobriety ($r .29$; $t = 2.6$, $p < .005$). Perceptions of risk were found to be significantly correlated to abstinence expectations ($-.632$, $p < .001$). Stacey, Sussman, Dent, Burton, & Flay (1992), in a study of 1,245 high school students in grades 9 through 12 looked at self-efficacy as a moderator of peer social influence in adolescent smoking. They found that it was the only variable out of four they researched: self-efficacy, self-esteem, parent supervision and perceived acute stress, that was a significant buffer against peer pressure to smoke. Young, Oei, and Crook (1991), found that youth must establish a strong sense of self-regulatory efficacy to control their social situations, who and where they hang out, in order to avoid becoming heavy drinkers. Stephens et al, (1995) in their study of adult marijuana users found that self-efficacy was a partial mediator of past experience when it came to marijuana use cessation. These findings support the hypotheses that self-efficacy is an effective mediator to other variables that influence drug use and social skill acquisition.

Summary

This literature review has described the trends in adolescent substance use, the history of prevention programs and what has been found to be effective, self-efficacy theory, its characteristics and how it can be applied to substance misuse prevention. Adolescent drug use is on the increase for the first time in a decade and some research from British Columbia is even showing that marijuana has surpassed the peak use levels of the past. A number of strategies have been tried in the past to increase the effectiveness of prevention programs such as: the information models, the alternative activities models, and the affective models; however, none of these models have had much success. Recently success has been found in social influence models that have self-efficacy enhancement strategies as a component. A number of things have been learned about the construct of self-efficacy as well. Self-efficacy is a situationally specific belief about whether or not one can accomplish a given task. Self-efficacy can be increased through the use of social learning theory constructs. Self-efficacy peaks after the completion of either a treatment program or a resistance skills training program and diminishes over time. In addition, self- efficacy has a direct impact on drug using behavior and a mediating effect. Self-efficacy can be used to predict future drug using behavior. Combined with other components in a social influence model of prevention, self-efficacy can successfully reduce the onset and increase of substance misuse among adolescents.

The research leads us to conclude that self-efficacy plays a role in the prevention of substance misuse. However, past research of prevention programs that have studied

self-efficacy changes and their effects on drug refusal have paired self-efficacy enhancing strategies with other prevention strategies such as creating norms of non-use. They have not focused exclusively on those strategies known to enhance self-efficacy. This leads to a gap in the literature. This gap presents an opportunity to study the effects of refusal skills training for situations in which youth are known to have low self-efficacy for refusing drugs without including or combining other prevention strategies. Another area in need of attention in this type of study is whether increases in self-efficacy achieved through participation in a drug refusal skill training program are maintained for a significant amount of time. These are the questions that this thesis proposes to answer.

Chapter Three

Methods

This study uses a quasi-experimental design. Research participants were drawn from three grade seven classes from the Greater Victoria area. These three classrooms were collapsed into one group for analysis. The sample, instrument , and intervention will be described in more detail in this section.

Sample

Seventy-three grade seven students participated in the study at the pre-test, 68 students at the first post-test and 64 students at the second post-test. The subjects were a sample of convenience in that they were chosen by community prevention coordinators on the basis of their interest in being involved in prevention initiatives. Each school represented one of three different communities in the Greater Victoria area: Sooke, Victoria, and Saanich. The subjects were fairly evenly distributed by gender, 54.5% of the subjects were male and 45.5% of the subjects were female. They ranged in age from 10 to 13, with 72.6% being 12.

The subjects for the study were primarily non-users of tobacco cigarettes, alcohol and marijuana. At the start of the study, 67 students reported that they were non-smokers and 6 reported being current smokers. Fifty-one students reported that they did not drink alcohol and 19 reported using it at least sometimes. Sixty-two students reported being non-users of marijuana with 7 students reporting having used it more than once. The effects of users versus non-users on outcomes will be looked at in the results section.

Instrument and Procedures

Data was collected from the participants at three points using a modified version of Lyn Lawrance's self-efficacy scale to predict adolescent smoking (1989). A pre-test was administered prior to the intervention. The initial post-test was conducted on the final day of the intervention and a final post-test was administered 21 days after the intervention. Lawrance's self-efficacy scale was modified to include questions on all three of the gateway drugs (tobacco, alcohol and marijuana).

The Self-Efficacy Scale

As self-efficacy is task specific, it is usual for researchers to create specific self-efficacy scales to test the particular phenomenon that they are researching. This makes it difficult for the novice researcher attempting to study a phenomenon such as drug avoidance self-efficacy. Martin, Wilkinson and Poulos noted this in their attempt to rectify the situation, "To date, there are no published scales to measure self-efficacy concerning avoidance of substance use by multiple drug users" (1995, p. 151). Although more self-efficacy scales have been published in recent years, a scale still does not exist to measure self-efficacy to avoid drug use for adolescents not currently experiencing drug problems.

Lyn Lawrance (1989) created a self-efficacy scale for predicting smoking in young adolescents that can most easily be adapted for the purpose of this study (Appendix D). Observations of smoking behavior, and consultation with middle school teachers and Dr. Bandura aided in designing questions for the original scale. "The self-efficacy items described social and emotional situations in which people are likely to

smoke" (Lawrance, 1989, p.352). Students were required to rate their reactions to each of the situations on a 6-point Likert type scale. The scale looked at three types of influences to use drugs, emotions, friends and opportunity.

The results of Lawrance's study of the scale supported the relationship between self-efficacy and smoking behavior, significant at the $p<0.01$ level. "...subscale scores for self-efficacy items are predictive of smoking behavior within and across time periods" (p.357). The self-efficacy scale was also found to be very reliable with test, re-test scores resulting in a coefficients at 0.9 or greater. The scale was also found to have predictive value. The scale found that smokers and non-smokers differed significantly in onset of smoking behavior ($p<.01$ level).

Knowing that this test is both valid and reliable, it can now be adapted for use to measure self-efficacy and gateway drug use. The social influences that tempt youth to use tobacco, alcohol and marijuana are very similar. All three drugs are easily accessible to youth, are seen as "soft" drugs by youth and are used by youth in social situations. It should therefore, be possible to measure self-efficacy as a unidemensional construct in relationship to gateway drug use.

Modifications were necessary to Lawrance's Self-Efficacy Scale to Predict Adolescent Smoking to include questions that would ascertain students' self-efficacy to refuse all three gateway drugs. Lawrance's instrument contained 36 questions which included three subscales: 1) emotions, 2) friends, and 3) opportunity. To keep the instrument a reasonable length, four items were chosen from each sub-scale, emotions, friends, and opportunity, and the resulting 12 questions were asked for each of the gateway drugs. The questions were chosen for their general applicability to the use of all

of the gateway drugs. The language used by Lawrance was age appropriate and therefore only modified by changing one third of the questions from smoking cigarettes to using marijuana and one third to drinking alcohol. It is recognized that the modifications made in this study are significant and these changes may effect the reliability and validity of the instrument. The new instrument can be seen as Appendix E.

Drug Use Resistance Skills Training Intervention

Each of the three classes in the study received a five session (each 1 hour long) drug use resistance skills training program. The program focused on increasing self-efficacy to refuse drug use. Day one included the pretest and a discussion of why people use drugs and what are the positive and negative consequences of drug use. Day two consisted of a video of teens refusing drugs Stand up for yourself: Peer pressure and drugs (Jackson, 1988), having the students identify the steps that the teens took when successfully refusing drug use, and creating a mnemonic for the steps. Day three, students had an hour to create individual posters about the drug use refusal mnemonic with the help of the researcher, student assistant and regular classroom teacher. These posters were displayed around the classroom. Day four included role playing where students practiced their drug use refusal skills with multiple partners. Day five consisted of a group discussion with the students about their questions and concerns about drug use refusal as well as some role playing in front of the class and ended with the completion of the post test. A copy of the lesson plans used in this intervention is included as Appendix A.

Ten days prior to the administration of the self-efficacy instrument students were given active consent forms to be signed by themselves and their parents (Appendix B). These consent forms stressed the importance of the research and the confidentiality of the results. Students completed similar consent forms the first day of the research program (Appendix C). The tests were administered during the regular class period by one of the members of the research team. To reduce participants fears about confidentiality, students were asked not to place any distinguishing marks on the questionnaires. After completing the questionnaire, the students placed their questionnaires inside of a large envelope. When all of the participating students had completed the test, a student volunteer sealed the envelope and turned it in to the researcher.

The research team consisted of three trained alcohol and drug prevention coordinators employed by the province of British Columbia to provide prevention services in the Greater Victoria Area. Researchers were trained to administer the self-efficacy scale and treatment protocol in a workshop. Lesson plans for each of the five sessions that made up the intervention were provided (Appendix A). This allowed for a consistent administration of the experimental components.

Each of the researchers also had an adolescent research assistant that they chose from a secondary school in the Greater Victoria Area. These older adolescents were used as models in the drug use resistance skills training. Although there has been conflicting research on the effectiveness of using peer trainers, it fits with Social Learning Theories multiple models approach and there are compelling arguments in the literature for its inclusion. "At the environment level, peer educators serve as potent role models by

demonstrating non-use, by creating a norm that drug is deviant rather than acceptable, and by providing alternatives to drug use. At the personality level, peer educators reinforce the importance of social responsibility and the value of health to weaken the importance of drug use. At the behavioral level, peer educators teach social skills to resist peer pressure to use or try drugs and also help students identify and practice health enhancing behaviors" (Klepp, Halper & Perry, 1986, p.87).

Chapter Four

Results

In this chapter the data obtained by the study will be described and analyzed. The equivalence of the subjects will be established for the three groups of students used in the study. Self-efficacy scores will be reported over the three time periods for each of the gateway drugs studied (tobacco, alcohol and marijuana). Differences between the self-efficacy scores of drug users and non-users will be described and examined.

Research Questions and Analysis

The research questions to answer are: does drug use refusal self-efficacy increase as the result of participation in a drug use refusal skills training program; does the increase in self-efficacy remain at a significant level after 30 days; and, are current drug users affected differently than current non-users? The answers to these questions require statistical analysis.

The first step in analyzing the data is to verify the equivalence of the sub-samples used in the study. This will determine if there are any significant differences between students in the three different schools used in the study or if they can be treated as one group in further analysis. Univariate ANOVA's were completed at pre-test and at the second post-test to ensure that the there were no significant differences at either the start or end of the study. This analysis failed to reveal significant differences. Therefore, the data from all three schools will be treated as one set (see Tables 1 and 2).

Table 1

ANOVA Comparing Three Schools at Pretest on Refusal Self-efficacy Across Drug Types

	Sum of Squares	df	Mean Square	F	Sig.
		Between Groups			
Smoke	89.860	2	44.930	.302	.741
Alcohol	82.489	2	41.245	.211	.810
Marijuana	527.795	2	263.893	1.390	.256
		Within Groups			
Smoke	10430.469	70	149.007		
Alcohol	13676.524	70	195.379		
Marijuana	13293.547	70	189.908		

Table 2

ANOVA Comparing Three Schools at Post-test on Refusal Self-efficacy Across Drug Types

	Sum of Squares	df	Mean Square	F	Sig.
		Between Groups			
Smoke	264.931	2	132.465	.488	.616
Alcohol	1022.111	2	511.055	1.391	.257
Marijuana	784.520	2	392.260	1.130	.330
		Within Groups			
Smoke	16287.96	60	271.466		
Alcohol	22409.37	61	367.367		
Marijuana	21173.42	61	347.105		

The data were initially subjected to some exploratory review (see Table 3). The mean, median, range skewness and kurtosis was determined for each variable for the pre-test, post-test and follow-up. The data were positively skewed. The skewness for smoking at pre-test was -1.044 with a kurtosis of -.220, at post-test the skewness was -1.183 with a kurtosis of .210, and the follow-up showed a skewness of -1.522 and a kurtosis of 1.378. The skewness for alcohol use at pre-test was -1.204 with a kurtosis of .610, at post-test the skewness was -1.378 and the kurtosis was 1.250, at follow-up the skewness was-1.183 and the kurtosis was 5.574. The skewness for marijuana use at pre-test was -2.936 and the kurtosis was 5.574, at post-test the skewness was -1.801 and the kurtosis was 2.182, at follow-up the skewness was -1.524 and the kurtosis was 1.055. Stem and leaf displays for smoking, alcohol and marijuana use illustrate this (see Figures 1, 2, and 3). One option at this point was to transform the data to make it fit the curve of normally distributed data. However, when data are transformed, they are more difficult to understand. Therefore, the decision was made to leave the data in their natural state.

Table 3

Descriptive Statistics for Refusal Self-efficacy Across Drugs and Time

Time	Drug	M	SD	n
Pretest	Smoke	62.10	12.09	73
	Alcohol	60.63	13.82	73
	Marijuana	64.85	13.86	73
Posttest	Smoke	60.85	15.13	68
	Alcohol	59.40	15.84	67
	Marijuana	62.75	16.51	68
Follow-up	Smoke	61.22	16.34	63
	Alcohol	56.23	19.29	64
	Marijuana	60.53	18.67	64

Figure 1

Stem and Leaf Display for Smoking Resistance Self-Efficacy Scores at Pre-test

Stem	**&**	**Leaf**
3.		34
3.		567
4.		012
4.		55568899
5.		334
5.		689
6.		001112344
6.		55588889
7.		00001111122222222222222222222222

Stem Width: 10

Each Leaf: 1 case

Figure 2

Stem and Leaf Display for Alcohol Resistance Self-Efficacy Scores at Pre-test

Stem	**&**	**Leaf**
2.		8
3.		133679
4.		0333599
5.		000045679
6.		00011122566668899
7.		000111111112222222222222222222222

Stem Width: 10

Each Leaf: 1 case

Figure 3

Stem and Leaf Display for Marijuana Refusal Self-Efficacy Scores at Pre-test

Stem	**&**	**Leaf**
1.		23
2.		0
3.		79
4.		024
5.		00068
6.		001334456699
7.		012222222222222222222222222222222222222222222222222

Stem Width: 10

Each Leaf: 1 case

Research Results

Having established that the schools can be treated as one set, the first two research questions can be addressed. They concern the changes of self-efficacy scores over time. In this study, between group change was studied to see if there were significant changes from the start of the treatment program, the end of the treatment program and at the 3 week follow up. Univariate Analysis of Variance was used to test this hypothesis. No statistically significant change between the groups was found for smoking ($F\ 2, 201 = .137$, $p = .872$), alcohol use ($F\ 2, 201 = 1.29$, $p = .278$) or marijuana use ($F\ 2, 202 = 1.189$, $p = .307$) (see Table 4).

Table 4

ANOVA of Self-Efficacy Scores Across Drugs and Time

	Sum of Squares	df	Mean Square	F	Sig.
		Between Groups			
Smoke	57.665	2	28.832	.137	.872
Alcohol	689.672	2	3443836	1.290	.278
Marijuana	636.165	2	318.083	1.189	.307
		Within Groups			
Smoke	42405.747	201	210.974		
Alcohol	53746.617	201	267.396		
Marijuana		202	267.545		

The third question, "are current drug users effected differently by being exposed to a drug use resistance skill training program than non-users" was addressed through the use of descriptive statistics, GLM 2 x 3 factorial analysis and, where appropriate, pairwise comparisons (see Tables). An initial comparison of the means for the three drugs over the three testing periods suggested that there were some differences between current users and non-users (see Figures 4, 5 and 6). The statistical analysis supported this and showed that there were differences for the drugs studied. The results for smoking are of interest. There were no significant differences in self-efficacy scores for the three testing points for smoking when users and non-users were treated as one group. However, when both the user status (user or non-user) and the time of the testing period were treated as independent factors, significant differences were found, $F(2,193) = 4.533$, $p<.05$ (see Table 5). The mean difference from pre-test to post-test for non-smokers was found to be significant (5.343, $p <.05$) (see Table 6). This analysis suggests that participating in a drug use refusal program resulted in a slight increase in self-efficacy in non-smokers. Self-efficacy for alcohol use refusal did not change over the three time periods, but there were significant differences between users and non-users (f, 1, 178 df = 87.04 significant at the $p<.001$ level) (see Table 7). The mean for non-users self-efficacy scores was 65.1 and the mean for users self-efficacy scores was 48.12. This was also true for marijuana. There was no significant change over the three time periods, but there was a significant difference between users and non-users (f, 1, 176 = 109.87 significant at the p,<.001 level) (see Table 8).

Figure 4
Comparison of Means of Smoker vs. Non Smokers at Three Time Periods

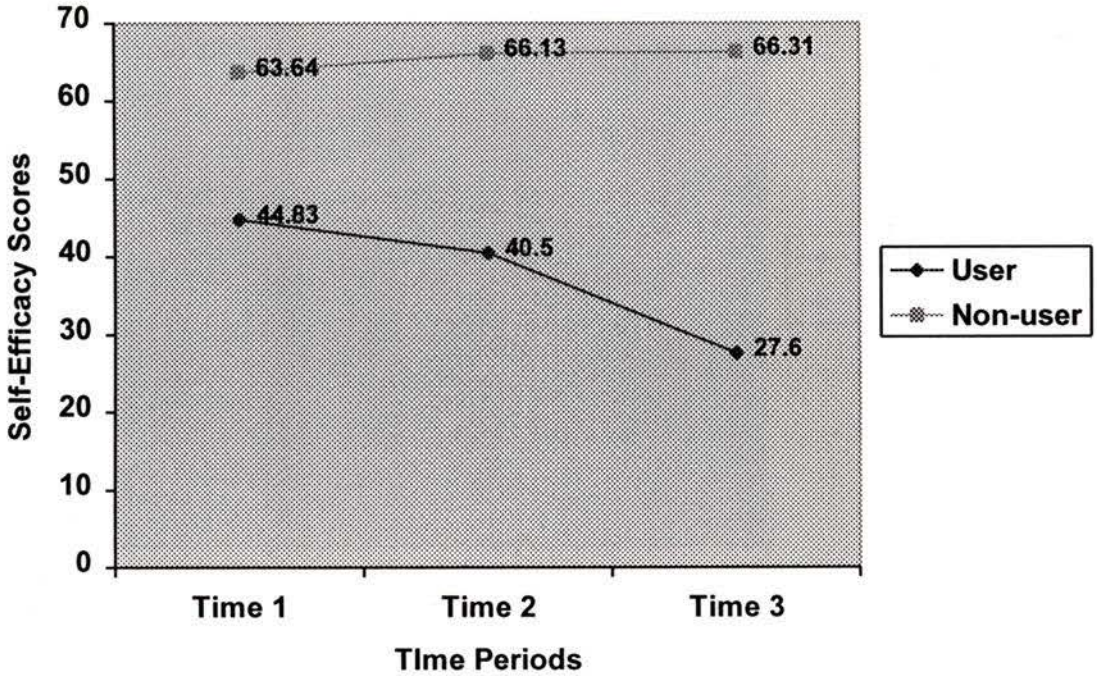

Figure 5
Comparison of Means for Alcohol user vs. Non-user at Three Time Periods

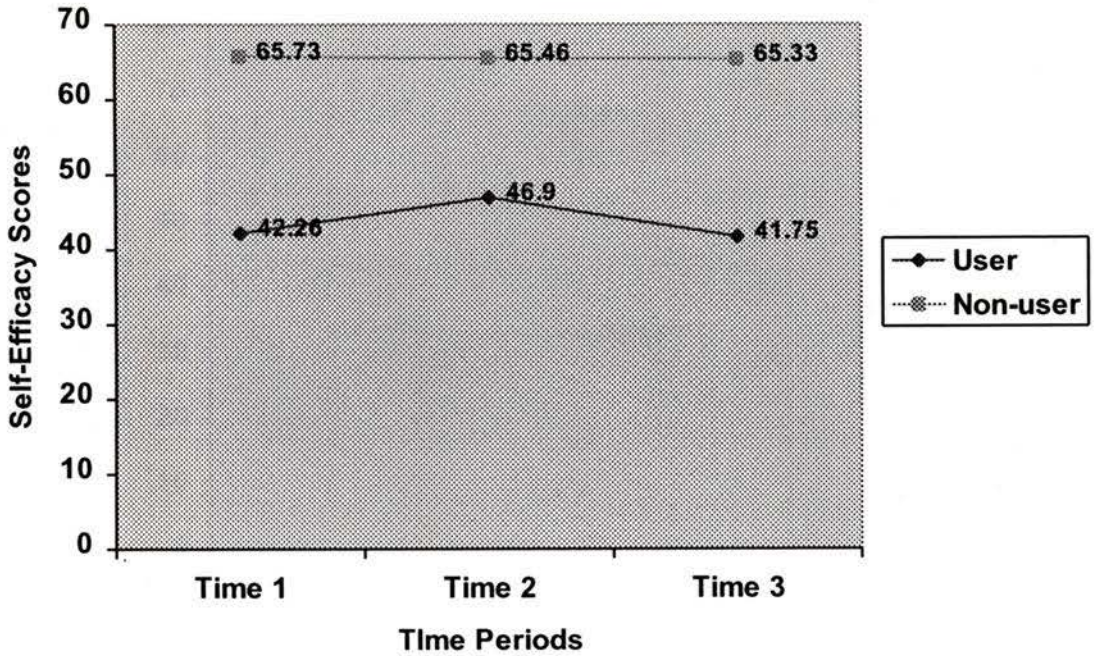

Figure 6
Comparison of Means for Marijuana user vs. Non-user at Three Time Periods

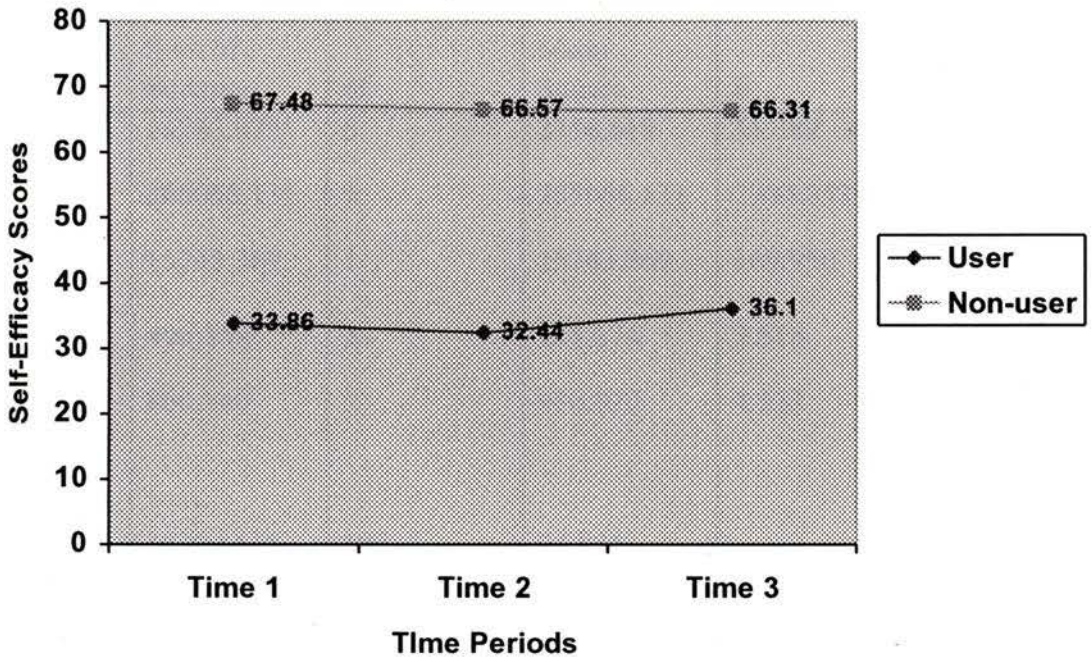

Table 5

ANOVA of Smoking Refusal Self-Efficacy Scores for Smokers and Non-Smokers

Dependent Variable: Smoking Self-Efficacy Scores

	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	16783.075[a]	5	3356.615	35.382	.000
Intercept	265066.131	1	265066.131	2794.053	.000
Smokers and Non-Smokers	15743.369	1	15743.369	169.950	.000
Time	496.348	2	248.174	2.616	.076
Smokers and Non-Users * Time	860.140	2	430.070	4.533	.012
Error	18309.518	193	94.868		
Total	801165.000	199			
Corrected Total	35092.593	198			

Note. a. R Squared = .478 (Adjusted R Squared = .465). Time refers to the time the self-efficacy score was taken (pre-test, post-test or follow-up).

Table 6

Pairwise Comparison for Smoking Refusal Self-Efficacy For Non-Smokers Over Three Time Periods

Dependent Variable: Smoking Self-efficacy Scores
Dependent Variable: Smokers vs. Non-smokers

(I) TIME	(J) TIME	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence Interval for Difference[a]	
					Lower Bound	Upper Bound
1	2	.845	2.368	.722	-3.826	5.515
	3	5.343*	2.598	.038	.310	10.557
2	1	-.845	2.368	.722	-5.515	3.826
	3	4.589	2.384	.056	-.113	9.291
3	1	-5.434*	2.598	.038	-10.557	-.310
	2	-4.589	2.384	.56	-9.291	.113

Note. Based on estimated marginal means. * The mean difference is significant at the .05 level.

a. Adjustment of multiple comparisons: Least Significant Difference (equivalent to no adjustments)

Table 7

ANOVA of Alcohol Use Refusal Self-Efficacy Scores of Users and Non-Users

Dependent Variable: Alcohol

	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	116666.985[a]	5	2.333.397	17.841	.000
Intercept	486404.540	1	486404.540	3710.942	.000
Time	130.168	2	65.084	.498	.609
Alcohol Users and Non-Users	11383.833	1	11383.083	87.038	.000
Time* Alcohol Users and Non-Users	177.921	2	88.960	.680	.508
Error	23280.819	178	130.791		
Total	709160.000	184			
Corrected Total	34947.804	183			

Note. [a]R squared = .334 (Adjusted R Squared = .315)

Table 8

ANOVA of Marijuana Refusal Self-Efficacy Scores of Users and Non-Users

Dependent Variable: Marijuana

	Type 111 Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	11483.998[a]	5	2296.800	22.915	.000
Intercept	220230.302	1	220230.302	2197.194	.000
Time	17.821	2	8.910	.089	.915
Marijuana Users and Non-Users	11012.545	1	11012.545	109.870	.000
Time*Marijuana Users and Non-Users	54.013	2	27.007	.269	.764
Error	17640.925	176	100.233		
Total	796256.000	182			
Corrected Total	29124.923	181			

Note. [a.] R squared + .394 (Adjusted R Squared = .377).

Summary

This study found that although there were no overall significant differences in drug refusal self-efficacy scores after the implementation of a one-week intervention, descriptive statistics indicate that there were some significant differences in users and non-users of the three substances. Comparison of means showed an increase in drug use refusal self-efficacy for smoking for non-smokers but not for current smokers. As could be expected there was a difference between the mean self-efficacy scores for users and non-users of all three drugs. This supports the findings of previous researchers that self-efficacy scores are a good predictor of drug use behavior. However, this study was severely limited by the research design. It raises areas for more thorough investigation in future research and could have significant implications for future prevention programs.

Chapter Five

Discussion

The purpose of this study was to determine if it was possible to increase drug refusal self-efficacy using a short-term skill based training program. The reason for this quest was the need to improve alcohol and drug prevention programs in the face of limited resources. Unfortunately, this study did not find that a short-term prevention program focusing specifically on self-efficacy training had a significant impact on the self-efficacy scores of its adolescent participants (with the exception of current non-smokers for smoking refusal self-efficacy). However, this may have more to do with the study's design than the effectiveness of the drug resistance skills training program.

Research Implications

There are many areas within this study that could be improved by future researchers. The most obvious are eliminating the ceiling effect, changing the research method to allow for the study of within group change, adding a control group and exploring differences between current users and non-users. Attention to each of these areas could have dramatic effects on research results.

The first issue that should be addressed by future researchers is the ceiling effect. The majority of the subjects in the study rated themselves very highly on their ability to refuse drugs at the beginning of the study. Many of the subjects rating themselves a six out of six on all of the questions in each of the questionnaires sections (40.3% for smoking, 34.8% for alcohol and 66.7% for marijuana use). There may have been two causes for this ceiling effect. First, the scale may not have been broad enough to extend to the upper ranges of what was being measured. Thus, the ceiling effect places a

restriction on the distribution of gain scores across levels of initial ability. It also may have been difficult for youth to relate to this one to six scaling. It may have been more appropriate to use a 1 to 100 scale allowing youth to rate their confidence in increments of 10. Bandura (1997) describes this method as the standard methodology for self-efficacy scales. He also supports using a scale of the same structure, but using single intervals ranging from 1 to 10. He cautions against the use of scales with any less steps for the additional reason that including too few steps loses its differentiation ability as people who use the same response interval but differ widely in their efficacy expectations

A second reason for the ceiling effect may have been that the sample was restricted by the user, non-user ratio. A large percentage of the sample were non-users (at the start of the study 91% reported being non-smokers, 69.9% reported being non-drinkers and, 89.9% reported being non-marijuana users) and would be expected to have a very high refusal self-efficacy. One way future researchers might attempt to measure change in subjects who already have high self-efficacy is to use a comparative approach. The subjects could do a baseline self-efficacy rating and future tests would ask subjects to indicate whether their self-efficacy had decreased, remained the same or increased since the start of the study. This would allow the subjects to record perceived self-efficacy changes, not just self-efficacy scores.

The second issue that future researchers may wish to address is within group change. This study looked at between group change to see if an entire class of students could be affected by a program to increase drug use refusal self-efficacy but ignored within group change. The opportunity to gather information about why the program may

have worked for some students and not others was lost. This is a major flaw in the study and its correction could provide very valuable information.

The third issue for researchers to address is the difference between users and non-users. In all three of the drug categories (smoking, alcohol and tobacco), users and non-users were found to be different in their self-efficacy scores when comparing means. This supports past research, which indicates that self-efficacy scores are a good predictor of drug using behavior (Aas, Klepp, Laberg, Laberg & Aaro, 1995). It also seems logical that an individual who is already using a substance would be less likely to resist it in the future than someone who is currently abstaining from its use. When smokers and non-smokers were separated, an increase in self-efficacy scores was found for smoking refusal self-efficacy for non-smokers. Smokers did not show a difference after participation in the study

Future Prevention Programs

The results of the study suggest that current drug users respond differently to prevention programming than current non-users. This presents a great dilemma for researchers hoping to prevent drug use. One of the challenges in successful prevention programming is finding the right age at which to introduce the topic of drug use. There is currently no consensus on the appropriate age to begin prevention efforts (Norman et al., 1997). Introducing the topic of drug use prior to the young person being exposed to it in their daily life can actually stimulate curiosity that may lead to earlier drug use. Conversely, if prevention programs are introduced too late, youth will have already faced drug use situations without proper preparation and have unsuccessfully dealt with the

situation. If this occurs, the young person will develop a low self-efficacy for the ability to refuse drugs rendering prevention programs ineffective. Therefore, prevention programmers must consider that participants, regardless of their current age, may have already begun to experiment with substance use.

The results of this study show that non-smokers and smokers may have different results when exposed to a drug use refusal self-efficacy program, with non-users showing significant improvement in their self-efficacy to refuse drugs scores. In addition, current smokers actually experienced a decrease in smoking refusal self-efficacy after participating in the study going from a mean smoking refusal self-efficacy score at the beginning of the study of 45.38 to a final mean self-efficacy score of 32.38. It could by hypothesized that this decrease in self-efficacy may be caused by the prevention program actually reinforcing their self-doubts about their drug use refusal abilities. This hypothesis is worthy of future research.

This hypothesis would also suggest that a component focused on stopping using a substance once use has already begun, be introduced to any attempted prevention programs. This component could be applied to all the young people participating in the program or to only those students who identify themselves as having already used a substance. In the case of smoking, there could be a stop smoking component included in the initial program for all students and a follow up stop smoking group for those who would like additional information and support.

Another implication from this study that practitioners and researchers need to take into consideration is the time needed for a successful prevention program. The prevention program used in this study was only one week long and was not found to

have significant results. Botvin, Renick and Baker (1983) compared a prevention program that had weekly sessions with a several times a week program and found the more intensive course to be more successful. Studies isolating the optimal amount and intensity of sessions have not been done. This is definitely an area in need of future research.

This study tried to isolate self-efficacy from other aspects of social influence prevention programs. This study did not show the necessary results to support this separation. Therefore, until research is done to show that a focus on self-efficacy training alone can have significant results, it is also necessary to pay attention to the other areas of social influence as well such as those contained in the research by Botvin (1986). This would include: problem solving and decision making skill; cognitive skills for resisting interpersonal and media influences; skills for increasing self-control and self-esteem; and, adaptive coping strategies for dealing with stress.

Conclusions

The purpose of this study was to explore whether self-efficacy to resist drug use can be enhanced in grade seven students through the implementation of a week long drug use resistance skills training program based on the constructs of Social Learning Theory. The results showed that participation in this type of prevention program did not increase the drug use refusal self-efficacy scores by a statistically significant amount, but raises questions about the differences between current users and non-users. The results are particularly interesting when comparing smoking refusal self-efficacy scores of subjects who are current non-smokers and those who are current smokers.

The results of this study may be due to the modality of the prevention program and of the research. Although self-efficacy has been included in many successful prevention programs, evidence of it being successful as a stand-alone strategy cannot be attributed to this research. Evidence of the flaws of this particular research study have been identified previously in this thesis in the discussion of the length and type of prevention activities undertaken and the methods of the researcher in collecting and analyzing data. Future researchers need to explore these issues more fully.

That current non-smokers appeared to be influenced differently than current smokers does have significant repercussions for future prevention programs. These differences must be taken into account to have the maximum benefit when working with adolescents. If our hope is to prevent damage related to substance misuse, we must consider not only the needs of those young people who are not yet involved with substance use, but also those who have already begun to use substances. With minor modifications, we will be able to reach these students and let them know that just

because they have chosen to use a substance in the past does not mean that they are not able to make different choices in the future.

The results of this study affect the way that I as a prevention practitioner plan prevention programs. I now recognize the need to ensure that all prevention programs planned under my guidance include self-efficacy raising procedures are a part of comprehensive prevention programs based on social influences models. Further, I recognize the need to include drug use cessation components in any prevention program initiated.

In closing, I will restate the importance of continued research on the trends of adolescent drug use and drug use prevention programs. The misuse of alcohol and other drugs continue to be the greatest cause of death and disability of young adults in North America. Although there have been some breakthroughs in the treatment of drug dependence, the tolls on families and society continues to be great. Many of those drug dependencies could have been avoided if a successful alcohol and drug prevention program had been implemented, or in the words of the great Chinese philosopher Lao Tzu in the Tao Te Ching "Begin difficult things while they are easy, do great things when they are small. The difficult things of the world must once have been easy; the great things must once have been small".

References

Aas, H., Klepp, K.-I., Laberg, J. C .& Aaro, L. E. (1995). Predicting Adolescents' intentions to drink alcohol: Outcome expectations and self-efficacy. Journal of Studies of Alcohol, 56, 239-299.

Adlaf, E. M. & Smart, R. D. (1991). Drug use among adolescent students in Canada and Ontario. The past, present and future. Journal of Drug Issues, 21, (1), 59-72.

Baer, J. (1985). Patterns of relapse after cessation of smoking: Cluster analysis and prospective prediction. Unpublished Doctoral Dissertation, University of Oregon.

Baer, J., Holt, C. & Lichtenstein, E. (1986). Self-efficacy and smoking re-examined: Construct validity and clinical utility. Journal of Consulting and Clinical Psychology, 54, 846-852.

Baer, J. & Lichtenstein, E. (in press). Classification and prediction of smoking relapse episodes: An exploration of individual differences. Journal of Consulting and Clinical Psychology.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. Psychological Review, 84, (2), 191-215.

Bandura, A. (1977). Social Learning Theory. Englewood Cliffs, N.J.: Prentice Hall,

Inc.

Bandura, A. (1984). Recycling misconceptions of perceived self-efficacy. Cognitive Therapy Research, 8, 231-255

Bandura, A. (1986). Social Foundations of Thought and Action. Englewood Cliffs, N.J.: Prentice Hall, Inc.

Bandura, A. (1989). Human agency in social cognitive theory. American Psychologist, 44, (9), 1175-1184.

Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. Educational Psychologist, 28, (2), 117-148.

B.C. Ministry of Health and Ministry Responsible for Seniors (1995). School Based Prevention Handbook.

B.C. Ministry of Health and Ministry Responsible for Seniors (1995). School Based Prevention Project: Student survey report, spring 1995 evaluation.

Beck, K.H. & Frankel, A. (1981). A conceptualization of threat communications and protective health behavior. Social Psychology Quarterly, 44, 204-217.

Bentler, P.M. (1992). Etiologies and consequences of adolescent drug use: Implications for prevention. Journal of Addictive Diseases, 11(3), 47-61.

Botvin, G. J., (1986). Substance abuse prevention research: Recent developments and future directions. Journal of School Health, 56, (9), 369-374.

Botvin, G. J., Renick, N.L., & Baker, E. (1983). The effects of scheduling format and booster sessions on a broad spectrum psychosocial approach to smoking prevention. Journal of Behavioral Medicine, 6, (4), 359-379.

Burling, T. A., Reilly, P. M., Moltzen, J. O.. & Ziff, D. C. (1989). Self-efficacy and relapse among impatient drug and alcohol abusers: A predictor of outcome. Journal of Studies of Alcohol, 50, (4) 354-360.

Canadian Teachers Federation (1997). National Issues in Education Initiative. Canadian Teachers Federation Home Pate. [On-Line].\Available: http://www.ctf-fce/ctf/ni/three.htm

Chambliss, C.A. & Murray, E.J. (1979). Efficacy attribution, locus of control, and weight loss. Cognitive Therapy and Research, 3, 349-353.

Comerci, G. D. & Macdonald, D. I., (1990). Prevention of substance abuse in children and adolescents. Adolescent Medicine: State of the Art Reviews, (1), 77-86.

Condiotte, M. M. & Lichtenstein, E. (1981). Self-efficacy and relapse in smoking cessation programs. Journal of Consulting and Clinical Psychology, 49, (5), 648-658.

Ellickson, P. L. & Hays, R. D. (1991). Beliefs about resistance self-efficacy and drug prevalence; Do they really affect drug use? The International Journal of the Addictions, 25, (11A), 1353-1378.

Ellickson, P.L. (1995). Schools. In R.H. Coombs & D. Ziedonis (Eds.), Handbook on drug abuse prevention: A comprehensive strategy to prevent the abuse of alcohol and other drugs, (pp.93-120). Needham Heights, Massachusetts: Allyn & Bacon.

Ewart, C.K., Taylor, C.B., Reese, L.B. and Debusk, R.F. (1984). Effects of early post myocardial infarction exercise testing on self-perception and subsequent physical activity. American Journal of Cardiologists, 51, 1076-1080.

Gall, M. G., Borg, W. R., & Gall, J. P. (1996). Educational Research: An introduction. White Plains, NY. Longman Publishers.

Godding, P. R., Glasgow, R. E. (1985). Self-efficacy and outcome expectancy as predictors of controlled smoking status. Cognitive Behavior Therapy and Research, 9, 583-590.

Hansen, W. B., Effective school-based approaches to drug abuse prevention. Educational Leadership. 45(6), 9-14.

Hansen, W. B., Johnson, C. A., Flay, B. R., Phil, D., Grahm, J. W. & Sobel, J. (1988). Affective and social influences approaches to the prevention of multiple substance abuse among seventh grade students: Results from project SMART. Preventative Medicine, 17, 135-154.

Hawkins, J.D., Lishner, D.M., Catalano, R.F. & Howard, M.O.(1985). Childhood predictors of adolescent substance abuse: Towards an empirically grounded theory. Journal of Children in Contemporary Society,18, (1-2), 11-48.

Howell, D.C. (1995). Fundamental statistics for the behavioral sciences. Belmont, California: Duxbury Press.

Jackson, D. (Producer, Director, Writer). (1988). Stand Up for Yourself: Peer pressure and drugs. [Film]. (Available from Image Media Services Ltd., 150 - 12140 Horseshoe Way, Richmond, B.C.)

Jeffrey, R.W., Bjornson-Benson, W.M., Rosenthal, B.S., Lindquist, R.A., Kurth, C.L., & Johnson, S.L. (1984). Correlates of weight loss and its maintenance over two years of follow-up among middle-aged men. Preventive Medicine, 13, 155-68.

Johnson, L. D., O'Malley, P. M. & Bachman, G. G. (1992). Smoking, drinking and illicit drug use among American secondary school students, college students, and young adults, 1975-1991. (Report No. ISBN-0-16-038268-8; NIH-93-3480). Ann Arbor, Michigan: Institute for social research. (ERIC Document reproduction Service No. ED364 781).

Johnson, L.D., O'Malley, P.M.,& Bachman, J.G.(1994). Press Release. The University of Michigan. Drug use continues to Climb. December 8, 1994

Klepp, K., Halper, A. & Perry, C.L. (1986). The efficacy of peer leaders in drug abuse prevention. Journal of School Health, 56, (9), 407-411.

Lawrance, L. (1989). Validation of a self-efficacy scale to predict adolescent smoking. Health Education Research, 4, (3) 351-360.

Manning, M. M., and Wright, T. L. (1983). Self-efficacy expectancies, outcome expectancies, and the persistence of pain control in childbirth. Journal of Personality and Social Psychology, 45, 421-431.

Marlatt, G. A. & Gordon, J. R., (1985). Relapse Prevention. New York, NY: Guilford Press.

Martin, G. W., Wilkinson, D. A., & Poulos, C. X., (1995). The drug avoidance self-efficacy scale. Journal of Substance Abuse, 7, (2), 151-163.

Moskowitz, J., Schaps, E., Malvin, J., & Schaeffer, G. (1984). The effects of drug education at follow-up. Journal of Alcohol and Drug Education, 30, 45-49.

Norman, E., Turner, S., Zunz, S. J. & Stillson, K., (1997). Prevention programs reviewed: What works? In E. Norman (Ed.), Drug Free Youth: A compendium for prevention specialists. (pp.22-45).

O'Leary, A. (1985). Self-efficacy and health. Behavioral Research and Therapy, 23, (4), 437-451.

Pagliaro, A. M. & Pagliaro, L. A. (1996). Substance Use Among Children and Adolescents: Its Nature, Extent and Effects from Conception to Adulthood. John Wiley and Sons Inc. New York: New York

Poulin, C. (1997). Canadian Community Epidemiology Network on Drug Use: Inaugural report. (NHRPD Project No. 6606-6022-703). Halifax, Nova Scotia : Dalhousie University.

Reilly, P. M., Sees, K. I. Shopshire, M. S., Hall, S. M. , Delucchi, K. L., Tusel, D. J., Banys, P., Clark, H. W. & Piotrowski, N. A. (1995). Self-efficacy and illicit opioid use in a 180 day methadone detoxification treatment program. Journal of Consulting and Clinical Psychology, 63, (1), 158-162.

Reese, L. (1983). Coping with pain, the role of perceived self-efficacy. Unpublished doctoral dissertation, Stanford University, Stanford: CA.

Robinson, S. M. & Walsh, J. (1994). Cognitive factors affecting abstinence among adolescent polysubstance users. Psychological Reports, 75, 579-589.

Russell, L. B. (1986). Is prevention better than a cure? Washington, D.C.: Brookings Institution.

Rychtarik, R. G., Prue, D. M., Rapp, S. R., & King, A. C., (1992). Self-efficacy, aftercare, and relapse in a treatment program for alcoholics. Journal of Studies on Alcohol, 53, 435-440.

Schaps, E., Dibartolo, R., Moskowitz, J., Palley, C.S. et al. (1986). A review of 127 drug abuse prevention program evaluations. Journal of Drug Issues, 11, 17-43.

Schaps, E., Moskowitz, J., Malvin, J. H. & Schaeffer, G. (1986). Evaluation of seven school-based prevention programs: A final report on the Napa Project. International Journal of the Addictions, 21, 1081-1112.

Schunk, D. H. (1996). Learning Theories. Englewood Cliffs, New Jersey: Prentice Hall.

Schoor, S.M. & Holman, H. R. (1984). Development of an instrument to explore psychological mediators of outcome in chronic arthritis. Transactions of the Assocition of American Physicians, 97, 325-331.

Stacey, A. W., Sussman, S., Dent, C. W., Burton, D. & Flay, B. (1992). Moderators of peer social influence in adolescent smoking. Personality and Social Psychology Bulletin, 18, (2), 163-172.

Stephens, R. S., Roffman, R. A. & Simpson E. E. (1993). Adult marijuana users seeking treatment. Journal of Consulting and Clinical Psychology,61, (6), 1100-1104.

Stephens, R. S., Wertz, J. S., & Roffman R. A. (1995). Self-efficacy and marijuana cessation. A construct validity analysis. Journal of Consulting and Clinical Psychology, 63, (6) 1022-1031.

Strecher, V. J., Mcevoy-Devillis, B., Becker, M. H. & Rosenstock, I. M. (1986). The role of self-efficacy in achieving health behavior change. Health Education Quarterly, 13, (1), 73-91.

Taylor, C.B., Bandura, A., Ewart, C.K., Miller N.H., & DeBusk, R.F. (1985). Exercise testing to enhance wives confidence in their husbands cardiac capability soon after clinically uncomplicated acute myocardial infarction. American Journal of Cardiology, 55, (6) 635-638.

Tobler, N. S. (1986). Meta-analysis of 143 adolescent drug prevention programs: Quantitive outcome results of program participants compared to a control or comparison group. Journal of Drug Issues, 16, (4), 537-567.

Webb, J. A., & Baer, P. E.(1995). Influence of family disharmony and parental alcohol use on adolescent social skills, self-efficacy and alcohol use. Addictive Behaviors, 20, (1), 127-135.

Weisheit, R. A. (1983). The social context of alcohol and drug education: Implications for program evaluation. Journal of Drug Education, 17 (4), 327-344.

Young, R. M., Oei, T.P. & Crook, G.M. (1991). Development of a drinking self-efficacy questionnaire. Journal of Psychopathology and Behavioral Assessment, 13, 1-15

Appendix A

Day One

Lesson Plan

Goal:

1. To develop a baseline of the students' self-efficacy to refuse drug use.
2. To have students identify reasons to use/not use drugs and other ways to meet their needs

Materials:

1. Copies of the Self-efficacy Pre-test
2. Flip Chart Paper
3. Markers
4. Tape
5. Supplies for "Hello Around the World" Ice Breaker

1. Introduction (5 minutes)

The researcher and student assistant introduce themselves and inform the students that they will be working with them for one hour each day for the following week.

2. Pretest (25 minutes)

Introduce the pretest to the students by reading the following introduction. *"We are interested in finding out information about how adolescents feel about their ability to refuse drug use in different situations. Participation in this program is completely*

voluntary so I am going to pass out copies of a consent form for us to read over together. If you agree to participate in this program please sign the bottom of the sheet and return it to the researcher". Pass out the student consent form and read it over to the students. Ask the students if they have any questions. Have the students return the consent forms. If any students choose not to participate, have the teacher make alternative arrangements for them. The teacher may choose to have them participate in the activities, but not the surveys. Then pass out the surveys and have the students look them over to see if they have any questions as they fill out the survey they can raise their hands and you will come and help them. If the students do not have questions stay at the front of the class to avoid intimidating the students as they fill out the surveys.

3. Break into small groups (5 minutes)

Use the ice breaker "Hello around the World" to separate students into small groups of five or six.

4. Brainstorm reasons why people use alcohol and other drugs (15 minutes)

Go over the guidelines for brainstorming. Have the students brainstorm the reasons why people choose to use or not use drugs and record their ideas on a flip chart. Have the students report out of their small groups and create a master list of reasons to use/not use on the board.

5. Large group discussion on other ways people can meet their needs other than using drugs. (5 minutes)

Record the students responses on the board, you may have to make some initial suggestions to get them started i.e. stress - going for a bike ride, bored - playing video games with a friend etc.

6. Closure (5 minutes)

Thank students for their cooperation, review what was done in class today and let them know that they will be watching a video about refusal skills tomorrow.

Day Two

Lesson Plan

Goals:

1. To have students observe video role models of adolescents refusing drugs.
2. To have students develop an understanding of the necessary steps in refusing drug use.
3. To have students develop a mnemonic for the steps to drug use refusal.

Materials:

1. TV, VCR. a copy of the video "Stand up for yourself: Peer pressure and drugs".
2. Black board and chalk
3. Flip chart paper
4. Markers
5. Supplies for the ice breaker "Humdingers"

Schedule

1. **Introduce and watch the video (20 minutes)**

2. **Large group discussion of video (20 minutes)**

- What were the different techniques that students used on the video to refuse drugs? i.e. broken record, reversal, humor, tried it and didn't like it, alternatives, my parents would kill me.
- How did each of them work?
- Which ones do you think that you would feel the most comfortable using?
- Are there other techniques you could use? i.e. humor, tell them the facts, say you tried it and didn't like it, give them the facts about how drugs effect the body.

3. Break into small groups (5 minutes)

Break the class up into small groups of five or six using the energizer "Humdingers".

4. Small group development of a mnemonic (15 minutes)

Develop a mnemonic for the different drug use refusal skills. A mnemonic is a technique used to enhance memory by grouping initials together to make a word or a sentence, i.e. K.I.S.S. (Keep It Simple Stupid). The mnemonic will include at least four of the refusal strategies.

Drug Use Refusal Terms and Initials

No Thank You - N

Broken Record Technique - B

Reversal - R

Excuse to Leave - E

Humor/Comedy - H or C

Alternatives - A

Tried It and Didn't Like It - T

Parents would kill me -P

Examples of possible mnemonics: **BRAT, PHAT, CRAB, CHART, BEAN**

Have the students record the mnemonics on the flip chart paper with markers and report out to the class.

5. Closure (5 minutes)

Thank the students for their participation, and let them know that they will be making posters about their mnemonics on the next day. Save their mnemonics of the flip chart paper for the next day.

Day Three

Lesson Plan

Goals:

For students to create a system for remembering drug refusal skills that they have observed being modeled on a previously viewed videotape.

Materials:

1. Art Paper
2. Crayons, Felts, Paints

Schedule

1. Create a poster of their mnemonic (55 minutes)

Hang up the mnemonics that they made on the previous day at the front of the class. Inform the students that the task for the day is to make a poster of on of the mnemonics from the previous day. They can choose to use the one they created on the previous day or choose one the other groups created. Hand out paper to all of the students and let them choose from art supplies. Walk around the classroom giving students feedback on posters and helping where appropriate.

2. Closure

Collect the students' posters. Thank them for their hard work and let them know that tomorrow we will be doing role-plays of refusal skills. Hang the posters around the classroom.

Day Four

Lesson Plan

Goals:

1. For students to gain practical experience using the refusal skills that they have been learning.
2. To students to gain vicarious experience of using refusal skills by watching their peers use the refusal skills.

Materials:

1. Black board
2. Chalk
3. Supplies for the ice breaker "Lions, and Tigers and Bears"

Schedule

1. Introduction and Brainstorming (10 minutes)

Let students know that there are many times in our lives were we feel pressured to do things that we don't want to do. In some situations, it is easy to refuse to do what we

don't want to do and in other situations, it is more difficult. Do a group brainstorm on the situations in which students may feel pressured to use drugs. Record these situations on the board.

2. Ice breaker "Lions, and Tigers and Bears"

Use the energizer to break into small groups of three or four.

3. Role Play (20 minutes)

Have the students choose one of the scenarios on the board and role play it. Have students spend 5 minutes creating a scenario based on one of the examples on the board including as many roles as there are people in your group. Then take turns role playing the situation and using one of the refusal skills. Each role-play will take 5 minutes, remind students it is time to change roles after each 5 minute interval.

4. Present the role-plays (20 minutes)

Let the groups know that they will be presenting their role-plays to the large group. Give them 5 minutes to get organized. Have each group present their role-play to the rest of the class. Have the other class members try to figure out which refusal skill the group was using.

5. Closure (5 minutes)

Debrief the students about the role-plays. Ask them which refusal skills seemed to work the best. Ask them if there was anything that specific students did to make the refusal

skills work more effectively. Let the students know that the next day will be the last class. Thank them for their hard work.

Day Five Lesson Plan

Lesson Plan

Goals:

1. For students to have the opportunity to voice and receive additional information regarding concerns that they may have about using drug use refusal skills.

2. To determine whether drug use refusal self-efficacy has improved as a result of participation in the program.

Materials:

1. Black board
2. Chalk
3. Self-efficacy post -test

Schedule

1. Review of the program (20 minutes)

Facilitate a large group discussion on what has happened over the length of the program. *"What did you learn over the last few days? What did you enjoy the most? What did you enjoy the least? In what situations do you think that you would have the most difficult time refusing drug use? Does someone in the class have any ideas about what a person could do in this type of a situation?"*

2. Administer the second self-efficacy test (30 minutes)

Remind the students that the information in the questionnaire is confidential and that no one at the school will see their individual results. Also, remind them that they have the right not to answer any questions that make them feel uncomfortable. When they have finished the survey they many hand it to the secondary student who is helping with the presentations by placing them directly in the envelope.

3. Thank you and closure (10 minutes)

Thank the students and the teacher for their time. Let the students know that you will be back in three weeks to do another questionnaire. Pass out Drug Awareness Week buttons and do a draw for a Drug Awareness Week T-shirt.

Appendix B

Parent Consent Form

Parent/Guardian Information Form

Drug Use Resistance Skills training Program

Dear Parent/Guardian,

Your son/daughter along with their classmates, has the opportunity to participate in an important research program that will add to our knowledge about preventing alcohol and other drug abuse. This project involves your child completing a survey to determine their ability to refuse drug use, participation in a drug and alcohol prevention program during five one hour classes, a follow up survey to see if their assessment of their ability to refuse drug use was effected, and one month follow up to see if any change has remained.

Your son/daughter's participation is completely voluntary. They will be asked to sign a consent form during the first session of the project. They can choose to withdraw from the study at any time or refuse to answer any question on the survey , without explanation. Whether your son/daughter chooses to participate in this study will have no effect on their grades. Neither the teacher or school will have access to individual student survey results.

Any information collected in the study will remain confidential; survey results will be kept in a locked filing cabinet in a locked office. Only the researcher and her assistants, Sara Bristow and Julie Green, will have access to the surveys. Your child's name will not be recorded on any survey forms and signed consent forms will be stored separately from the surveys. The survey forms will be destroyed after the completion of the project.

If you wish to have your child exempted from participation in this program or have any questions or concerns about this study please feel free to contact me, Ronda Trumper at 380-9789, or my thesis supervisor Dr. Honore France at 721-7858.

Sincerely,

Ronda Trumper

Appendix C

Student Consent Form

Student Consent Form

Drug Use Resistance Skills Training Program

Dear Student,

You have the opportunity to participate with the rest of your class in an important research program that will add to our knowledge about alcohol and drug abuse. This will involve participating in a week of one hour prevention presentations and completing three surveys.

Your participation in this program is completely voluntary. You can withdraw from the program at any time or refuse to answer any survey question without explanation.

Whether or not you participate in this study will not affect your grade and neither your teacher nor anyone else at the school will see your individual survey results. You will not be asked to place your name anywhere on the surveys and they will not be distinguished from any of your classmates in any way.

If you agree to participate in this research program please fill out the information below.

I _____ agree to participate in the self-efficacy and drug
(Please print your name here)

use refusal research project.

Signature: _____

Date: _____

Appendix D

Self-Efficacy Scale to Predict Adolescent Smoking

Lyn Lawrance, 1989

Smoking Survey

The following items ask you to describe your ability to handle smoking situations. Your answers will be kept secret, not even you teacher or parents will see them. You do not need to write your name on the paper. Please try to answer as honestly as you can.

1. My age is __ years.
2. My sex is (please circle one) Male Female
3. 1 am in the __ grade at school.

The following pages contain a list of situations in which young people may find themselves smoking cigarettes. sometimes it is easier to resist smoking than at other times. In the column at the right, place the number from 1 to 6 using the scale below to show how much you could resist smoking in each case.

1	2	3	4	5	6
I am very sure I would use	I most likely would use	I probably would use	I probably would NOT use	I most likely would NOT use	I am very sure I would NOT use

Example

HOW SURE ARE YOU THAT YOU COULD RESIST SMOKING CIGARETTES:

When your best friend is smoking..... 2

1	2	3	4	5	6
I am very sure I would use	I most likely would use	I probably would use	I probably would NOT use	I most likely would NOT use	I am very sure I would NOT use

HOW SURE ARE YOU THAT YOU COULD RESIST SMOKING CIGARETTES:

1. When you are at a friend's house, no adults are home..... __
2. When you are playing video games..... __
3. When you are at the mall with friends..... __
4. When you are roller skating ..... __
5. When you are watching TV..... __
6. When you see others smoking ..... __

HOW SURE ARE YOU THAT YOU COULD RESIST SMOKING CIGARETTES

7. When you are doing homework ..... __
8. When you are uptight ..... __
9. When you are riding your bike ..... __
10. When you are angry ..... __

11. When you are at a party ..... __

12. When you are school during recess or after school ..... __

HOW SURE ARE YOU THAT YOU COULD RESIST SMOKING CIGARETTES

13. When someone offers you a cigarette ..... __

14. When you want to look cool ..... __

15. When you want to feel more grown up ..... __

16. When you are bored ..... __

17. When you want to look better ..... __

18. When you want to take a break from studying ..... __

HOW SURE ARE YOU THAT YOU COULD RESIST SMOKING CIGARETTES

19. When you feel ashamed ..... __

20. When you are waiting to go into the movies ..... __

21. When you are waiting for someone ..... __

22. When you feel restless ..... __

23. When you are playing in the neighborhood ..... __

24. When you feel frustrated ..... __

HOW SURE ARE YOU THAT YOU COULD RESIST SMOKING CIGARETTES

25. When you want to feel more accepted by friends ..... __

26. When you are worried ..... __

27. When you feel upset ..... __

28. When you feel down ..... __

29. When you feel nervous ..... __

30. When you are on the way home from school ..... __

HOW SURE ARE YOU THAT YOU COULD RESIST SMOKING CIGARETTES:

31. When you feel sad..... __

32. When your best friend is smoking ..... __

33. When you are listening to rock music ..... __

34. When your friends are smoking ..... __

35. When you are by yourself ..... __

36. When your brother or sister is smoking ..... __

Please check ONE Of:

__ I have never smoked a cigarette

__ I have tried smoking but gave it up

__ I smoke sometimes but not every week

__ I smoke at least one cigarette a week

__ I smoke at least of pack of cigarettes a week

Do you think that you will be a smoker by the time you finish school?

__ Yes

__ No

THANK YOU for your help.

Appendix E

Gateway Drug Use Survey

The following items ask you to describe your ability to handle potential drug use situations. Your answers will be kept secret, not even you teacher or parents will see them. You do not need to write your name on the paper Please try to answer as honestly as you can.

1. My age is ____ years.
2. My sex is (please circle one) Male Female
3. I am in the ____ grade at school

The following pages contain a list of situation in which young people may find themselves smoking cigarettes, drinking alcohol or using marijuana. Sometimes it is easier to resist using these drugs than at other times. In the column at the right, place the number from 1 to 6 using the scale below to show how much you could resist using in each case.

1	2	3	4	5	6
I am very sure I would use	I most likely would use	I probably would use	I probably would NOT use	I most likely would NOT use	I am very sure I would NOT use

Example

HOW SURE ARE YOU THAT YOU COULD RESIST SMOKING CIGARETTES:

When your best friend is smoking 2

If you think that you would most likely smoke you would put a number 2 in the right hand space of the number (1 through 6) of the best answer for you.

1	2	3	4	5	6
I am very sure I would use	I most likely would use	I probably would use	I probably would NOT use	I most likely would NOT use	I am very sure I would NOT use

HOW SURE ARE YOU THAT YOU COULD RESIST SMOKING CIGARETTES;

1. When you arE at a friends house, no adults are home .....__
2. When you are roller blading or riding your bike .....__
3. When you are angry .....__
4. When you are at a party .....__
5. When you are school during recess or after school .....__
6. When someone offers you a cigarette .....__
7. When you want to look cool .....__
8. When you are bored .....__
9. When you are playing in the neighborhood .....__
10. When you feel frustrated .....__
11. When you want to feel more accepted by friends .....__
12. When you feel down .....__

HOW SURE ARE YOU THAT YOU COULD RESIST DRINKING ALCOHOL

13. When you are at a friends house, no adults are home .....__

14. When you are roller blading or riding your bike .....__

15. When you are angry .....__

16. When you are at a party .....__

17. When you are school during recess or after school .....__

18. When someone offers you a cigarette .....__

19. When you want to look cool .....__

20. When you are bored .....__

21. When you are playing in the neighborhood .....__

22. When you feel frustrated .....__

23. When you want to feel more accepted by friends .....__

24. When you feel down .....__

HOW SURE ARE YOU THAT YOU COULD RESIST USING MARIJUANA?

25. When you are at a friends house, no adults are home .....__

26. When you are roller blading or riding your bike .....__

27. When you are angry .....__

28. When you are at a party .....__

29. When you are school during recess or after school .....__

30. When someone offers you a cigarette ..... __

31. When you want to look cool ..... __

32. When you are bored ..... __

33. When you are playing in the neighborhood ..... __

34. When you feel frustrated ..... __

35. When you want to feel more accepted by friends ..... __

36. When you feel down ..... __

Please check ONE of:

__ I have never smoked a cigarette

__ I tried smoking but quit

__ I smoke sometimes, but not every week

__ I smoke at least one cigarette a week

__ I smoke at least one pack of cigarettes a day

Please check one of:

__ I have never had a drink of alcohol

__ I have tried a sip of alcohol but that's all

__ I drink alcohol sometimes, but not once a week

__ I drink at least once a week

Please check one of:

__ I have never tried marijuana

__ I tried smoking marijuana once

__ I have use marijuana less than three times

__ I smoked marijuana more than three times

Do you think that you will be a smoker by the time you finish school?

__ Yes

__ No

THANK YOU for your help.

Appendix F.

Ronda:
I would be most pleased to have you modify my scale for your research study. I would appreciate some acknowledgement of its original source and would very much like to share your results. It is always exciting to see the evolution of measurement instruments and varied applications.
Thanks, and best wishes with your thesis.

Lynette Lawrance, PhD.
Associate Dean & Associate Professor
School of Health and Human Performance
Department of Public Health Education
P.O. Box 26169
Greensboro, NC 27402-6169
lawrance@uncg.edu

Permission from Lyn Lawrance to Use Self-Efficacy Scale

Appendix G.

Permission to Conduct Research in Victoria, B.C. School District

SCHOOL SERVICES
EDUCATIONAL STAFFING
556 BOLESKINE ROAD, P.O. BOX 28, VICTORIA, BRITISH COLUMBIA, V8X 3P1
PHONE (250) 475-4130 FAX (250) 475-4136

September 3, 1997

Ms. Ronda Trumper
305 - 1366 Hillside Avenue
Victoria, BC
V8T 2B5

Dear Ms. Trumper:

Thank you for your recent application regarding your research project, "Can Self-Efficacy to Resist Drug Use be Improved Through the Implementation of a Resistance Skills Training Program for Grade Seven Students".

Please be advised that your application has been approved and permission to proceed with this project during the 1997/98 school year is hereby granted.

It is understood that student participation is voluntary, pending approval of their parents, and that complete anonymity of the children's identity is assured. Please note that it is your responsibility to obtain permission from the Principals of the schools in which you wish to conduct your research.

I wish you success with your project.

Yours sincerely,

[redacted]

Terry J. Tabor
Associate Director

TJT/dms

Appendix H.

Permission to Conduct Research at Journey Middle School, Sooke, B.C. School District

December 10, 1997

Ms. Julie Green,
Drug and Alcohol Prevention Worker,
Edward Milne Community School,
Box 1010,
Sooke, B. C. V0S 1N0

Dear Ms. Green:

This is to confirm my understanding of the research done in Ms. Gitzel's grade seven class during the "Drug Awareness Week" of November 17th to 21st. The research was part of Rhonda Trumper's study done with Dr. Honore France to look at grade seven students and their responses to drugs. You, as the research assistant, did an intervention using class discussion, videotape presentations, mnemonic devices, role playing, and the creation of posters.

The information passed on to me indicates that there was a pre-test and post-test, and that there will be a 30 day followup to measure the self efficacy of students within this particular class of grade seven students. Like yourself, I will be very interested to see the results of the tests and followup. I will look forward to hearing from you after your next visit to Journey Middle School.

Sincerely,

[redacted]

S. McComb,
Vice-Principal.

c. Ms. L. Gitzel

School District 62 (Sooke)

School Address/Adresse:
6522 Throup Road
Sooke, B.C.

Mailing Address/Adresse Postale:
PO Box 100, Sooke, B.C.
V0S 1N0

Phone/Telephone: (604) 642-5851

Fax/Telec.: (604) 642-7137

Appendix I.

Permission to Conduct Research by the University of Victoria Ethics Review Board

University of Victoria
Human Research Ethics Committee

Certificate of Approval

Principal Investigators	Department/School	Supervisor
Ronda Trumper **Graduate student**	**Psychological Foundations**	**Dr. H. France**

Title: Self-efficacy and Drug Use Resistance

Project No.	Start Date	End Date	Approval Date
242-97	15 Oct 97	31 Mar 98	15 Oct 97

Certification

This is to certify that the University of Victoria Ethics Review Committee on Research and Other Activities Involving Human Subjects has examined the research proposal and concludes that, in all respects, the proposed research meets appropriate standards of ethics as outlined by the University of Victoria Research Regulations Involving Human Subjects.

[redacted]

J. Howard Brunt,
Associate Dean, Research

[redacted]

Alex McAuley,
Associate Vice-President, Research

This Certificate of Approval is valid for the above term provided there is no change in the procedures. Extensions/minor amendments may be granted upon receipt of "Request for Continuing Review or Amendment of an Approved Project" form.

Office of Research Administration
Room 424, Business & Economics Building
P.O. Box 1700,
Victoria, BC V8W 2Y2

Tel: (250)721-7958
Fax: (250)721-8960
Email: [redacted]

VITA

Surname: Trumper Given Names: Ronda Lea

Place of Birth: Wetaskwin, Alberta, Canada

Date of Birth: September 28, 1968

Educational Institutions Attended:

Medicine Hat College	1986-1988
University of Victoria	1988-1990

Degrees Awarded

B.A. Child and Youth Care	University of Victoria	1990

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Title of Thesis:

Implementation of a Resistance Skills Training Program To Improve Grade-Seven Students Reported Self-Efficacy to Resist Drugs

Author 

Ronda Lea Trumper

November 29, 1999