

**ADOLESCENT RELAPSE - A FUNCTION OF STRATEGIC  
KNOWLEDGE, STRATEGIC EFFICACY, PERCEPTIONS OF RISK AND  
SOBRIETY EXPECTATIONS**

by

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ADOLESCENT RELAPSE - A FUNCTION OF STRATEGIC KNOWLEDGE, STRATEGIC EFFICACY,  
PERCEPTIONS OF RISK AND SOBRIETY EXPECTATIONS

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## ABSTRACT

Although there is a considerable amount of relapse research on adult substance abusers, there is a dearth of information pertaining to relapse among adolescent substance abusers. The overall purpose of this study is to examine some of the existing information regarding adult relapse and attempt to understand these variables as they apply to adolescents.

The present study examined five research hypotheses aimed at understanding how adolescents who have experienced alcohol/drug problems in the past, maintain their sobriety. Areas explored included ability to recognize high-risk situations, fluency and breadth of coping strategies in high-risk situations, strategic efficacy in high-risk situations and sobriety expectations.

Three groups of adolescents ranging in age from 14 - 21 years participated in the research: Abstainers ( $n = 31$ ), Relapsers ( $n = 24$ ), and Users ( $n = 31$ ). Each participant completed four questionnaires designed to obtain information pertaining to the research questions. Twenty-seven adolescents agreed to participate in an interview in addition to completing the questionnaires.

Analyses of variance supported the hypotheses that Abstainers had a greater fluency of strategies ( $p < .02$ ) than Relapsers, greater strategic efficacy than Users ( $p < .03$ ), lower perceptions of risk than either Relapsers ( $p < .02$ ) or Users ( $p < .0001$ ), and higher sobriety expectations than the two other groups ( $p < .0001$ ). A path analytic model of the studied variables is also proposed.

In the closing chapter of this thesis implications of the research findings are discussed and limitations of this investigation are presented. Recommendations for future research in this area are also offered.

## **DEDICATION**

**This thesis is dedicated to those adolescents  
who have taught me so much and who continue to teach me.**

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## CHAPTER I

### Introduction

Alcohol and drug use among high-school adolescents is substantial. According to the British Columbian Ministry of Health's (1987) Alcohol and Drug Programs Survey, almost 75% of teenagers have consumed alcohol with one in five reporting use on a weekly basis. Marijuana is reported to be used by 30% of British Columbian teenagers. A 1982 study found that 62% of Canadian adolescents (12-19 years old) consume alcohol (Addiction Research Foundation, 1985a), while other epidemiological studies have found that in 7 of the 10 Canadian provinces, marijuana is used by 23 to 50% of adolescents (Addiction Research Foundation, 1985b). A later Canadian study found that 61% of high-school dropouts drink alcohol on a weekly basis and that 24% of them reported smoking cannabis at least once a week (Queen's University, 1988).

Information regarding the number of adolescents using alcohol and other drugs is easily available; however, information pertaining to the number of adolescents receiving treatment for an alcohol or drug problem is less readily available. It can be inferred from other information, however, that the number of adolescents receiving treatment is both substantial and growing. Since the release of the B.C. Ministry of Health's (1987) report, the British Columbian government has allocated funding for the establishment of a residential treatment centre for youth and two outpatient facilities specializing in the treatment of youth. More recently, several Lower Mainland school boards have hired drug and alcohol prevention workers to identify adolescents experiencing problems with alcohol and/or drugs and to aid in the prevention of alcohol and drug problems among teens. One of the outpatient facilities reports that they saw 254 adolescents and their families in 1989 and 335 in 1990. They expect this number will increase in 1991 (R. Axsen, personal communication, January 2, 1991). With this new focus on treatment for substance abusing adolescents, the problem of relapse must be revisited.

Relapse rates for addiction problems are alarmingly high. Relapse rates have been

estimated to be approximately 50% to 90% among adults, regardless of the type of treatment or addictive substance (Annis & Davis, 1988a; Hunt, Barnett, & Branch, 1971; Hunt & Matarazzo, 1973; Marlatt, 1985a). Pickens, Hatsukami, Spicer, and Svikis (1985) discovered a 44% relapse rate during the first year following treatment among their sample of adult alcoholics, with the frequency for relapse peaking at six months post-treatment. Milkman, Weiner, and Sunderwirth (1983) report a 73% relapse rate among adult drug abusers, while Hunt and Belpalec (1974) who compared relapse rates across several different addictive substances found similar rates. These researchers studied nicotine, heroin, and alcohol abusers and found that relapse curves were nearly identical for all three addictions. It was also apparent that there was a dramatic increase in the relapse rate in the first three to six months post-treatment across all three populations, a finding consistent with other research (Tucker, Vuchinich, & Harris, 1985). Hence, relapse and relapse prevention are of predominant concern in the field of addictions counseling.

There has been a wealth of research over the decades which attempts to determine the exact causes and precursors to relapse (Connors, O'Farrell, & Pelcovits, 1988; Cummings, Gordon, & Marlatt, 1980; McLatchie & Lomp, 1988; Maisto, O'Farrell, Connors, McKay, & Pelcovits, 1988). For example, Sandahl (1984) studied relapse among adult alcoholics in Sweden and found that those subjects who had a poorer performance on intelligence tests and a higher tendency toward somatized anxiety tended to relapse in interpersonal situations, while those subjects who scored higher in impulsivity tended to relapse under social pressure to drink. Monti, Binkoff, Abrams, Zwick, Nirenberg, and Liepman (1987) considered stimulus control factors in their research on relapse. These researchers found that alcoholics salivated differentially to cues of consuming alcohol, whereas non-alcoholics did not, thus suggesting that physiological reactions to drinking cues may be a key factor in triggering relapse.

Other research suggests that cognitive factors play an important role in relapse. Sjoberg and Johnson (1978) and Samsonowitz and Sjoberg (1981) believe that cognitive

distortions may lead to relapse. It is suggested that: "volitional breakdowns mostly occurred under emotional stress and were preceded by various kinds of twisted reasoning justifying giving in to temptation" (Samsonowitz & Sjoberg, 1981, p. 385). Litman, Eiser, Rawson, and Oppenheim (1979) found that relapse precipitators reported by their adult alcoholic sample included : a) unpleasant affect, b) external events and euphoric feelings, c) social anxiety, and d) lessened cognitive vigilance. And yet others suggest that the risk of relapse is determined by a combination of factors; an interaction of behavioral, physiological, and situational factors that may lead to previous patterns of addiction (Brownell, Marlatt, Lichtenstein, & Wilson, 1986).

Marlatt and Gordon (1980) examined relapse determinants among an adult alcoholics. They found that in over half the relapse situations, individuals reported either (a) frustration or anger, or (b) social pressure to drink as precipitating factors to relapse. In addition, when cigarette and heroin relapses were studied, over 75% of those individuals who experienced a relapse reported a negative emotional state, social pressure, or interpersonal conflict as the key precipitator to their relapse. Thus, a number of personal and situational determinants have been identified as key elements to adult relapse across different kinds of addictions.

Brown, Vik, and Creamer (1989) set out to assess relapse rates among adolescent substance abusers and to determine if relapse precipitants among an adolescent population were similar to those identified in the adult population. Adolescent relapse rates appeared to be comparable to adult rates. However, in contrast to adult populations where negative emotional states are reported as the greatest predictor of relapse, these adolescents reported social pressure to drink as the most common predictor of relapse.

To date, most research on adolescent substance abuse has focused on factors that may contribute to initial use of chemical substances and variables associated with adolescent chemical dependency, such as childhood predictors and risk factors (Hawkins, Lishner, Catalano, & Howard, 1985; Newcomb, Maddahian, & Bentler, 1986; Newcomb,

Maddahian, Skager, & Bentler, 1987), family and peer relationships (Barnes, Farrell, & Cairns, 1986; Huba & Bentler, 1980; Hundleby & Mercer, 1987; Needle, McCabbin, Wilson, Reineck, Lazan, & Mederer, 1986; Needle, Su, Doherty, Lavee, & Brown, 1988; Swaim, Oetting, Edwards, & Beauvais, 1989), and attitude (Friedman & Santo, 1984; Graham & Cross, 1975; Orive & Gerard, 1980).

Brown, Vik, and Creamer (1989) note that "while relapse is also a realistic concern for teens recovering from drug and alcohol problems, little is known about the incidence or characteristics of adolescent relapse" (p. 291). Addiction relapse studies are comprised exclusively of adults, making it difficult to generalize the results of this body of research to an adolescent population, a population in the midst of cognitive, social, and emotional development. In addition, "few studies have considered the behavioral responses or process by which adolescents make decisions regarding consumption in potential drinking situations" (Brown, Stetson, & Beatty, 1989, p. 44). These comments suggest that researchers and clinicians are severely limited in their understanding of relapse among adolescent substance abusers. Therefore, until research efforts are devoted toward understanding this phenomenon among adolescents, adult models of relapse must be used as a very limited guide to possible relapse factors among adolescent substance abusers.

The present research employs a cognitive-behavioral approach to study relapse among an adolescent substance abusing population. It is hypothesized that those adolescents who have experienced a greater level of success in maintaining sobriety have a higher level of achievement expectancy in maintaining sobriety, are able to identify more high-risk situations to relapse, have a greater repertoire of coping strategies for high-risk situations, and have a greater level of expectation that they can implement those strategies. In other words, adolescents who avoid relapse have greater mastery over these important components of the relapse process than those adolescents who have relapsed or who are currently using drugs. The next section will lay the foundation for the development of these hypotheses.

## CHAPTER II

### Literature Review

Several relapse models have been proposed in an attempt to understand a rather complicated and complex process. Three theoretical models of addiction relapse that are predominant in the current literature will be reviewed briefly in this section in order to provide a broad contrast for the research hypotheses explored in this thesis. A fourth model, providing the basis for the research questions under investigation in this thesis, will be discussed in greater depth toward the end of the chapter.

Prior to delving into the relapse literature, it is imperative to discuss a major conceptual difficulty that exists in this area of research. In particular, questions pertaining to relapse: what is it? and how is it defined? Shiffman (1989) writes that although we tend to treat 'relapse' as an identifiable event, this is not the case. There is a great distinction between a 'lapse', a single episode where self-imposed rules are violated, and a 'relapse', the end point of unsuccessful attempts at behavior change. Thus, the former is a specific event and the latter is a psychological construct (Shiffman, 1989). Such definitional criteria poses critical conceptual problems. When does a lapse become a relapse? Should these definitions be objectively behavioral? Perhaps they should be subjectively psychological?

The existing research on the topic does little to alleviate such difficulties, in fact, few studies even acknowledge this distinction. To some, relapse is signified by the return to premorbid levels of drug use, while to others a single event of drug use constitutes a relapse (Saunders & Allsop, 1987). It would appear that for many researchers identifying a single drug use episode as a relapse is the least complicated means of studying this process. Evidence suggests that 90% of lapses evolve into relapse (Marlatt & Gordon, 1980); therefore, one might simply be studying the beginning of the end. There is much discussion in the literature about these conceptual issues which will not be discussed here, but must be recognized as a difficulty in conducting and interpreting relapse research.

Generally, relapse models can be categorized into two different philosophical camps: physiological or disease models and behavior or learning models (Donovan & Chaney, 1985). The physiological models to be discussed in this review are: (a) the post-acute withdrawal syndrome (PAW) model, and (b) the craving and loss of control model. The learning models to be reviewed are: (c) the cognitive appraisal model, and (d) the cognitive-behavioral model. Research supporting this latter model will provide a more pointed context for the current hypotheses under investigation.

### Physiological Models of Relapse

#### Post-Acute Withdrawal Syndrome Model

One of the physiological or disease models, developed by Gorski and Miller (Gorski, 1986), suggests that relapse is due to the 'post-acute withdrawal syndrome' (PAW), "a combination of a protracted subacute withdrawal syndrome combined with long-term neuropsychological impairments" (p. 11) which are due to the long-term effects of alcoholism on the central nervous system. It is believed that the body adapts to the prolonged use of alcohol so that continued drinking is needed for normal functioning. When the individual ceases drinking, acute withdrawal symptoms begin to appear which are physiological in nature, followed by PAW which is neurological in nature. Post-acute withdrawal symptoms usually appear 1-2 weeks after cessation of drinking, peaking at 11/2 to 2 months, and subsiding at 5 months. However, the effects can sometimes be experienced for years (Gorski, 1986).

PAW has six clusters of symptoms beginning with a thought disorder characterized by mind racing, periods of confusion, and the inability to follow logical conceptual thoughts. The second cluster involves an affective disorder marked by emotional overreaction followed by emotional numbness. The third involves memory problems. The fourth cluster involves psychomotor coordination problems. The fifth consists of sleep disorders. The sixth is considered to be a stress management disorder characterized by the



inability to recognize low levels of stress and the tendency to experience severe PAW effects when confronted with high levels of stress (Gorski, 1986).

Gorski and Miller (as cited in Donovan & Chaney, 1985) note that the relapse pattern can be seen prior to the consumption of the drug, beginning with a fear or uncertainty in one's ability to remain sober, followed by other counterproductive coping responses such as defensiveness, isolation, and loss of specific objectives. This pattern of behaviour in conjunction with PAW leads to "confusion, breakdown in supportive social relationships, depression, loss of daily structure including sleep and meals, and abandonment of treatment involvement. The result is overwhelming loneliness, frustration, anger, tension and the feeling that there are no remaining options but drinking, suicide or insanity" (Donovan & Chaney, 1985, p. 357).

Although these theoreticians present a neurological description of relapse, the clinical model that they propose is inconsistent with this theory. For example, it is recommended that clients are assessed for alcohol proneness and composition of treatment strategies (Donovan & Chaney, 1985). However, the method of assessment is never discussed and the treatment strategies, as well as the relapse prevention strategies suggested by these authors, called the Cenaps model of relapse prevention (Gorski, 1990), are based upon learning principles. There is no mention of any neurological assessment techniques or neurological treatments.

An alternative explanation for the PAW symptoms may be an inability to cope with stress. An individual may have used specific behaviors to deal with stressful situations that have, in the past, alleviated the stress so that they were able to perform effectively. If those stress-alleviating behaviors are no longer available, then one might expect the individual to have difficulty coping which can be manifest in a variety of inappropriate behaviours, eating and sleeping disturbances, acting out behaviors, and concentration problems (Chandler, 1985; Johnston, 1986). For example, if abusers typically drank in social situations, it is possible that they never learned appropriate social skills, or perhaps they

may have forgotten them, or they may not feel efficacious in using them. Regardless of the reason, the individual's level of stress in a social situation may be high enough to impair memory, impair sleep, or result in relapse. The relapse may be due to a lack of information, a lack of learning, or low self-efficacy, rather than neurological impairment.

### Craving and Loss of Control Model

Ludwig, Wikler, and Stark (1974) attempt to explain relapse using a psychobiological framework. These theorists see craving and loss of control as key constructs to relapse. This perspective is based upon research where 78% of alcoholics surveyed reported a craving for alcohol and 80% reported some loss of control drinking (an inability to drink moderately) after they had been drinking steadily (Donovan & Chaney, 1985). It has been postulated that one can attempt to understand craving within the context of classical conditioning theory. Donovan and Chaney (1985) note that "craving for alcohol was viewed as the psychological or cognitive correlate of a 'subclinical conditioned withdrawal syndrome.' Through the process of temporal contiguity, craving and related sensations that are assumed to occur during withdrawal from alcohol become associated with stimuli experienced during the process of withdrawal" (p. 365-366). These authors further suggest that the more frequent and severe the previous withdrawal experiences, the greater the sensations of craving to conditioned stimuli. Thus, as an abstinent alcoholic experiences stimuli associated with withdrawal, the likelihood of that individual experiencing craving increases. It is believed that the function of craving is to protect individuals against perceived danger or threat, by leading them to relief, in this case, alcohol (Ludwig, Wikler, & Stark, 1974). In this model, craving is considered to be an aversive state due to the elicitation of physical symptoms associated with prior withdrawal (Marlatt, 1985b).

It is believed that both internal and external cues are related to the probability of experiencing craving (Ludwig & Stark, 1974). Internal cues include negative affective states and physiological symptoms of an alcohol withdrawal syndrome. External cues

involve those situations where alcohol is available, situations where individuals feel that they have failed in some meaningful way, or that they find stressful. The presence of these cues becomes a conditioned 'cognitive label' which is perceived, interpreted, and acted upon as a craving (Ludwig & Stark, 1974). Thus, individuals focus on the use of alcohol as a means of relief from this state of craving.

Ludwig, Wikler, and Stark (1974) attempted to study the physiological, neurophysiological, cognitive, and behavioral components of craving. A 2 X 3 design was employed to measure the effects of two exteroceptive cue situations and three drug-dose conditions on the four aforementioned components of craving. Results indicated that craving and alcohol-seeking behavior were functions of both interoceptive and exteroceptive cues in the 'low-dose' group condition. Statistical support for these effects in the 'high-dose' group and placebo group was not obtained.

Although the results of the Ludwig et al. (1974) study lend support to some of the hypotheses tested, the small sample size (N=24) diminishes the generalizability of their findings. In addition, the authors describe their subjects as 'detoxified'. However, it is not clear if these men were receiving any counseling for their alcoholism, or over what period of time they had received treatment. The authors point out "that the interpretation of the physiological and neurophysiological results becomes far more speculative since they do not completely support our hypothesis that an 'adequate' amount of alcohol, acting much like an hors d'oeuvre, should elicit conditioned withdrawal responses" (Ludwig, Wikler, & Stark, 1974, p. 544). Although parts of this theory may seem quite plausible, clinical experience indicates otherwise. If this model were accurate, the greatest experience of craving for the alcoholic would occur during the detoxification and withdrawal phase of treatment. However, most patients in treatment centers report their craving to be low or virtually nonexistent (Marlatt, 1985b).

The second component of relapse, according to this model, is loss of control, which is thought to be due to a neurological feedback dysfunction and is characterized by an

inability to moderate alcohol intake after initial craving for alcohol (Donovan & Chaney, 1985). It is believed that loss of control drinking results from the inability to monitor internal cues accurately. One study had social drinkers and alcoholics maintain their blood-alcohol levels (BALs) at a certain range using internal cues during a training session (Ludwig, Bendfeldt, Wikler, & Cain, 1978). During subsequent experimental sessions, subjects received either underestimates or overestimates of their BALs and were asked at 15-minute intervals whether or not they needed a drink to maintain their BALs in the specified range. The results found that compared to social drinkers, "alcoholics consumed more alcohol, attained higher BALs, and had a greater deviation from the targeted BAL range" (Donovan & Chaney, 1985, p. 362).

There are two alternate explanations for the results of this study. First, these results may be attributable to the tolerance that alcoholics have to alcohol. Tolerance is the reduced sensitivity to the effects of a drug due to the adaptation of the body to repeated exposure to the drug. Higher doses of alcohol are required to achieve the original intensity. A substantially high BAL for a social drinker may result in impaired judgment and motor coordination. An alcoholic, on the other hand, may not exhibit any effects for the same BAL. Thus, even though an alcoholic may receive an external overestimation of their BAL, they may not experience the intoxicating effects (due to tolerance) and continue drinking. A second possible explanation of these results may be related to alcoholic subjects' need to 'look good.' In the case of underestimation of BALs, alcoholic subjects may have lower self-esteem and may choose to believe the external cues for BAL rather than their internal cues.

The research supporting physiological models of relapse is minimal. Yet, some individuals and organizations such as, Alcoholics Anonymous, Narcotics Anonymous, and other 12-step programs adhere to these models. Perhaps it is less difficult for individuals and treatment programs to blame relapse on some physiological principle, a response over which they have little direct control. It is also likely that if one sees alcoholism or drug

addiction as a disease of the body, then one is likely to see relapse as a component of that disease. There are, however, others who perceive addictions as a problem of learning rather than a problem of disease.

### Learning Models of Relapse

#### Cognitive Appraisal Model

Cognitive appraisals, or the way in which alcoholics perceive and interpret situations, have been the basis of another theory of relapse. The work of Sanchez-Craig (1976) has led to the development of Reappraisal Therapy, a self-control based approach suggesting that the way in which people perceive and interpret their environment determines their behaviour. She postulates that an event that is perceived as beneficial will lead the individual to approach the situation and to feel positively. A situation perceived as harmful is often accompanied by negative feelings and attack, withdrawal, or avoidance behaviour (Donovan & Chaney, 1985).

In addition to individuals' perceptions and interpretations of the situation, their repertoire of coping skills plays a crucial role in their ability to survive threatening situations (Sanchez-Craig & Walker, 1982). If individuals have a variety of coping responses, they may react habitually, spontaneously, and effectively. If, on the other hand, coping strategies are not available, individuals' perceived levels of stress may increase and negative emotions may become more severe. In this model, it is believed that the alcoholic uses alcohol as a means for coping with stressful situations. Through experience, individuals learn that alcohol serves a useful purpose. It either decreases the aversiveness of the situation or it builds their perceptions of confidence and coping ability. The prolonged use of alcohol as a means of coping becomes habitual and automatic, thereby prohibiting the development of more effective modes of coping (Donovan & Chaney, 1985). It is believed that "unless the appraisal of alcohol as a negative stimulus is consolidated and reinforced, this learned desire will predominate and relapse will occur" (Donovan & Chaney, 1985, p. 370).

Sanchez-Craig and Walker (1982) compared the outcomes of three treatment strategies administered to 200 residents of an alcoholism halfway house. Subjects received one of three treatments: problem-solving strategies, covert desensitization, or discussion. They found that although subjects could easily remember the problem-solving strategies while in treatment, there were severe decrements in recall within one month of program completion. More importantly, however, these researchers found no differences between the three treatment groups on several outcome variables, suggesting that learning problem-solving strategies alone is not an effective form of treatment.

Although the cognitive appraisal model may be intuitively appealing, at no point is self-efficacy presented as a factor in successful coping. Research relating to this construct clearly demonstrates its role in behavior change (Rollnick & Heather, 1982; Strecher, Devellis, Becker, & Rosenstock, 1986). It may be the case that although subjects may grasp some of the components of problem-solving, they may not believe that can effectively employ these strategies. Alternatively, they may not know when to implement these strategies. Perhaps the recovering alcoholic may not recognize high-risk relapse situations until it is too late to implement problem solving.

### Cognitive - Behavioral Model

Among other theories in the literature (Abrams, Niaura, Carey, Monti, & Binkoff, 1986; Baar & O'Connor, 1985; Donovan & Chaney, 1985), the most comprehensive and integrative theory has been postulated by G. Alan Marlatt of the University of Washington and his colleagues (Donovan & Chaney, 1985; Sutton, 1989). This model considers several theoretical approaches in its attempt to explain a rather complicated set of relapse behaviors by incorporating elements of social psychology and social learning theory (Sutton, 1989). Initially developed as a model for alcohol and drug abuse relapse, the model has been applied to other indulgent-type behaviors such as overeating (Cummings, Gordon, & Marlatt, 1980; Grilo, Shiffman, & Wing, 1989; Perri, Shapiro, Ludwig,

Twentyman, & McAdoo, 1984), gambling (Brown, 1989) and repeat sex offending (Marques & Nelson, 1989).

This cognitive-behavioral framework presents relapse as an interactive function of several factors (Marlatt & Gordon 1980; See Figure 1). First, the stresses and demands of particular situations need to be considered. As soon as the decision to abstain from drugs is made, the individual will begin to encounter 'high-risk' situations which are situations, mood states or occasions that are "associated with a history of use of the addictive behavior as a coping response and thus represent a critical choice point for the individual" (Cummings, Gordon, & Marlatt, 1980, p. 297). High-risk situations may involve interpersonal situations such as being asked to drink in honour of a friend's marriage or having a fight with one's spouse. Other high-risk situations might include, feelings of frustration or anger or simply passing by a familiar drinking establishment.

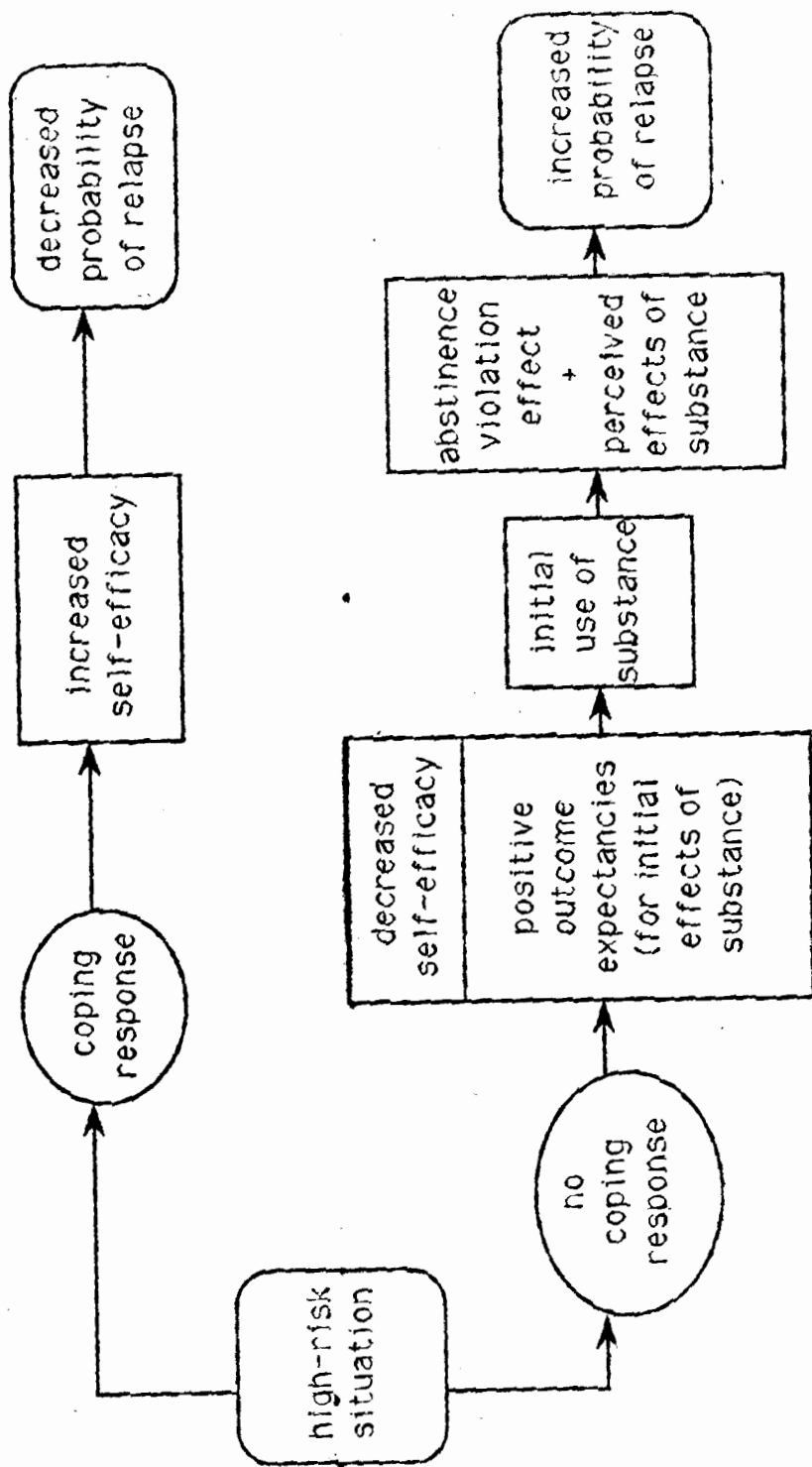
Second, the availability and the implementation of coping responses for these high-risk situations play an important role in the individual's abstinence. If individuals have an alternative coping response available in their repertoire of strategies and individuals' perceived level of personal control and self-efficacy in implementing these strategies allows them to engage this alternative coping response, then the probability of relapse is decreased. If, on the other hand, there are no coping responses, or individuals feel that they are unable to successfully implement the strategy (a decrease in self-efficacy), then they may revisit an old coping response: alcohol/drugs. The initial use of the substance is followed by the 'abstinence violation effect' (AVE), a cognitive phenomenon involving a perceived loss of control due to a violation of self-imposed rules, the consequence of which is an increased probability of relapse (Marlatt & Gordon, 1980).

Finally, the anticipated positive effects of the drug may be enough to convince individuals to return to their old patterns of substance abuse. If individuals are faced with a demanding, stressful situation for which they have no specific coping strategies, their level

Figure 1

Cognitive-Behavioral Model

(from Marlatt & Gordon, 1980)





of personal control and self-efficacy decreases. These preconditions, coupled with a positive expectation for the effects of alcohol or other drugs to decrease levels of stress and enhance perceptions of personal control, result in the high probability of returning to alcohol or drugs as a means of dealing with the situation.

Thus, according to cognitive-behavioral accounts of addiction, relapse may be initiated by single factors or combinations of factors displayed in Figure 1. Relapse may be due to the lack of an effective coping response, or diminished belief in one's ability to cope effectively with a high-risk situation, combining these preconditions with the positive expectation for the effects of alcohol or drugs may lead to relapse.

Relapse precipitants. Marlatt and Gordon (1980) place high-risk situations as a key variable in determining relapse. Relapse occurs because drug users are faced with a situation where they feel they are unable to cope. A high-risk situation is "defined broadly as any situation which poses a threat to the individual's sense of control and increases the risk for potential relapse" (Marlatt & George, 1984, p. 75). Personal control or self-efficacy is "the conviction that one can successfully execute the behavior required to produce outcomes" (Bandura, 1977, p. 193). Regardless of the situation, it is the individual's appraisal of 'risk' that determines whether or not the situation may lead to relapse. However, research has found that there are common precipitants or determinants among relapsers.

One of the earliest studies to examine relapse determinants followed a group of 22 adult alcoholics weekly for up to six months (Hore, 1971). Events related to the relapses of these subjects fell into four main categories. Thirty-three percent of the relapses were attributed to a 'personal interaction' involving an emotional relationship, 33% were attributed to a change or a possible change in work situation, 20% were due to a change in health of the subject or the subject's family, and 13% were attributed to a change or possible change in residence. Hore (1971) concluded that "relapse appears to occur as the result of events in the patients' lives" (p. 88).

Litman, Eiser, Rawson, and Oppenheim (1979) studied the responses of 120 adult alcoholic patients in order to categorize relapse precipitants using a 25-item scale, the Relapse Precipitant Inventory (RPI). Analyses indicated that relapse precipitants could be categorized as (a) unpleasant affect, (b) external events and euphoric feelings, (c) lessened cognitive vigilance, and (d) social anxiety. A later study, with a different alcoholic population, revealed that these factors remained stable over time (Litman, Stapleton, Oppenheim, Peleg, & Jackson, 1983). These researchers further found that the RPI was able to discriminate between relapsers and non-relapsers. Subjects who scored highest on the total number of relapse precipitants and on the first two factors were more likely to relapse than those with the lowest scores.

Shiffman, Read, and Jarvik (1985) also developed a typology for high-risk situations. These researchers studied the relapse conditions described by 183 ex-smokers who called a telephone crisis line seeking help toward remaining abstinent. Cluster analysis revealed that three positive affective variables (parties, unwinding and craving) and two negative affective variables (work stress and depression) contribute to relapse. These authors caution however, that due to classification difficulties only one-third of the 183 responses were used in the analyses, thereby limiting the findings of this research.

Marlatt (1978) also developed a classification system for categorizing relapse precipitants. During the process of interviewing subjects for follow-up data collection after their participation in an electrical aversion treatment program for alcoholism, it was discovered that 78% of the subjects had relapsed in the first 90 days after treatment. Further inquiry into these relapse episodes revealed that over 50% of the relapses involved situations in which the subject experienced either frustration or anger (usually in a social context), or where the subject experienced social pressure to drink.

The results of this follow-up analysis led to the development of a classification system for relapse situations. Marlatt and Gordon (1980) studied individuals involved in treatment for heroin addiction, alcoholism, and smoking. All participants were contacted

90 days after termination of treatment for follow-up evaluation. Detailed questionnaires and interviews were employed to obtain information pertaining to the circumstances associated with the subject's first use of the chemical substance following treatment. Based on these data and interviews, Marlatt and Gordon (1980) formulated a classification system for coding types of relapse precipitants. (See Appendix C.) Two major categories of precipitating factors were found: intrapersonal/environmental determinants and interpersonal determinants.

Intrapersonal/environmental determinants are relapse factors which originate within the individual or relate to nonpersonal, environmental events. This category includes five subcategories: (a) coping with negative emotional states (e.g., coping with frustration and/or anger and coping with other negative emotional states such as loneliness and sadness), (b) coping with negative physical/physiological states (e.g., coping with physical states associated with previous substance use, such as withdrawal and coping with other negative physical states such as physical pain), (c) enhancement of positive emotional states not involving others, (d) testing personal control, and (e) giving in to temptations or urges, which can happen either in the presence of substance cues or in the absence of substance cues.

The second major category, interpersonal determinants, includes precipitating factors leading to relapse that involve the presence or influence of other individuals. Marlatt and Gordon (1980) list three subcategories subsumed under interpersonal determinants of relapse: (a) coping with interpersonal conflict which may involve coping with frustration and/or anger or other interpersonal conflict; (b) social pressure, either direct or indirect; and (c) enhancement of a positive emotional state involving others. In all, 137 relapse episodes were presented. An overwhelming 76% of all relapse episodes fell into three subcategories: coping with negative emotional states (37%), coping with social pressure (24%), and coping with interpersonal conflict (15%).

Other researchers have obtained similar results. Cummings, Gordon, and Marlatt (1980) studied determinants of relapse among adult smokers, opiate addicts, alcoholics, uncontrolled eaters, and compulsive gamblers. These investigators found that 72% of all relapses were attributed to three categories: negative emotional states (30%), social pressure (27%), and interpersonal conflict (15%). In a relapse prevention study, pretreatment measurement revealed that over two-thirds of clients reported their highest risk situation as negative emotional states (39%), interpersonal conflict (17%), or social pressure to drink (12%) (Annis & Davis, 1988a). Sandahl (1984) used Marlatt and Gordon's (1980) classification system to study adult alcoholics in a Swedish population. In spite of some differences between the American subjects and the Swedish subjects, such as location of relapse, this study supported these categories for relapse determinants. O'Connell and Martin (1987) used the same means of classification to code high-risk situations for 596 participants in smoking cessation programs. Analysis revealed that adult relapsers reported significantly more situations characterized by negative affect than those participants who had temporarily lapsed or who had abstained from smoking. In another study examining the effectiveness of group behavioral marital therapy among male alcoholics, subjects were asked to discuss their attributions for their most recent relapse (Maisto, O'Farrell, Conners, McKay, & Pelcovits, 1988). Almost 70% of relapse episodes were attributed to negative emotional states. It was further noted that 64% of these episodes involved the spouse, suggesting that negative emotional states stemming from interpersonal situations are a major factor in determining relapse among married substance abusers.

All of the foregoing studies used examined precipitants of relapse using adult samples. Brown, Vik, and Creamer (1989), however, investigated relapse rates and characteristics of relapse among an adolescent substance abusing population. These researchers found that relapse rates among their adolescent substance abusing population were comparable to adult rates of relapse. In addition, they found that just as with the adult population, initial adolescent relapse was most common in the first three to six months

posttreatment. Other researchers found that 96% of the perceived high-risk situations described by adolescents involved two or more individuals (Brown, Stetson, & Beatty, 1989), suggesting that social factors played an important role among relapsed adolescents. Brown, Vik, and Creamer (1989) found that over half (60%) of the relapsed adolescents reported direct social pressure to drink or use as the major relapse determinant. Thirty-three percent of the relapsed sample reported that their relapse was due to an attempt to cope with negative affect, and 27% reported interpersonal conflict as a precursor to their relapse. (Because these researchers did not limit the reasons for relapse to a singular category, the total percent for relapse exceeds 100%.) These findings are in contrast to findings with adult substance abusers where negative emotional states appear to be the largest common attributions to relapse (Cummings, Gordon, & Marlatt, 1980; Maisto, O'Farrell, Connors, McKay, & Pelcovits, 1988; Marlatt & Gordon, 1980; Sandahl, 1984). Therefore, it would appear that relapse among adolescent substance abusers may occur under different conditions than it does for adult substance abusers.

Although researchers have explored the constituents of high-risk situations and some have alluded to the importance of recognizing such situations (Annis & Davis, 1988b; Donovan & Chaney, 1985), little attention has been paid to abusers' abilities to identify such situations, be they adult substance abusers or adolescent substance abusers. It may be useful to know what situations and conditions are considered high-risk for relapse, but unless the substance abuser can identify these high-risk situations as 'high-risk' for relapse, then clinicians' efforts in relapse prevention are futile. Teaching clients a variety of coping strategies for high-risk situations may be considered useful, but unless clients know when they need to employ them, the coping strategies may not be employed. Thus, an additional variable addressing relapsers' ability to recognize high-risk situations needs to be considered in Marlatt and Gordon's (1980) model of relapse.

Relapse prevention coping strategies. According to Marlatt's cognitive-behavioral model of relapse, coping skills play a very important role in relapse prevention (Marlatt &

Gordon, 1980). If individuals are unable to implement appropriate coping skills or strategies in a situation considered likely to elicit drinking or drug use, then they will likely relapse. Therefore, it is necessary to consider which coping strategies are most effective in preventing relapse.

By comparing adult relapsers to non-relapsers, Rosenberg (1983) found that non-relapsers responded to role-played problem situations in "a more assertive, non-compliant and drink refusing manner compared to the relapsers" (p. 186). Bliss, Garvey, Heinold, and Hitchcock (1989) studied adults attempting to quit smoking. Their research examined subjects' coping responses to relapse. It was found that survival of relapse was most strongly related to the number of coping strategies employed. It was further suggested that "intervention programs and self-help instructional material should emphasize the importance of using multiple coping strategies to combat temptations to smoke" (p. 447). Litman, Stapleton, Oppenheim, Peleg, and Jackson (1984) also point out that research supports the notion that a broad variety of coping strategies for high-risk drinking situations increases the likelihood of maintaining abstinence. Other research has found that at follow-up, there was a significant correlation between successful outcome following treatment and the use of specific coping strategies in situations which might stimulate drinking behavior (Cronkite & Moos, 1980; Jones & Lanyon, 1981; Shiffman, 1982). These findings support the idea that coping skills play an important role in relapse prevention. Cronkite and Moos (1980) point out that the "interplay between patient's functioning and such posttreatment factors points to the importance of offering treatment aimed at (a) helping patients minimize the likelihood of stressful situations where possible and (b) developing coping skills for effectively dealing with problematic situations" (p. 313). Many treatment programs encompass a coping skills training component in relapse prevention programming (Brown, Lichtenstein, McIntyre, & Harrington-Kostur, 1984; Chaney, O'Leary, & Marlatt, 1978; Donovan & Ito, 1988; Hall, Rugg, Tunstall, & Jones, 1984; Hawkins, Catalano Jr. & Wells, 1986; Hawkins, Catalano Jr., Gillmore, & Wells, 1989; Rist & Watzl, 1983;

Stevens & Hollis, 1989; Supnick & Colletti, 1984; Teichman, 1986). It is believed that the skills learned in these programs can be transferred and employed in real situations.

However, understanding which coping skills are most effective in the prevention of relapse remains an important focus for research.

Billings and Moos (1983) note that some adult alcoholics or drug abusers who experience negative life events are able to prevent relapse by employing coping strategies. Upon comparing posttreatment functioning of recovering alcoholics to a matched nonalcoholic community group, little difference in coping strategies was noted. Both groups tended to use active cognitive (e.g., trying to be more objective, considering alternate solutions) and behavioral strategies (e.g., talking about their problem, taking action) in order to deal with stressful situations. Relapsed individuals, however, tended to use avoidance strategies or ignoring strategies significantly more often than the control group, or their recovering counterparts. It was noted that "relapsed patients made significantly more use of avoidance coping responses that serve to discharge emotion (such as taking it out on other people, eating or smoking more) or to ignore the problem (such as trying not to talk about it)" (Billings & Moos, 1983, p. 212).

Recognizing that there may be differences in coping strategies between substance users, abusers, and relapsers, several classifications systems have been developed in order to study the differences between these groups. Litman, Stapleton, Oppenheim, and Peleg (1983) developed the Coping Behaviors Inventory to determine which strategies adult alcoholic subjects used in order to maintain their sobriety. The results of their study indicated that there were four categories of coping among the studied population: (a) positive thinking (e.g., "pausing and really thinking where I am headed", (b) negative thinking (e.g., "thinking about how I let my family down in the past", (c) avoidance or distraction (e.g., staying away from people who drink), and (d) seeking social support (e.g., contacting a friend who understands).

In determining which strategies alcoholics employed in high-risk situations, Litman, Stapleton, Oppenheim, and Peleg (1983) also noted that the perceived level of effectiveness of implementing these strategies was a key factor. "In the literature it is too often assumed that the initiation of coping behaviours *per se* may be sufficient to lead to successful reduction in distress and avoidance of relapse, without regard to the effectiveness of these coping behaviours" (Litman, Stapleton, Oppenheim, Peleg & Jackson, 1984, p. 283). These researchers developed the Effectiveness of Coping Behaviors Inventory (ECBI) to determine the individual's perceived level of coping in high-risk situations. Upon comparing relapsers to survivors they found that "individuals who 6 to 15 months later were abstaining from alcohol were more likely to perceive themselves as having more effective coping behaviors and to perceive Positive Thinking and Avoidance as effective coping behaviors than individuals who were later to relapse" (Litman, 1986, p. 401).

Shiffman (1984) also studied the effectiveness of coping strategies reported by adult ex-smokers dealing with high-risk situations. It was learned that the combination of behavioral and cognitive responses was the most effective in relapse prevention. It was further found that cognitive coping (e.g., thinking about consequences of smoking, and other self-talk) was more frequently reported than behavioral coping (e.g., eating, leaving the situation, or engaging in some other activity) and that very few participants reported behavioral coping without cognitive coping.

Brown, Stetson, and Beatty (1989) studied adolescent alcohol abusers and nonabusers to determine the cognitive and behavioral features of coping strategies used by their sample in high-risk situations. The cognitive responses most often reported included: (a) concern for social repercussion (e.g., "what will my parents think"), (b) concern for personal repercussion (e.g., "I might die"), and (c) adopting an attitude or identity (e.g., viewing drinkers negatively). These researchers also identified six behavioral coping strategies: (a) avoiding/leaving the situation, (b) substituting a non-alcoholic beverage, (c)



initially substituting a drug for alcohol, (d) verbally declaring oneself a nondrinker, (e) engaging in an alternate activity, and (f) limiting the amount of alcohol consumed.

Both abusers and nonabusers reported similar high-risk situations, but differed in the cognitive and behavioral strategies employed in such situations (Brown, Stetson, & Beatty, 1989). The cognitive strategies preferred by nonabusers involve adopting an identity as a nondrinker or viewing drinkers in a negative fashion. Adolescent substance abusers in treatment preferred to focus on social repercussions, such as possible responses from authority figures should they relapse. Several behavioral differences were also noted between adolescent substance abusers and nonabusers. In tempting situations the nonabusers were more likely to announce that they were not drinking and leave the situation than adolescents with a drinking history. These authors conclude that "since the strategies were generated by adolescents and found to be effective among adolescents in resisting drinking pressures, these responses may be more acceptable within the adolescent population. Thus, avoiding or at least temporarily leaving a high-risk situation, verbalizing the decision not to drink, and cognitively labeling oneself a nondrinker or negatively appraising drinkers in the situation may be strategies for clinicians to focus on in adolescent intervention efforts" (p. 51).

Akin to the relapse determinant research, knowledge about coping strategies and relapse has, until recently, been limited to the adult population. It is only recently that researchers have begun to study the coping strategies employed by adolescents under similar conditions (Brown, Stetson, & Beatty, 1989). Yet, it would appear that among adult and adolescent substance abusers a variety of cognitive and behavioral coping strategies are important to the prevention of relapse. Further, several researchers point out that perceived effectiveness of coping strategies may determine the actual implementation of these strategies (Litman, Stapleton, Oppenheim and Peleg, 1983; Litman, Stapleton, Oppenheim, Peleg & Jackson, 1984; Shiffman 1984).

Self - efficacy research. It has been suggested that a relationship exists between perceived self-efficacy and behavior change (Bandura, 1977, 1986). Successful performance which enhances self-efficacy or the belief that one can "successfully execute the behavior required to produce the outcomes" (Bandura, 1977, p.193) can be seen as a principle catalyst for change in behavior. As one's level of self-efficacy increases, one is more likely to engage in activities previously perceived as aversive, and to persist in activities previously perceived as too taxing. A distinction, however, must be drawn between efficacy expectation and outcome expectancy. Outcome expectancy is one's belief that certain behaviors (e.g., completing homework assignments, studying for exams) will lead to a specific outcome (e.g., obtaining a scholarship). Efficacy expectation, on the other hand, is one's belief that one can successfully execute the behavior required to produce a specific outcome (Annis & Davis, 1988a; Bandura, 1986).

Perceptions of effectiveness, or efficacy expectations, affect both initiation and persistence of coping behavior. Bandura (1977) hypothesizes that "expectations of personal efficacy determine whether coping behavior will be initiated, how much effort will be expended, and how long it will be sustained in the face of obstacles and aversive experiences" (p. 191). At initial stages, individuals tend to avoid those situations that they interpret as exceeding their coping ability, believing that they would be ineffective in coping with such a situation. Efficacy expectations not only play a role at initial attempts in coping, but affect coping efforts already initiated. Once an individual has made initial efforts to cope, persistence in the face of difficulties and discomfort can be influenced by efficacy expectations. Those stronger in self-efficacy will exert greater effort and "those who persist in subjectively threatening activities will eventually eliminate their inhibitions through corrective experience" (Bandura & Adams, 1977, p. 288). On the other hand, "those who avoid what they fear, or who cease their coping efforts prematurely, will retain their self-debilitating expectations and defensive behavior" (Bandura & Adams, 1977, p. 288). Bandura (1986) does not suggest that efficacy alone is the sole determinant of

behavior. Rather, he suggests that given appropriate skills and adequate incentive, efficacy expectations play a major role in choice of activities, effort expenditure, and perseverance in dealing with problem situations.

Self-efficacy judgments are based on four sources of information: performance accomplishments, vicarious experiences, verbal persuasion, and appraised physiological states (Bandura, 1986). In terms of relapse, performance accomplishments, the failures and successes of coping in high-risk situations, are the most valuable sources of efficacy information. Vicarious experiences are another valuable source of information. Watching another individual employ strategies to avoid drinking can be a great benefit. Competent models can teach effective strategies for coping with high-risk situations. Verbal persuasion is the least valuable source of information for enhancing efficacy judgments because one can easily discount this efficacy information (Marlatt, 1985b). For example, if individuals are told that they are perceived to be capable of avoiding high-risk drinking situations, such individuals can rationalize, minimize, and completely discount that efficacy information, and persist in maintaining a low self-efficacy. The final avenue for efficacy information comes from physiological arousal which "exerts an important influence in that people often rely on their state of physical arousal in judging their capacities to respond to stress" (Marlatt, 1985b, p. 130). It is important to point out that it is the judgment of those physiological experiences that affects self-efficacy and not the experience itself.

In view of high-risk situations, the concept of self-efficacy, or one's perception of one's ability to cope, plays a paramount role in determining the successful application of coping strategies in the prevention of relapse. According to Marlatt's model, successful coping in the face of high-risk situations leads to increased self-efficacy and decreased probability of relapse which, in turn, increases self-efficacy, perpetuating the likelihood of prolonged abstinence (Marlatt & Gordon, 1980). Failure to cope has the opposite effect. "To the extent that one's inability to cope with a high-risk situation is associated with a perception of decreased efficacy, the attraction to the old 'coping crutch' or addictive

substance will increase" (Marlatt, 1985b, p. 128). If one perceives oneself as unable to cope in a particular situation, self-efficacy is decreased, increasing the likelihood of lapsing (initial use of the substance), which further decreases self-efficacy and may result in returning to old substance abusing patterns.

Self-efficacy has been a major focus for understanding behavior change (Rollnick & Heather, 1982; Strecher, Devellis, Becker, & Rosenstock, 1986). Empirical findings related to a host of addictive behaviors have supported the relationship between self-efficacy and outcome (Annis, 1990; Condiotte & Lichtenstein, 1981; DiClemente, 1986; Garcia, Schmitz, & Doerfler, 1990; Rollnick & Heather, 1982). The smoking literature, in particular, has reported some interesting findings. DiClemente (1981) administered a demographic and smoking history questionnaire and a measure of self-efficacy to confirmed heavy adult smokers who had decided to quit smoking. A 5-month follow-up assessment revealed that two-thirds of all subjects successfully retained their status as nonsmokers. Although there were no reported group differences on demographic and smoking history variables, initial self-efficacy scores were higher for those individuals who maintained their commitment to stop smoking than those who relapsed. In another study, adult alcoholic lapsers (those who broke their alcohol consumption goals) had lower self-efficacy scores as well as a poorer coping performance than survivors (Stiemerling, 1984). Other studies have found that initial and follow-up ratings of self-efficacy discriminate between adult subjects who successfully quit smoking from those who eventually relapse (DiClemente, Prochaska, & Gibertini, 1985; McIntyre, Lichtenstein, & Mermelstein, 1983). DiClemente (1986) has been able to conclude that "self-efficacy evaluations appear to have demonstrated value in discriminating which subjects are likely to experience relapse" (p. 312).

Another study (Condiotte & Lichtenstein, 1981) looked beyond whether or not relapse would occur. Rather, these researchers studied *when* relapse would occur by determining adult subjects' levels of self-efficacy for different smoking situations at the

time of quitting and comparing these results to the actual occurrence of the first relapse . Results indicated that "it is as if the subjects were able to predict almost the exact circumstances under which they would relapse" (Marlatt, 1985b, p. 135). Subjects' low self-efficacy scores acted as predictors for relapse. Other researchers studying the effectiveness of a relapse prevention program with adult alcoholics found that self-efficacy scores taken at intake to treatment were predictive of the situation where relapses occurred in instances of heavy drinking (Annis & Davis, 1988a). This information is clinically relevant. By determining the client's weak areas, situations where the client feels inefficacious, the therapist can focus on strengthening self-efficacy related to these areas, thereby perhaps diminishing the likelihood of relapse.

Evidence supporting self-efficacy as a major determinant in behavior change is mounting. Research indicates that level of self-efficacy may determine treatment outcome. If individuals are faced with situations which they perceive as stressful, and believe that they are unable to cope, then they will be more likely to resort to their habitual manner of responding and relapse. If, on the other hand, they perceive their coping abilities to be more effective, they will be more likely to employ those coping strategies, avoid relapse which will, in turn, increase self-efficacy.

Once again, however, research supporting the role of self-efficacy in substance abuse relapse prevention has been exclusive to the adult population, making it difficult to extrapolate the results of these studies to an adolescent population.

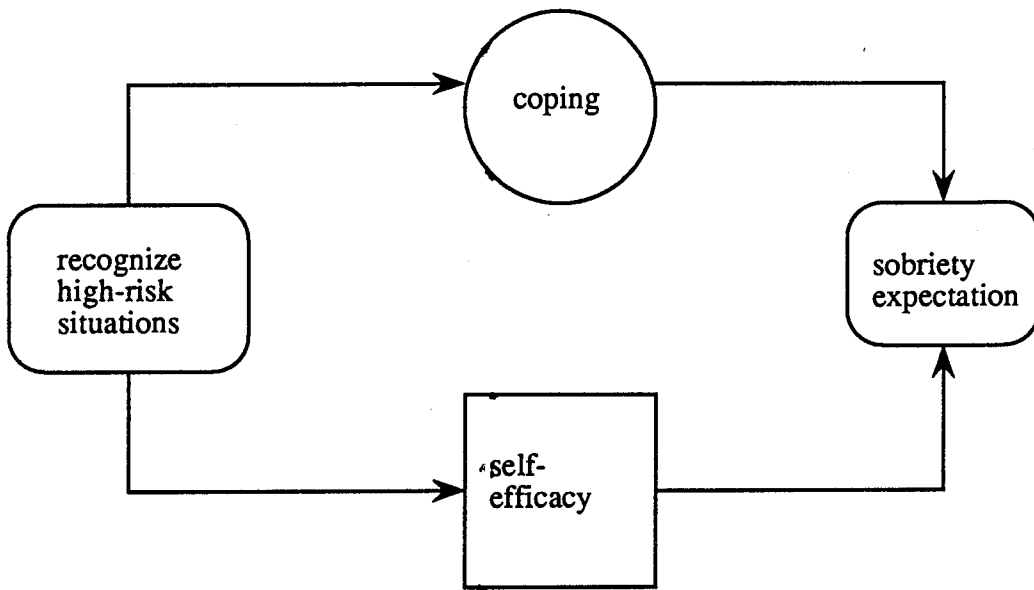
### Summary

In light of extant research, information pertaining to relapse among adolescent substance abusers is sparse. Brownell, Marlatt, Lichtenstein, and Wilson (1986) point out that even though we may have some ideas of what situations and experiences may lead to relapse in an adult population, we still know very little about the actual process. This problem is compounded in an adolescent population since we know even less about substance abuse relapse among this population.

Although several relapse models have been proposed, the literature seems to support, both theoretically and empirically, the components of a cognitive-behavioral model of relapse (Marlatt, 1985). This model can serve as a basis for studying relapse among adolescent substance abusers. However, the relapse model examined in this thesis is different in several ways. The general components of the cognitive-behavioral model are used. However, their order is altered and the start and end points are defined differently. (See Figure 2.) Whereas the cognitive-behavioral model of relapse begins with the individual's confrontation with a high-risk situation, the model currently under investigation explores the importance of recognizing high-risk situations. In this model is believed that if an individual can avoid high-risk situations, then the likelihood of relapse is decreased (Marlatt & Gordon, 1980); however, one must first be able to recognize high-risk situations. In addition, if one needs to employ coping strategies in order to avoid relapse, then one must first recognize that a coping strategy is needed. It is hypothesized that those individuals who have been most successful in avoiding relapse are most able to identify situations that may lead to relapse.

Second, to avoid relapse, individuals must have a variety of coping strategies available in their repertoire to cope with high-risk situations, and their level of efficacy expectation must be sufficient to actually implement these coping strategies. Knowledge of coping strategies may be necessary, but it is not sufficient in avoiding relapse. Research suggests that efficacy expectation plays an important role in coping (Litman, Stapleton, Oppenheim, & Peleg, 1983; Litman, Stapleton, Oppenheim, Peleg, & Jackson, 1984; Shiffman 1984). The cognitive-behavioral model recognizes both these factors, but does not adequately address the interplay between coping and efficacy expectations. Bandura (1982) points out that performance mastery, or coping, can boost perceived efficacy. This, he notes, is a "mutually enhancing process" (Bandura, 1982, p. 128). The boost in self-efficacy, in turn, enhances coping, which subsequently enhances self-efficacy. This is a

Figure 2  
Alternative Model



"chicken and the egg" problem. Although we may not know which of these concepts comes first, we must recognize that they perhaps play equally important roles. The present study hypothesized that those adolescents who have been able to avoid relapse: (a) have a greater number and a greater variety of coping strategies in their repertoire, and (b) have a greater level of efficacy in implementing these strategies than those adolescents who have relapsed or who are currently using alcohol or drugs.

Finally, it is believed that one's level of sobriety expectations plays a role in relapse prevention. The cognitive-behavioral model of relapse does not address this outcome expectancy at all. The current study hypothesized that those adolescents who have had a longer period of abstinence will have greater sobriety expectations than those adolescents who have relapsed or who are currently using drugs or alcohol.

More specifically, this thesis attempts to answer five questions: 1) Are abstainers better at recognizing high-risk situations than relapsers or users? 2) Do abstainers have a greater number of relapse prevention strategies available for coping in high-risk situations than relapsers or users? 3) Do abstainers have a greater variety of strategies than relapsers or users? 4) Do abstainers have a higher perceived self-efficacy for implementing coping strategies than relapsers and users? 5) Do abstainers maintain higher sobriety expectations than relapsers and users?



## CHAPTER III

### Method

#### Participants

Organizers of six government-funded alcohol and drug programs and one alternative school program agreed to participate in the study. Four of the alcohol and drug programs, Odyssey 1, Odyssey 2, Nexus and Peak House are youth treatment programs. Peak House is a residential treatment program for youth, Odyssey 1 and Odyssey 2 are outpatient facilities, and Nexus is an outreach program focused on assisting youth with drug and alcohol problems at the street level. 'Alternatives' was one of two non-youth oriented facilities to participate in the research; however, a youth specialist on staff agreed to ask her teenage clients to participate in the research. A second adult oriented clinic which also services adolescents, Share Counseling Services, also offered to recruit participants.

In the midst of collecting the data, it was realized that there was some difficulty finding a sufficient number of adolescents who met the research criteria. The drug and alcohol counseling programs that had consented to participate in the research were not able to provide enough subjects for the study and there were no other alcohol and drug youth facilities to consider. Therefore, alternative sources for obtaining subjects were investigated. Several alternative school programs were approached to provide the researcher with the opportunity to have their students participate in the research. 'Total Education', an alternative school program consisting of approximately 100 adolescents attempting to complete grades 11 and 12 agreed to have their students participate in the research.

With the above said, it is important to emphasize that irrespective of agency, subjects met the same criteria before participating in the study. More precisely, all participants were between 14-21 years of age ( $M = 16.87$ ,  $SD = 1.34$ ) and reported weekly or daily drug and/or alcohol use for at least six months. Age of onset, along with alcohol and drug use history variables were used to determine inclusion criteria. Winters (1990)

acknowledges that there is an association between clinical addiction symptoms and consumption variables such as frequency, duration and age at onset of drug use.

Participants were divided into three groups. The first group of participants, called Abstainers ( $n=31$ ), contained adolescents who had abstained from drug and alcohol use for at least one month at the time of participation in the study. The second group of adolescents considered in the research were Relapsers ( $n=24$ ), adolescents who had quit using alcohol/drugs, but had relapsed (a single drug use episode) in the month preceding their participation in the study. The final group considered in this research was labelled Users ( $n=31$ ), adolescents who were using alcohol or drugs on a daily or weekly basis and who had never quit.

### Instruments

#### Demographic information

The questionnaire asking for demographic information was developed by the researcher and was based on the assessment form used by Odyssey 1, one of the participating agencies. (See Appendix A.) Subjects were asked to record their current and past drug and alcohol use. This recording included listing the drugs that they have used, the age of first use, the frequency of use, and the total length of time that they used the drug. Any drug that was reported to be used for less than one month was not included in the analysis. Subjects also reported their treatment and relapse history, and responded to questions concerning SES (e.g., parental occupation, current living situation, and marital status of parents). Social economic status of subjects was determined by coding parental occupations using Blishen and McRoberts' (1976) index for occupations in Canada.

#### Relapse Risk Inventory

This instrument was developed by the researcher as a means of assessing subjects' abilities to perceive high-risk situations for relapse (See Appendix B). The scenarios used in this instrument were selected based upon the classification system devised by Marlatt and Gordon (1980) in categorizing known relapse precipitants. (See Appendix C.) Each

situation presented in the inventory corresponds to one of the subcategories of relapse precipitants as outlined by Marlatt and Gordon (1980). The conditions as they appear in the inventory alternate, one interpersonal event interspersed by two intrapersonal/environmental events. Two additional 'other' spaces were included to allow subjects to add other situations or conditions should they be unable to classify a specific situation themselves, or if the instrument was not perceived as comprehensive.

The instructions asked participants to rate the likelihood that they would relapse (use drugs and/or alcohol) in various situations. Tendency to relapse was rated on a scale of 1-5, where 1=will not lead to relapse and 5=will lead to relapse.

A risk score was determined by summing the rated responses across all 13 situations for each participant. For completed questionnaires, a minimum score of 13 indicates that the situations presented in the questionnaire were not perceived as a risk for using alcohol or drugs. At the other end of the spectrum, a maximum score of 65 indicates that all of the 13 situations were perceived as risky situations for using alcohol or drugs. The internal consistency estimate reliability for the Relapse Risk Inventory (RRI) using Chronbach's Alpha was .90.

#### Coping Strategies Inventory

Three different high-risk situations were presented to subjects in order to assess their abilities to generate coping strategies and to determine their level of self-efficacy related to these strategies. (See Appendix D.) The first and third scenarios presented in the Coping Strategies Inventory involve interpersonal situations since Brown, Stetson, and Beatty (1989) note that social pressure is a major factor in high-risk situations for adolescents. These authors also found that all of the abusing adolescents in their sample identified situations that occurred in the evening and at a friend's house as high-risk situations. Therefore, these scenarios occur in the evening at friends' houses. The second situation involves intrapersonal high-risk factors for relapse also identified as high-risk contexts for adolescent relapse (Brown, Stetson, & Beatty, 1989).

Participants were asked to read each situation carefully, to rate their perceived level of risk for relapse, and to list and describe the different ways that they could handle each situation so that they would not use any substances. In addition, participants were asked to rate their level of confidence, from 0 to 100, that they could successfully implement each strategy. Finally, participants were asked to specify which strategy they would most probably employ in that particular situation.

An extended version of the categories for cognitive and behavioral coping strategies developed by Litman, Stapleton, Oppenheim, and Peleg (1983) and Brown, Stetson, and Beatty (1989) was used as a basis for coding the strategies presented by participants. In all, 23 different strategies were used to code the strategies. (See Appendix E.) Eight different cognitive strategies were identified. A cognitive strategy was defined as self-talk or what subjects identified as thoughts. Four of the cognitive strategies were considered to be positive thinking or reviewing the benefits of their sobriety, and four were considered negative thinking or thinking about the possible repercussions of relapse.

Strategies that involved some action or where subjects described moving beyond thought into action in order to deal with the situation were considered to be behavioral strategies. Two major categories of behavioral strategies were identified: coping strategies and avoidance/escape. Coping strategies required that the subject remained in the situation and used some kind of action to avoid using drugs or alcohol. Avoidance or escape strategies required the subject to physically move from the situation. Six coping strategies and four avoidance/escape strategies were identified.

The third major group of strategies was affective strategies. Three different strategies were identified that involved affect or dealing with feelings such as hate, anger, sadness, and happiness in order to avoid relapse.

A final 'other' group was used to classify "using the drug" that several subjects listed as a strategy that they would employ in these high risk situations and "other"

strategies that did not fit any other categories (e.g., kill myself, say I'm pregnant, make an excuse).

Coding of the strategies was performed by a research assistant and verified by the researcher. Rater reliability for occurrences only for each of the subclassifications was: Positive Thinking - 80%, Negative Thinking - 99%, Coping - 95%, Avoidance/Escape Strategies - 98%, Affective Strategies - 93% and Other - 94%. Reliability measures were based upon responses from 50 subjects.

Several scores were obtained from this instrument. A fluency score was determined by summing the total number of strategies generated by each participant across all three situations. In addition, a breadth score was generated by summing the total number of different subclassifications of strategies presented by each participant across all three situations. A mean efficacy score for implementing the strategies generated by each participant was also calculated across all three situations. First, a total efficacy score was calculated by adding each subject's efficacy rating across each of the listed strategies. This total efficacy score was divided by the total fluency score calculated across the three scenarios in order to compute a mean efficacy score for each individual.

#### Sobriety Expectations Inventory

In order to assess subjects' level of expectations for sobriety achievement, subjects were asked to rate their level of confidence in maintaining sobriety from 'not at all confident' to 'very confident' for eight time frames: one day, one week, one month, three months, six months, one year, two years, the rest of your life (See Appendix F). Sobriety expectation scores were obtained by averaging each participant's responses over the eight time frames used in the analyses. Chronbach's Alpha for the Sobriety Expectation Inventory was .93.

#### Interview

An interview protocol was developed by the researcher for the purpose of obtaining more qualitative information on relapse prevention. (See Appendix G.) Interviews were

conducted by either the researcher or the research assistant. All interviews were tape recorded. Analysis of the interview data was performed by the researcher. The interview data were used to highlight and embellish the quantitative analyses of the research hypotheses. Twenty-seven subjects agreed to participate in the interview. In all, 11 Abstainers, 7 Relapsers, and 9 Users were interviewed. One Abstainer interview was inaudible and was not used in the analysis.

The first part of the interview was based on the responses presented by the subjects in the questionnaires. Subjects' responses were reviewed with them and subjects were asked to confirm and to elaborate on the cognitive aspects of their responses on the Relapse Risk Inventory, the Coping Strategies Inventory and the Sobriety Expectations Inventory.

The second part of the interview differed for participants in Relapser and Abstainer groups. Abstainers were asked 10 questions pertaining to the strategies that they have used to maintain abstinence (e.g., How have you been able to remain sober/abstinent?, What is it about you that allows you to stay away from drinking/using drugs?). Relapsers were asked 11 questions pertaining to their relapse (e.g., What was going on for you during your last relapse?, When did you realize that you might start using?, What could you have done differently?). Users were treated as Relapsers or as Abstainers depending upon the subjects' responses to the first part of the interview. If the User claimed to have gained control of their use, then questions asked of Abstainers were modified and presented to these subjects (e.g., How have you been able to gain control of your drinking?). If, on the other hand, subjects believed that they did not have a drinking or drug problem to be concerned about, then questions pertaining to Relapsers were modified to suit the responses presented by these subjects (e.g., What is going on for you just before you use? When do you realize you might start using?).

### Procedures

Prior to implementation of the questionnaires and the interview, a small pilot sample of 5 adolescents completed the questionnaires and the interview. Pilot participants

were asked to comment on the clarity of the instruments and the interview. Based upon these responses several minor adjustments were made to some of the instructions and the procedures.

Generally, the questionnaires were administered individually; however, several group administrations occurred at the residential treatment center and with the school population in order to obtain participation from these facilities. Subjects were given a description of the research along with a self-consent form and a parental consent form (if under age of consent) prior to the administration of the questionnaires and the interview. (See Appendix H.)

Once all forms were signed, the researcher or research assistant read the instructions on the questionnaires with the subjects in order to ensure understanding of the procedures. Subjects were instructed to ask questions should they arise as they completed the questionnaires. They were also told, once they had completed the questionnaires, to seal them in the envelope provided. If subjects agreed to the interview, their responses were not sealed in these envelope. Rather, their responses on the questionnaires along with the interview protocol itself formed the basis for the interview. Once each subject had completed the questionnaires/interview, a description of the research was presented. Subjects were instructed not to discuss the research with their friends, who might also agree to participate in the research.

## CHAPTER IV

### Results

The results of the study are presented in four parts. First, the results of analyses of demographic variables are discussed. Second, analyses related to each of the research hypotheses are reported. The principle method of analysis was analysis of variance. The Tukey-Kramer HSD was used for post-hoc multiple comparisons among groups. Third, the results of a path analysis used to test a causal model of sobriety expectations among adolescents is reported. Finally, qualitative findings from the interviews are presented.

#### Demographic Analyses

Eighty-six adolescents participated in the study. From this sample, 31 were classified as Abstainers, 24 were classified as Relapsers, and 31 were classified as Users. Of the 86 subjects included in the analyses, 36 (41.8%) were male and 50 (58.2%) were female.

Participants were recruited from six different settings: an alternate high school program, Total Education, contributed the majority of participants. Most other participants were recruited from Peak House and Odyssey 1. Nexus, the street youth program, was unable to recruit any participants. (See Table 1.) The unbalanced representation of the studied groups obtained from the agencies is a natural characteristic of these groups, as one might typically locate abstainers in a drug and alcohol setting and active users in settings other than drug and alcohol agencies.

In order to compare the severity of drug/alcohol habit between the outcome groups, habit strength was determined by performing a multivariate analysis of variance (MANOVA) on age of first use of chemical substances and duration of substance use in months. Analysis revealed that there were no significant differences between the groups for habit strength, (Wilks' Lambda = .96,  $F(4, 162) = 8.4$ ;  $p > .05$ .)

Almost 41% of the total sample reported previous involvement in alcohol and drug counseling lasting from 1-24 months ( $M = 4.19$ ,  $SD = 4.82$ ). Analysis of variance



Table 1

Percent of Participants from each Agency in each Group

	n	Group		
		Abstainers	Relapsers	Users
Odyssey 1	19	16.28	1.16	4.65
Odyssey 2	5	3.49	1.16	1.16
Peak House	13	11.63	2.33	1.16
Alternatives	2	.00	2.33	.00
Total Education	46	4.65	19.77	29.07
Share	1	.00	1.16	.00

revealed that there was no statistically significant difference between the groups for length of counseling,  $F(2,24) = 2.79, p > .05$ . (See Table 2.)

Analyses of parental occupation ranked on the socioeconomic index for occupations in Canada (Blishen & McRoberts, 1976) found no statistically significant differences between groups for mother's occupation,  $F(2, 66) = 0.21, p > .05$ , or for father's occupation,  $F(2, 57) = 2.43, p > .05$ . Analyses of parental marital status revealed no statistically significant differences between the groups for either mother's marital status,  $X^2(10, N = 86) = 10.14, p > .05$ , or for father's marital status,  $X^2(14, N = 86) = 18.50, p > .05$ . (See Table 3.)

### Primary Analyses

#### Analysis of Relapse Risk Inventory

Of the 86 participants, 84 completed the RRI ( $M = 37.16, SD = 13.69$ ). Abstainers had the lowest risk score of the three groups ( $M = 29.68, SD = 12.63$ ), Relapsers had a slightly higher risk score ( $M = 37.63, SD = 13.49$ ), and Users had the highest risk score of the three groups ( $M = 44.29, SD = 11.29$ ),  $F(2, 83) = 19.92, p < .0001$ . The Tukey-Kramer HSD indicated a statistically significant difference in scores on the RRI between Abstainers and Relapsers,  $p < .019$ , and between Abstainers and Users,  $p < .0001$ . Differences were not detected between Relapsers and Users,  $p < .24$ .

#### Analysis of Coping Strategies Inventory

This instrument yielded several different scores for analysis. Scores were calculated separately for each scenario since one of the research hypotheses concerned an examination of differences in perceived risk across different types of high-risk situations. Strategy fluency scores, breadth scores, and efficacy scores were combined across all three scenarios.

Risk Scores. The findings for perceived risk were consistent across all three situations. Abstainers had the lowest perceived level of risk, Relapsers had a significantly

Table 2

Percentage of Participants Receiving Counseling and the Mean Duration of Counseling

	Percent	Months	Standard Deviation
Abstainers	68.0	2.94	2.86
Relapsers	33.3	8.40	9.02
Users	19.0	3.83	2.93

Table 3

Marital Status of Subjects' Parents by Group

	Abstainers		Relapsers		Users	
	mother	father	mother	father	mother	father
married to other parent	10	10	6	6	12	12
remarried	5	10	5	6	4	6
single or divorced	15	3	13	8	15	12
deceased	0	2	0	2	0	0
unknown	1	5	0	2	0	1

higher perceived level of risk, and Users had the highest perceived level of risk for using drugs and alcohol. (See Table 4.)

For Situation 1, analysis of variance revealed a statistically significant difference between groups,  $F(2, 83) = 6.99, p < .002$ . The Tukey-Kramer HSD detected a statistically significant difference between Abstainers and Users,  $p < .001$ . No differences were detected between Abstainers and Relapsers,  $p < .054$ , or between Relapsers and Users,  $p < .54$ .

Risk scores for Situation 2 were also significantly different between the groups,  $F(2, 83) = 16.46, p < .0001$ . The Tukey-Kramer HSD detected a statistically significant difference between all combinations of groups; between Abstainers and Relapsers,  $p < .03$ , between Abstainers and Users,  $p < .0001$ , and between Relapsers and Users,  $p < .02$ .

Similar findings were noted for Situation 3,  $F(2, 83) = 16.64, p < .0001$ . Once again the Tukey-Kramer HSD yielded a statistically significant difference between Abstainers and Users,  $p < .0001$ . In addition, a statistically significant difference was also found between Abstainers and Relapsers,  $p < .0001$ ; however, the test failed to find a statistically significant difference between Relapsers and Users,  $p < .88$ .

Fluency Scores and Breadth Scores. Fluency scores ranged from 0 to 13. Abstainers obtained the highest fluency score followed by Relapsers and Users. Breadth scores ranged from 0 to 5. Abstainers had the greatest breadth scores, while Relapsers and Users had similar breadth scores. (See Table 5.)

A multivariate analysis of variance (MANOVA) was performed on the breadth scores and the fluency scores due to the highly intercorrelated nature of these two variables ( $r = .61$ ). The Wilks' Lambda = 0.78. Analysis revealed that the linear combination of breadth and fluency differed among the groups,  $F(4, 164) = 6.59, p < .0001$ . In order to decompose the individual effects of strategy fluency and strategy breadth, a stepdown analysis was performed (Tabachnick & Fidell, 1983). This procedure involves examining each dependent variable residualized from the other. Thus, the unique effects of each

Table 4

Means and Standard Deviations of Perceived Risk Ratings for each Situation Across Groups

	Abstainers		Relapsers		Users	
	Mean	SD	Mean	SD	Mean	SD
Situation 1 <sup>a</sup>	4.77	2.95	6.75	3.37	7.65	2.98
Situation 2 <sup>b</sup>	4.07	3.29	6.17	3.21	8.39	2.38
Situation 3 <sup>c</sup>	5.00	3.42	8.42	2.70	8.79	1.89

Note.

<sup>a</sup> Statistically significant difference was noted between Abstainers and Users,  $p. < .002$ .

<sup>b</sup> Statistically significant differences were noted between Abstainers and Relapsers,  $p. < .03$ , Abstainers and Users,  $p. < .0001$ , and Relapsers and Users,  $p. < .02$ .

<sup>c</sup> Statistically significant differences were noted between Abstainers and Users,  $p. < .0001$ , and between Abstainers and Relapsers,  $p. < .0001$ .

Table 5

Adjusted Means and Standard Deviations on Coping Strategies Inventory By Group

	Fluency Score <sup>a</sup>		Breadth Score <sup>b</sup>		Efficacy Score <sup>c</sup>	
	Mean	SD	Mean	SD	Mean	SD
Abstainers	7.21	2.51	2.89	0.91	60.96	27.66
Relapsers	5.89	2.86	2.52	0.83	52.50	27.34
Users	6.15	2.95	2.19	1.25	42.60	27.21

Note.

<sup>a</sup> There were statistically significant differences between Abstainers and Relapsers,  $p < .02$ .

<sup>b</sup> There were no statistically significant differences between the groups,  $p > .05$ .

<sup>c</sup> A significant difference was detected between Abstainers and Users,  $p < .027$ .

variable might be examined separately. The general statistical method used is analysis of covariance. (See Tabachnick & Fidell, 1983.) The assumption of homogeneity of the regression slope was met ( $F(2, 80) = 1.19, p > .05$ ) as a prerequisite for the stepdown analysis of covariance (ANCOVA). Results indicated that when fluency scores were partialled out from breadth scores, breadth scores were not significantly different between the groups,  $F(2, 82) = 2.36, p > .05$ . On the other hand, the stepdown analysis for fluency scores indicated a statistically significant difference,  $F(2, 82) = 8.93, p < .0001$ . Post-hoc analysis using the Tukey-Kramer HSD revealed that there was a statistically significant difference between Abstainers and Relapsers,  $p < .02$ ; however, statistically significant differences were not detected between Abstainers and Users,  $p < .06$ , or between Relapsers and Users,  $p < .86$ .

Efficacy Scores. Abstainers rated the highest level of efficacy in implementing strategies, while Users rated the lowest in implementing strategies to avoid using. Analysis of variance revealed statistically significant differences between the groups on efficacy ratings of subjects' listed strategies,  $F(2, 83) = 3.48, p < .035$ . The Tukey-Kramer HSD indicated a significant difference between Abstainers and Users,  $p < .027$  only. Group differences between Abstainers and Relapsers ( $p < .50$ ) and between Relapsers and Users ( $p < .38$ ) were not statistically significant.

#### Analysis of Sobriety Expectations Inventory

All 86 participants completed this instrument. Participants' total mean scores ranged from 5 to 100. (See Table 6.) Analysis of variance revealed a statistically significant difference between the groups for sobriety expectations,  $F(2, 83) = 24.06, p < .0001$ . The Tukey-Kramer HSD indicated statistically significant differences between Abstainers and Relapsers,  $p < .0001$ , and between Abstainers and Users,  $p < .0001$ . A significant difference was not detected between Relapsers and Users,  $p < .37$ .



Table 6

Means and Standard Deviations of Sobriety Expectations by Group

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	Mean	Standard Deviation
Abstainers	74.44	24.19
Relapsers	42.24	26.69
Users	33.19	22.77

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Note.

Post-hoc analyses revealed significant differences between Abstainers and Relapsers,  $p. < .0001$ , and between Abstainers and Users,  $p. < .0001$

## Summary

The results of analyses of the demographic variables revealed that the three groups researched in this study were relatively similar across most of the variables measured. Groups were similar in terms of age, habit strength, experience with alcohol and drug counseling, parental occupation and parental marital status.

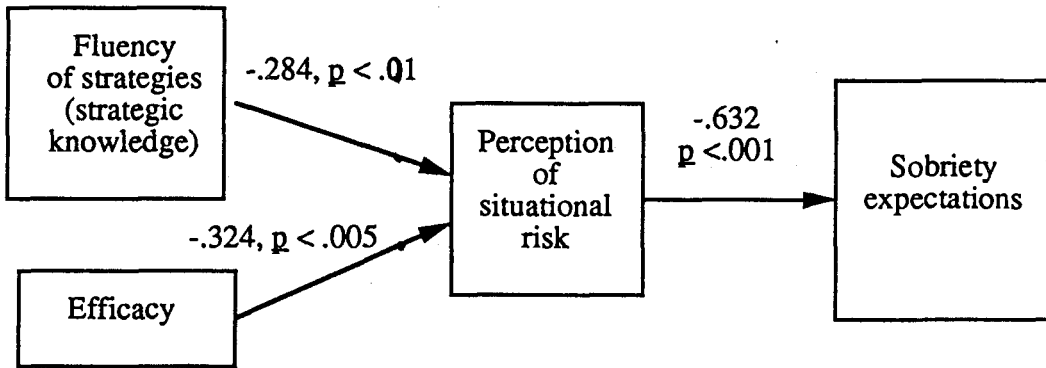
Analyses of the results on the instruments used to test the research hypotheses revealed that the groups differed substantially on all of the instruments used in the study. Abstainers had significantly lower perceptions of risk than Relapsers or Users on the Relapse Risk Inventory and for Situations 2 and 3 of the Coping Strategies Inventory. Abstainers generated a greater number of strategies than Relapsers and maintained a greater level of self-efficacy than Users. Finally, Abstainers maintained higher levels of sobriety expectations than either Relapsers or Users.

### Analysis of Model of Sobriety Expectations

In order to explore the possible mediational role played by the variables examined in this study as they pertain to sobriety expectations, a path analysis using an ordinary least squares approach was conducted. Variables used in the model included: (a) strategic knowledge, as measured by the fluency scores on the Coping Strategies Inventory (CSI); (b) strategy efficacy, as measured on the CSI; (c) the perception of situational risk, as measured by the Relapse Risk Inventory; and (d) sobriety expectations.

Figure 3 contains the results of the analysis. Significant path coefficients (standardized regression coefficients) were obtained between strategic knowledge and perception of situational risk,  $p < .01$ , strategy efficacy and perception of situational risk,  $p < .005$ , and perception of situational risk and sobriety expectations,  $p < .001$ . It is of interest to note that there were no direct effects arising from strategy efficacy or strategic knowledge on sobriety expectations,  $p > .05$ . Approximately 52% ( $r^2 = .517$ ) of the sobriety expectation scores were accounted for by the variables in the model.

Figure 3  
Model of Sobriety Expectations



$r = .731$

$r^2 = .517$

The correlation coefficients for the variables included in the model of sobriety expectations are included in Table 7. Significant correlations are noted between all of the variables: strategic knowledge and perceptions of risk ( $p < .01$ ), strategic efficacy and perceptions of risk ( $p < .01$ ), sobriety expectations and perceptions of risk ( $p < .0001$ ), strategic knowledge and strategic efficacy ( $p < .0001$ ), strategic knowledge and sobriety expectations ( $p < .0001$ ), and strategic efficacy and sobriety expectations ( $p < .01$ ).

### Interview Data

Several general trends appeared in the interview data. (Specific responses that characterize the findings will be included in the next chapter.) These trends were evident in responses pertaining to recognizing high-risk situations, development of relapse prevention strategies, knowledge of sobriety expectations, and advice to those committed to abstaining from alcohol and drugs.

When asked what variables constituted a high-risk situation, Users often cited their motivation to quit or not use as a determinant of risk (e.g., If I want to use, then I will and if I don't, then I won't!). This was not the case with Relapsers and Abstainers who tended to identify situational and emotional characteristics (e.g., If I'm feeling depressed, if it's a party) as factors that determine the risk of a particular situation. In terms of recognizing the signs and signals of high-risk situations, Users and Relapsers appeared to have greater difficulty describing how this process occurred for them. These subjects would often refer to external events (e.g., it depends on the people I'm with, or if the drugs were around) as a means of identifying high-risk situations. Abstainers, on the other hand, appeared to refer to internal processes (e.g., I start thinking about what it might be like to start drinking again, I get a big knot in my stomach).

When thinking about how relapse prevention strategies have developed, Users generally expressed greater difficulty at identifying why they listed specific strategies and most were unable to describe how they learned those strategies. In fact, these participants often referred to the probability of actually using when discussing strategies with the

Table 7

Correlation Coefficients for Variables of Model of Sobriety Expectations

	perception of situational risk	strategic knowledge	self-efficacy	sobriety expectation
perception of situational risk	1.00	-	-	-
strategic knowledge	-0.28*	1.00	-	-
self-efficacy	-0.27*	0.45**	1.00	-
sobriety expectations	-0.74**	0.42**	0.34*	1.00

\*  $p < .01$

\*\*  $p < .0001$

interviewer, as though they could not even imagine not using in that particular situation. Several Users cited their level of motivation toward quitting as a key factor (e.g., If I wanted to quit, then I would just say no!). Many Relapsers and most Abstainers, on the other hand, reported that quitting involves more than just motivation, recognizing the role of strategic knowledge. They tended to identify strategy development as either a natural occurrence, developing through experience and trial and error, or they would refer to some formal training from schools, counselors, or treatment programs. Several of the Abstainers commented that "just saying no" was too difficult and not a reliable strategy for relapse prevention.

When asked how sobriety expectations were determined, almost all participants used past experience with sobriety as a means of determining possible future outcome (e.g., I was clean for one month before, so I guess I could do it again.). Both Relapsers and Abstainers varied in terms of the length of time that they believed they could maintain their sobriety, although none felt confident about abstaining for the rest of their life. Alternatively, all of the Users reported not using as a possibility for one day and even one week. However, beyond this point, they believed that they would be unable (or unwilling) to maintain abstinence.

Subjects were asked to imagine that a group of teens who decided to quit using substances were sitting in front of them and to pass on some words of advice. Most Users and several Relapsers seemed to focus on providing encouraging statements (e.g., keep up the good work, be strong) to this imaginary group, while many Abstainers and a couple of the Relapsers focussed their statements on more specific skills and strategies for maintaining abstinence (e.g., get a hobby, know when you're at risk).

### Summary

Analyses revealed several interesting findings. First, the demographic analyses indicated that the three groups investigated in the study were relatively similar across

several variables. Groups were similar in terms of age, habit strength, experience with alcohol and drug counseling, parental occupation and, parental marital status.

Second, primary analyses revealed that the three groups differed on all the instruments used in the study. The groups demonstrated significant differences on the Relapse Risk Inventory. Abstainers obtained the lowest scores while Users obtained the highest scores. Analyses also revealed that the groups differed on the Coping Strategies Inventory in three ways: a) Abstainers had the lowest risk rating of the three groups, b) Abstainers generated the greatest number of strategies of the three groups, and c) Abstainers had the highest level of strategic efficacy of the three groups. Group scores also differed on sobriety expectations. Abstainers had the highest sobriety expectations, while Users had the lowest sobriety expectations.

Third, analysis of the Model of Sobriety Expectations revealed that 52% of the variance in achievement expectations can be explained by the model. In addition, path coefficients revealed that strategic knowledge and strategy efficacy seem to bear no direct influence on sobriety expectations. The significant paths from strategic knowledge and strategy efficacy to perceptions of risk, suggest both skill and will are important in enhancing expectations of sobriety only inasmuch as they function to reduce perceptions of risk.

Finally, analysis of the interview data revealed some of the rationales used by adolescents in the abstinence process. Groups appeared to differ in the criteria used to assess high-risk situations and in ability and understanding of the development of relapse prevention strategies. Groups also differed in understanding how one maintains sobriety as evidenced in the advice offered to those committed to quitting substance use. The only similarity noted between the groups was the employment of past experience as a means of projecting sobriety expectations.

## CHAPTER V

### Discussion

The research revealed several interesting findings which will be discussed in this chapter. Following a discussion of the findings and their implications, the limitations of the study and several recommendations for future research will be discussed.

The present research investigated five hypotheses. It was postulated that: a) Abstainers would identify a greater number of high-risk situations than Relapsers or Users, b) Abstainers would generate a greater number of relapse prevention strategies than Relapsers or Users, c) Abstainers would have a greater variety of strategies than the other groups, d) Abstainers would feel more efficacious in using strategies than Relapsers or Users, and e) Abstainers would hold higher levels of sobriety expectations than Relapsers or Users.

Results on the Relapse Risk Inventory (RRI) found that Abstainers reported the lowest level of risk for using, while Relapsers reported a higher level of risk and Users the highest level of risk. The results on this instrument were consistent with the findings noted on the risk ratings that subjects made in the Coping Strategies Inventory. Abstainers typically rated a lower level of risk for using than either Relapsers or Users.

These findings were the exact opposite to the research hypothesis. It was initially postulated that this instrument may be able to determine participants' abilities to recognize those situations characterized in the literature as high-risk situations. One might then expect that those individuals who are successful at abstaining from drugs or alcohol would be better equipped, or knowledge enabled, to identify those situations that would compromise their sobriety. However, the current findings indicate that those adolescents abstaining from drug/alcohol use identify fewer situations as high-risk for relapse than relapsed or substance using adolescents.

One possible explanation for these results may be that since abstainers have higher sobriety expectations in addition to having a greater number of coping skills in their



repertoire, and a greater level of efficacy for coping, they may no longer perceive these situations as a threat to their sobriety. Therefore, these situations are no longer high-risk for relapse in a personal sense. In fact, one Abstainer commented on the RRI situations during the interview, "these are not risky because I've had a lot of experiences already, because I've been clean for two years and I've never relapsed". It may then be the case that perceptions of high-risk situations are a function of strategic knowledge (fluency of strategies) and strategic efficacy (as suggested in the model of sobriety expectations). Adolescents may determine whether a situation is high-risk or not by determining if they know how to deal with the situation and if they feel efficacious in implementing their strategies.

The second hypothesis, suggesting that Abstainers would have greater strategic knowledge, as measured by the fluency scores on the CPI, was supported by the data. There was a significant difference in fluency scores between Abstainers and Relapsers and a difference between Abstainers and Users approached significance ( $p < .056$ ). A difference between Relapsers and Users was not detected. These results suggest that a possible distinguishing factor between the groups is the sheer number of strategies in participants' repertoires, a finding consistent with adult-oriented research (Bliss, Garvey, Heinold, & Hitchcock, 1989; Litman, Stapleton, Oppenheim, Peleg, & Jackson, 1984).

It has also been suggested in the literature that a variety of strategies is an important component in relapse prevention (Billings & Moos, 1983; Litman, Stapleton, Oppenheim, Peleg, & Jackson, 1984; Shiffman, 1984). The results of the current research, however, did not support this typical finding with adult populations. Although initial results from the current study suggested that a variety of strategies may distinguish Abstainers from Relapsers and Users, further analysis separating fluency scores from breadth scores did not reveal statistically significant differences between the groups.

The findings pertaining to fluency of knowledge and breadth of knowledge suggest that a variety of strategies is not necessarily a key component to relapse prevention; rather,

it is the total number of strategies that is important for relapse prevention with adolescents. It may be the case that when equipped with a great number of strategies, teenagers are never at a loss for a way out of a difficult situation. If one strategy is ineffective, then another is immediately available to them, allowing them to maintain their perceptions of minimal risk which has direct bearing on their sobriety expectations.

Closely intertwined with strategic knowledge, is strategic efficacy. It was initially hypothesized that Abstainers would report higher levels of efficacy in implementing strategies than Relapsers or Users. Results found that Abstainers were more efficacious in implementing strategies than Users. This difference in efficacy scores may be due to lack of successful experiences in coping. Bandura (1977, 1982) explains that successful performance enhances self-efficacy which further enhances successful performance. Thus, if adolescents have no record of performance accomplishments for avoiding alcohol/drugs in high-risk situations, then they may not believe that they can successfully avoid using in such situations. This is most likely to be the case for Users, since they have no previous record of even attempting to abstain. Relapsers, on the other hand, may have experienced some successful performances, as they did abstain for a period of time prior to relapse. Just as the results indicated, Relapsers' mean efficacy scores were higher than Users' scores, although not statistically significant. Finally, Abstainers, having experienced the greatest performance accomplishments of the three groups, obtained the highest efficacy scores of the three groups. The role of strategic efficacy in maintaining sobriety is also consistent with the adult-oriented research in the area (DiClemente, 1981; DiClemente, Prochaska, & Gibertini, 1985; McIntyre, Lichtenstein, & Mermelstein, 1983; Stiemerling, 1984).

The final hypothesis explored in this thesis involved sobriety expectations. It was postulated that Abstainers would hold higher levels of sobriety expectations than Relapsers or Users. The results provided overwhelming support for this hypothesis. Abstainers

clearly had higher sobriety expectations than both Relapsers and Users; yet, there was no significant difference between Relapsers and Users.

Once again successful experiences, which were highlighted in the interviews, play a role in developing such outcome expectations. When asked how ratings for sobriety expectations were determined, interview responses among all groups were surprisingly similar. One Abstainer responded that he knew what his expectations were because of, "the fact that I've done it for a year" Another said "Because of what I've done for the past five months of sobriety, I can do it for one day now, I did one day yesterday, I did it last week, I did it a month before. But ... I can never be too sure about tomorrow. I probably looked at my past. I might be able to go a year." A Relapser responded in a similar manner, although in the second person, "In the past, if you've gone a week or a month without it, then you'd know pretty good that you can last that long without it." Even a User reported, "I know I can not drink for that period of time (one week), because I've done it." Even though participants from all groups may have used a similar process in determining sobriety expectations, their historical information was drastically different, resulting in group differences for sobriety expectations. It would be expected that participants considering themselves to be Abstainers would have higher sobriety expectations, while those who experienced some successes but are currently using, or have relapsed, would have a lower sobriety expectation, and those who have not experienced successful abstinence would have the lowest sobriety expectations.

The final component of this study was to develop a model attempting to explain how adolescents determine their sobriety expectations. One of the more interesting findings of this analysis is that strategic knowledge and strategic efficacy do not bear direct significant effects on sobriety expectations. Rather, these variables influence sobriety expectations only as they influence perceptions of situational risk. The greater the strategic knowledge and strategic efficacy, the lower the perception of situational risk. It is this lowered perception of situational risk that increases sobriety expectations. Perception of

situational risk mediates the effects of strategic knowledge and strategic efficacy on sobriety expectations. Therefore, it would appear that it is not enough to simply have knowledge and efficacy for coping in high-risk situations. Strategic knowledge and strategic efficacy must lower perceptions of risk if these variables are to have any effect on sobriety expectations.

### Implications

There is much evidence to support the notion of relapse prevention for adult substance abusers (Billings & Moos, 1983; Brown, Lichtenstein, McIntyre, & Harrington-Kostur, 1984; Donovan & Ito, 1988; Litman, Stapleton, Oppenheim & Peleg, 1983; Litman, Stapleton, Oppenheim, Peleg, & Jackson, 1984; Marlatt & Gordon, 1980; Rist & Watzl, 1983; Rosenberg, 1983; Sanchez-Craig, 1982). Recent research also suggests that relapse prevention with adolescent substance abusers is a valuable clinical focus (Brown, Stetson & Beatty, 1989). Several findings of the present study contribute to our understanding and development of relapse prevention strategies for adolescents. The clinical implications of the research findings include: a) developing a solid repertoire of strategies for high-risk situations, b) maximizing success experiences and, c) assessing perceptions of risk as a means of assessing effectiveness of relapse prevention training.

The data clearly support the notion that more is better. Those adolescents who experienced a greater length of abstinence have more strategies for dealing with high-risk situations than those who relapsed or never quit. In assisting adolescents in the maintenance of their abstinence goals, it is beneficial to teach, model and role play those strategies that have been found effective in maintaining abstinence.

It may not be sufficient, however, to simply have the necessary skills to avoid relapse. Evidence from the self-efficacy literature identifies that "people's perceptions of their own capabilities can also influence their thought processes and emotional reactions during anticipatory and actual transactions with the environment. People who judge themselves ineffectual in coping with environmental demands tend to generate high

emotional arousal, become excessively preoccupied with personal deficiencies, and cognize potential difficulties as more formidable than they really are. The greater the perceived inefficacy, the higher is the self-generated distress on any given task. Such self-referent concerns tend to undermine the effective use of the competencies people possess" (Bandura, 1980, p. 263-4). Adolescents' perceptions of strategic efficacy, their ability to successfully implement relapse prevention strategies, are instrumental in avoiding drug/alcohol use. Efficacy judgments are based on past successes (Bandura, 1986), therefore, it is important that adolescents who make the decision to quit their use of drugs/alcohol experience performance accomplishments in high-risk situations if they are to achieve their goal. This, in turn, should lower perceptions of situational risk which will have a direct effect on sobriety expectations. Once strategic efficacy is reinforced, then the likelihood of achieving performance accomplishments is increased. Thus, the mutually enhancing cycle of coping and self-efficacy is initiated.

Performance accomplishments not only play a role in coping in high-risk situations, they also play a role in outcome expectancy. Evidenced in the interviews, participants based sobriety expectation judgments on past abstinence behaviour; however, participants expressed difficulty developing judgments for sobriety expectations for the rest of their lives. Several Relapsers and Abstainers commented on the idea of abstaining for the rest of their lives. "I don't even want to think about the rest of my life. What am I going to do New Year's Eve next year, or what am I going to do when I get married, there's going to be booze there and stuff? I can't think of not ever using for the rest of my life because I would just end up going to use today." Another said, "I know that I could go a day, a week? ... I could do the same, for a month?... The same as for a week, for the rest of my life? ... I doubt it." And yet another reported, "the rest of my life is still iffy. When you're 16 almost 17, the rest of your life sounds like a pretty long time." Finally, one participant commented on his cognitive limitations in this exercise. "I've made it one day, one week, up to one month or two, I can think about one day, I can't think about the rest of my life".

It may therefore, be detrimental for adolescents to consider the rest of their lives when making choices about their drug use. It may be more beneficial to develop short-term, realistic abstinence goals that can be easily obtained.

Finally, the analysis of the variables that contribute to sobriety expectations supports the notion that being knowledge enabled and being efficacious are only valuable if perceptions of risk are lowered; therefore, it is not enough to simply evaluate knowledge and self-efficacy. In order to measure the impact of knowledge and self-efficacy on sobriety expectations, it is necessary to evaluate perceptions of risk as a mediator of these two variables.

### Limitations and Recommendations

There were several limitations of the study. Several concerns involved the instruments, while other limitations were due to sampling procedures. Each will be discussed in turn.

The Relapse Risk Inventory asked subjects about the likelihood that they would relapse. Because two of the groups were currently using substances, a more appropriate and more accurate statement would be to ask them about the likelihood that they would use in that particular situation. (Even though verbal instructions employed the term “use” rather than “relapse”.) The term relapse can have many different meanings (Saunders & Allsop, 1987), creating not only problems for researchers, but for subjects as well. To some, relapse can mean returning to premorbid levels of drug use, while to others relapse is initiated with the first use of the substance after a period of abstinence. There is much discussion in the literature about these definitional concerns (Saunders & Allsop, 1987), which will not be discussed here, but must be recognized as a difficulty in conducting and interpreting relapse research.

In addition to definitional problems, the Relapse Risk Inventory did not appear to measure subjects' ability to recognize risk as was initially intended. The RRI was developed with intentions to tap participants' ability to recognize when to implement coping

strategies. The results however, did not reveal this information. Instead, this instrument appeared to measure subjects' perceptions of risk for using in high-risk situations. Several interviews with Abstainers indicated that some of the participants were able to recognize when they were faced with a high-risk situation, "I feel it in my stomach ... like I'm going to throw up or something" reported one young woman. Another said, "Fuck! I got myself in shit! I think how can I get out of it?" It would appear that there is some kind of awareness when faced with a high-risk situation. It appears that accessing this kind of cognitive information was not served by the RRI in its current form.

In its present form, the RRI asks participants to rate the situations for their personal situation. An alternate method for obtaining more general information regarding their knowledge for recognizing high-risk situations might be to ask participants estimate the risk for other adolescents who are currently experiencing alcohol and/or drug problems. This would lessen the personal focus of the assessment of risk.

Other limitations of the study involved sampling procedures, more specifically, group definition. Groups were defined simply on the criteria of current and historical use of substances. It became apparent during several of the interviews with Users that not all of the members of this group were using substances in the same manner, even though they were using similar amounts on a regular basis. Some Users appeared to use substances in a more controlled manner than others. For example, several of the Users had specific rules about the amount that was consumed and the occasions for partaking in such activities. These individuals did not perceive their substance use as a matter of concern and their substance use did not appear to create any problems for them. Other Users' substance use appeared to be out of control, without any guidelines for using. Their drug/alcohol use also appeared to create problems in their lives. It may be beneficial to obtain information pertaining to perceptions of drug/alcohol use and the problems associated with drug/alcohol use.

Group definition was also also concern for Relapsers. Participants reported whether or not they had relapsed. Additional information regarding the length of abstinence prior to relapse was not obtained. Hence, some Relapsers may have abstained for one week prior to relapse, while others may have abstained for six months prior to relapse. This difference in abstention periods may be reflected in the results, with shorter period abstainers looking more like Users, and longer period abstainers, looking more like Abstainers. Similarly, if relapse was a recent occurrence, then strategic knowledge and efficacy may be fresh from the recent period of abstinence and the recency effect may permit for responses that are similar to Abstainers'. Alternatively, a longer period of use after abstinence may result in the decay of strategic knowledge and efficacy resulting in the mimicking of responses typical of Users. These seemingly subtle differences may account for some as yet undetected differences that may exist between the groups. For example, there were clear differences between Abstainers and Relapsers for fluency of strategies, but differences between Abstainers and Users and Relapsers and Users were not large enough to be statistically significant.

#### Future Research

Future research endeavors concerning relapse among adolescent substance abusers need to be explored further. With increasing focus on adolescents as a treatment population, developing an approach that addresses the needs and developmental issues of this group is of prime importance. Several directions for further exploration become apparent in light of the present research findings.

Some of the results suggest that there may be a gradient of recovery for adolescent substance abusers. As adolescents develop more strategic knowledge, greater strategic efficacy and increased levels of sobriety expectations as mediated through perceptions of situational risk, they may move through stages of recovery, moving from user, to relapser to abstainer. Prochaska, DiClemente, and Norcross (1990) propose a model of behavior change where individuals move through predetermined stages of change. It is noted that



most individuals are bound to relapse, as evidenced in the literature. However, these researchers have found that 85% of smokers recycle back through these stages of change, making plans for another attempt at abstinence. Their model suggests that "people who relapse do not just go around in circles, and they do not regress all the way back to where they began. Instead, each time relapsers recycle or pass through the stages they can attain new heights toward conquering their problem" (p. 8). It may be the case that as Users move through the stages of change as proposed by Prochaska, DiClemente, and Norcross (1990), they may slowly acquire those skills and self-confidence necessary to lower perceptions of risk that influence sobriety expectations. Longitudinal research monitoring these developments would be a useful means for shedding more light on this process of change.

An alternate way of studying this gradient of recovery may be to differentiate between short-term (less than six months) abstainers and long-term abstainers (greater than six months). Relapse curves consistently peak at six months and subside thereafter (Hunt & Bessalec, 1964; Pickens, Hatsukami, Spicer, & Svikis, 1985; Tucker, Vuchinich, & Harris, 1985). It may be valuable to assess the differences between those abstainers who have passed the peak relapse time frame and those at the peak time for relapse. Similarly, assessing the cognitive strategies of recent relapsers (e.g., occurred last week) versus longer term relapsers (e.g., occurred four months ago) may be valuable in detecting some of the gradient that went undetected in the current study. It may be valuable to develop a finer categorization for group membership in order to study this notion of a gradient of recovery and how individuals cycle through the stages of change.

The Model of Sobriety Expectations presented in this study warrants further investigation. When putting this model into perspective, it is important to keep in mind that only 52% of the sobriety expectation scores were determined by the measured variables, leaving gaps in our understanding of how sobriety expectations are determined. Other variables undoubtedly play an important role in determining sobriety expectations. One

such variable may be the valence of the outcomes which follow sobriety expectations. It may be the case that these groups differ in terms of their outcome expectations for the changes that may occur in their lives due to their sobriety and the value that these changes have for them (i.e., motivation for not using). Researchers may want to consider these outcome expectation variables in future research.

Other possible variables that influence sobriety expectations may include aspects of metacognition that contribute to enabling knowledge. For example, the ability to recognize high-risk situations which this study attempted to measure, but did not completely access, may be an important variable in determining sobriety expectations. Goal-setting and performance monitoring skills are other important metacognitive variables to consider in developing a complete understanding of goal maintenance.

A final consideration in exploring possible factors that contribute to sobriety expectations are the initial reasons for substance abuse. In placing this model in perspective of adolescent substance abuse treatment it is important to consider the benefits that adolescents receive from their use of chemicals. Adolescents may possess all of the cognitive and metacognitive factors necessary for abstinence, but unless their motivations for using are considered as a part of the overall treatment, focussing on these will most likely be ineffective.

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## APPENDIX A

### Demographic Information

#### A. Information about you:

Age \_\_\_\_\_

Male \_\_\_\_\_ Female \_\_\_\_\_

#### Present living situation:

\_\_\_\_ at home with Mom & Dad

\_\_\_\_ at home with Mom only

\_\_\_\_ foster parents

\_\_\_\_ at home with Dad only

\_\_\_\_ on my own

\_\_\_\_ with friends

\_\_\_\_ other (specify) \_\_\_\_\_

\_\_\_\_ group home

1) Have you used alcohol/drugs within the past month? (please circle one)

yes

no

If not, how long have you been sober/not using? \_\_\_\_\_

2) Are you currently in counselling for your use of chemical substances? (please circle one)

yes

no

If yes, for how long? \_\_\_\_\_

3) If #2 is yes, is this your first attempt at quitting the use of drugs/alcohol?

yes

no

If no, please complete the following section:

a) How many times have you attempted to quit any or all drugs? (please specify for each drug.)

\_\_\_\_\_  
\_\_\_\_\_

b) How many times have you tried counseling? \_\_\_\_\_

c) How many times have you tried self-help groups (e.g. AA, NA)? \_\_\_\_\_

d) How many times have you relapsed (i.e. gone back to using drugs after quitting)?

\_\_\_\_\_

### B. Drug History

In the first column list the drug you used, in the second column the age of FIRST use, in the third column circle how often you used the drug and in the fourth column, the length of time you were using the drug.

DRUG	AGE	HOW OFTEN	HOW LONG
1.		daily weekly monthly once in awhile	
2.		daily weekly monthly once in awhile	
3.		daily weekly monthly once in awhile	
4.		daily weekly monthly once in awhile	
5.		daily weekly monthly once in awhile	
6.		daily weekly monthly once in awhile	
7.		daily weekly monthly once in awhile	
8.		daily weekly monthly once in awhile	

**C. Other Information:**

**1) Marital status of your parents**

**mother**

single

divorced

married to your father

separated

remarried

unknown

deceased

**father**

single

divorced

married to your mother

separated

remarried

unknown

deceased

**2) Parental occupation**

**Mother/stepmother/foster mother** \_\_\_\_\_

**Father/stepfather/foster father** \_\_\_\_\_

## APPENDIX B

### Relapse Risk Inventory

Read each situation carefully. If there are situations that you can think of that do not appear on this list, please include them at the bottom of the page (#14 & 15). When reading each situation ask yourself how likely you are to use alcohol and/or drugs if you were in that situation. Rate each of these situations on a scale of 1 - 5.

1 = will not lead to relapse

2 = probably won't lead to relapse

3 = might lead to relapse

4 = probably will lead to relapse

5 = will lead to relapse

This is not a test. There are no right or wrong answers.

#### **I am likely to relapse when...**

\_\_\_\_\_ 1) I'm at a party and I want to feel good, even though nobody else is drinking

\_\_\_\_\_ 2) an urge comes out of the blue

\_\_\_\_\_ 3) I'm feeling frustrated/angry (not directed at a particular person)

\_\_\_\_\_ 4) I'm watching my friends drink

\_\_\_\_\_ 5) I'm passing by old drinking/drugging grounds

\_\_\_\_\_ 6) I'm feeling depressed, lonely or sad or when I feel like I'm under a lot of stress

\_\_\_\_\_ 7) someone offers me a drink/drug or invites me to drink/drug

\_\_\_\_\_ 8) I want to test my willpower

\_\_\_\_\_ 9) I'm going through withdrawal from drugs/alcohol

\_\_\_\_\_ 10) I'm feeling stressed out, worried or concerned about someone

\_\_\_\_\_ 11) I want to celebrate, "get high" or feel good

\_\_\_\_\_ 12) I'm not feeling physically well (not due to withdrawal)

\_\_\_\_\_ 13) I'm frustrated or angry with someone

\_\_\_\_\_ 14) other (specify) \_\_\_\_\_

\_\_\_\_\_ 15) other (specify) \_\_\_\_\_



## APPENDIX C

### Classification for High -Risk Situations

(From Marlatt, 1985a)

I. *Intrapersonal-Environmental Determinants*. Includes all determinants that are primarily associated with intrapersonal factors (within the individual), and/or reactions to non-personal environmental events.

Includes reactions to interpersonal events in the relatively distant past (i.e., in which the interaction is no longer if significant impact).

A. *Coping with Negative Emotional States*. Determinant involves coping with a negative (unpleasant emotional state, mood or feeling.

1. *Coping with Frustration and/or Anger*. Determinant involves an experience of frustration (reaction to a blocked goal-directed activity), and/or anger (hostility, aggression) in terms of the self or some nonpersonal environmental event. Includes all references to guilt, and responses to demands ("hassles") from environmental sources or from within the self that are likely to produce feelings of anger.

2. *Coping with Other Negative Emotional States*. Determinant involves coping with emotional states other than frustration/anger that are unpleasant or aversive including feelings of fear, anxiety, tension, depression, loneliness, sadness, boredom, worry, apprehension, grief, loss, and other similar dysphoric states. Includes reactions to evaluation stress (examinations, promotions, public speaking, etc.), employment and financial difficulties, and personal misfortune or accident.

B. *Coping with Negative Physical-Physiological States*. Determinant involves coping with unpleasant or painful physical or physiological reactions.

1. *Coping with Physical States Associated with Prior Substance Use*. Coping with physical states that are specifically associated with prior use of drug or substance, such as "withdrawal agony" or "physical craving" associated with withdrawal. (Note: References to "craving" in the absence of withdrawal are classified under Section E below.)

2. *Coping with Other Negative Physical States.* Coping with pain, illness, injury, fatigue, and specific disorders (e.g., headache, menstrual cramps etc.) that are *not* associated with prior substance use.

C. *Enhancement of Positive Emotional State.* Use of substance to increase feelings of pleasure, joy, freedom, celebration, and so on (e.g., when traveling or on vacation). Includes use of substance for primarily positive effects - to "get high" or to experience the enhancing effects of the drug.

D. *Testing Personal Control.* Use of substance to "test" one's ability to engaged in control or moderate use; to "just try it once" to see what happens; or in cases in which the individual is testing the effects of treatment or a commitment to abstinence (including test of "willpower").

E. *Giving in to Temptations or Urges.* Substance use in response to "internal" urges, temptations, or other promptings. Includes references to "craving" or intense subjective desire, in the absence of interpersonal factors. (Note: References to "craving" which are associated with prior drug use or withdrawal are classified under Section B-1 above.)

1. *In the Presence of Substance Cues.* Use occurs in the presence of cues associated with substance use (e.g., running across a hidden bottle or pack of cigarettes, passing by a bar, seeing an ad for cigarettes). (Note: Where other individuals are using the substance, refer to Category II-B below.)

2. *In the Absence of Substance Cues.* Here, the urge or the temptation comes "out of the blue" and is followed by the individual's attempt to procure the substance.

II. *Interpersonal Determinants.* Includes determinants that are primarily associated with interpersonal factors; reference is made to the presence or influence of other individuals as part of the precipitating event. Implies the influence of present or recent *interaction* with another person or persons, who exert some influence on the user (reactions to events that occurred in the relatively distant past are classified in Category I). Just being in the presence of others at the time of the relapse does not justify an interpersonal classification, unless some mention is made or implied that these people had some influence or were somehow involved in the event.

A. *Coping with Interpersonal Conflict*. Coping with a current or relatively recent conflict associated with any interpersonal relationship such as marriage, friendship, family patterns, employer-employee relations.

1. *Coping with Frustration and/or Anger*. Determinant involves frustration (reaction to blocked goal-directed activity), and /or anger (hostility, aggression) stemming from an interpersonal source.

Emphasis is on any situation in which the person feels frustrated or angry with someone and includes involvement in arguments, disagreements, fights, jealousy, discord, hassles, guilt, and so on.

2. *Coping with Other Interpersonal Conflict*. Determinant involves coping with conflicts other than frustration and anger stemming from an interpersonal source. Feelings such as anxiety, fear, tension, worry, concern, apprehension, etc., which are associated with interpersonal conflict are examples. Evaluation stress in which another person or group is specifically mentioned would be included.

B. *Social Pressure*. Determinant involves responding to the influence of another individual or group of individuals who exert pressure (either direct or indirect) on the individual to use the substance.

1. *Direct Social Pressure*. There is direct contact (usually with verbal interaction) with another person or group who puts pressure on the user or supplies the substance to the user (e.g., being offered a drug by someone, or being urged to use a drug by someone else). Distinguish from situations in which the substance is obtained from someone else at the request of the user (who has already decided to use).

2. *Indirect Social Pressure*. Responding to the observation of another person or group that is using the substance or serves as a model of substance use for the user. If the model puts any direct pressure on the individual to use the substance, then the lapse should be categorized under II-B1, above.

C. *Enhancement of Positive Emotional States*. Use of substance in a primarily interpersonal situation to increase feelings of pleasure, celebration, sexual excitement, freedom, and the like. Distinguish from situations in which the other person(s) is using the substance *prior to* the individual's first use (classify these under Section II-B1 above).

## **APPENDIX D**

### **Coping Strategies Inventory**

#### **DIRECTIONS:**

The following are three scenarios. Read each situation carefully, imagining that you are actually in that particular situation. Answer the questions that follow each scenario as completely as possible. Take your time, there is no time limit. There are no right or wrong answers. Your honesty is greatly appreciated.

### Situation 1

It's Friday night and you're glad that the weekend is here. You're at a party at a friend's house. A handful of your closest friends are there as well as a lot of people 5-10 years older than yourself. There is a lot of alcohol, everybody is drinking. Some of the people there begin to hassle you about the fact that you're not drinking.

Imagine that you are actually in this situation and answer the following questions:

1) What is the risk that you might drink in this situation?

low		medium						high	
1	2	3	4	5	6	7	8	9	10

next page ⇒

2) What kinds of things could you do in order to avoid relapse in this particular situation and what is your level of confidence in successfully avoiding relapse using each of these strategies?

a) \_\_\_\_\_

low					medium					high
0	10	20	30	40	50	60	70	80	90	100

b) \_\_\_\_\_

low					medium					high
0	10	20	30	40	50	60	70	80	90	100

c) \_\_\_\_\_

low					medium					high
0	10	20	30	40	50	60	70	80	90	100

d) \_\_\_\_\_

low					medium					high
0	10	20	30	40	50	60	70	80	90	100

If you can think of other things that you might do in this situation use the back of this sheet to write them down. Do not forget to rate your level of confidence. When you have listed all of the possible strategies you can think of, place an "X" next the strategy that you would most likely use in this particular situation.

## Situation 2

**It's the middle of the week and you're feeling pissed off at the world. You're feeling frustrated and angry. These feelings aren't directed at anyone in particular.**

**Imagine that you are actually in this situation and answer the following questions:**

**1) What is the risk that you might drink or do drugs in this situation?**

low					medium					high
1	2	3	4	5	6	7	8	9	10	

**next page ⇒**

2) What kinds of things could you do in order to avoid relapse in this particular situation and what is your level of confidence in successfully avoiding relapse using each of these strategies?

a) \_\_\_\_\_

---

low									medium			high
0	10	20	30	40	50	60	70	80	90	100		

b) \_\_\_\_\_

---

low									medium			high
0	10	20	30	40	50	60	70	80	90	100		

c) \_\_\_\_\_

---

low									medium			high
0	10	20	30	40	50	60	70	80	90	100		

d) \_\_\_\_\_

---

low									medium			high
0	10	20	30	40	50	60	70	80	90	100		

If you can think of other things that you might do in this situation use the back of this sheet to write them down. Don't forget to rate your level of confidence. When you have listed all of the possible strategies you can think of, place an "X" next the strategy that **you** would most likely use in this particular situation.



### Situation 3

**You're hanging out at a friend's place one Saturday evening with 2 of your best friends. They're both drinking and doing drugs. They offer some to you.**

**Imagine that you are actually in this situation and answer the following questions:**

**1) What is the risk that you might drink or do drugs in this situation?**

low					medium					high
1	2	3	4	5	6	7	8	9	10	

**next page ⇒**

2) What kinds of things could you do in order to avoid relapse in this particular situation and what is your level of confidence in successfully avoiding relapse using each of these strategies?

a) \_\_\_\_\_  
\_\_\_\_\_

low					medium					high	
0	10	20	30	40	50	60	70	80	90	100	

b) \_\_\_\_\_  
\_\_\_\_\_

low					medium					high	
0	10	20	30	40	50	60	70	80	90	100	

c) \_\_\_\_\_  
\_\_\_\_\_

low					medium					high	
0	10	20	30	40	50	60	70	80	90	100	

d) \_\_\_\_\_  
\_\_\_\_\_

low					medium					high	
0	10	20	30	40	50	60	70	80	90	100	

If you can think of other things that you might do in this situation use the back of this sheet to write them down. Don't forget to rate your level of confidence. When you have listed all of the possible strategies you can think of, place an "X" next the strategy that **you** would most likely use in this particular situation.

**APPENDIX E**  
**Coding Strategies**

1. Cognitive Strategies (self-talk or what subjects identify as thoughts)

A. Positive Thinking

1) personal/social benefits

e.g., I will feel better about myself. My friends will like me more

2) somatic benefits

e.g., I won't be sick

3) achievement recognition

e.g., I have come so far

4) see oneself as nondrinker

e.g., I don't do drugs anymore

B. Negative Thinking

5) personal/social repercussions

e.g., My parents will be so disappointed in me

6) somatic repercussions

e.g., I'll know I'll get hungover

7) failure recognition

e.g., I'll blow four clean months

8) view drinkers negatively

e.g., They look like such idiots when they're drunk

2. Behavioral Strategies (involves some action, moving beyond thought)

A. Coping

9) substitute drug with nondrug

e.g., grab a cigarette instead, fill my glass with a soft drink

10) declare not drinking

e.g., tell them that I quit using

10.1) just say no

11) use humor/change topic

e.g., I hear that stuff grows hair on your chest, just screw off

12) engage in alternate activity within situation

e.g., I'd stay at the party, but I'd decide to make something to eat,  
ignore them

13) limit amount consumed

e.g., I'd only allow myself to have one beer

14) seek social support within situation

e.g., I'd go look for people I can talk to

## 2. Avoidance/Escape Strategies

15) leave the situation

16) avoid the situation

17) seek outside social support

e.g., I'd give my sponsor a call

18) engage in outside alternate activity

e.g., I'd go for a walk around the block

## C. Affective Strategies (mention of affect or dealing with feelings e.g., hate, anger, sadness, happiness etc.)

19) thinking about feelings

e.g., I would focus on my anger and think about where it came  
from

20) discuss feelings with others

e.g., I would talk about my feelings with my friends

21) act out feelings

e.g., I would punch a pillow

## D. Other

22) use (no specification of limit)

23) other

e.g., I'd kill myself, I'd say I'm pregnant, lie or make excuses,  
willpower

## APPENDIX F

### Sobriety Expectations Inventory

How confident do you feel in abstaining from drugs/alcohol for:

(circle one for each time frame given)

	not				somewhat			quite		very	
	at all confident				confident			confident		confident	
a) one day	0	10	20	30	40	50	60	70	80	90	100
b) one week	0	10	20	30	40	50	60	70	80	90	100
c) one month	0	10	20	30	40	50	60	70	80	90	100
d) 3 months	0	10	20	30	40	50	60	70	80	90	100
e) 6 months	0	10	20	30	40	50	60	70	80	90	100
f) 1 year	0	10	20	30	40	50	60	70	80	90	100
g) 2 years	0	10	20	30	40	50	60	70	80	90	100
h) the rest of your life	0	10	20	30	40	50	60	70	80	90	100

**APPENDIX G**  
**Interview Protocol**  
**Interview for Abstainers**

Firstly, I would like to review some of the answers you have made on the questionnaires, then I would like to ask you some general questions about relapse and maintaining sobriety. This should take us about 30-40 minutes.

**A. High-Risk Situations**

(Note which situations have been designated as the highest risk - review this with the participant.)

1) I noticed that you identified \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_ as the greatest risk to your sobriety, what is it about these situations that put you at risk for using?

Anything else?

2) How do you know that you're faced with a high risk situation?

What signs or signals tell you that you are at risk to start using?

**B. Scenarios**

(Review the strategies that the participant lists for each scenario.)

1. You have identified (#) of strategies for the first scenario. Why would you list these strategies as opposed to others?

Are there other reasons?

2. How did you learn about these strategies?

3. How did you train yourself to use them?

4. You placed an 'X' next to (describe strategy), why would you use this strategy over the others?

Are there other reasons?

5. If you are successful in using these strategies is it because of effort and ability or because the situation was easy, or maybe you were lucky?

### **C. Global Self-Efficacy in Maintaining Sobriety**

(Review self-efficacy scale)

1. How do you know that your level of self-confidence in maintaining sobriety is \_\_\_?

### **D. General Questions**

I now have some general questions about sobriety and relapse that I would like to ask you.

1. How have you been able to maintain sobriety?

2. What is it about you that allows you to stay away from drinking/using drugs?

Anything else?

3. What would have to happen before you would relapse, or begin using again?

How would you know that you were at risk to start using?

Imagine that you were in that particular situation, what might you say or think to yourself?

What might you do in that situation?

If I were watching a movie, what might I see?

What would you be expecting to happen by using the drug?

4. If there were a group of kids here who decided to stop using and were concerned about relapse, what words of advice do you have for them?



## Interview for Relapsers

Firstly, I would like to review some of the answers you have made on the questionnaires, then I would like to ask you some general questions about relapse and maintaining sobriety. This should take us about 30-40 minutes.

### **A. High-Risk Situations**

(Note which situations have been designated as the highest risk - review this with the participant.)

1) I noticed that you identified \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_ as the greatest risk to your sobriety, what is it about these situations that put you at risk for using?

Anything else?

2) How do you know that you're faced with a high risk situation?

What signs or signals tell you that you are at risk to start using?

### **B. Scenarios**

(Review the strategies that the participant lists for each scenario.)

1. You have identified (#) of strategies for the first scenario. Why would you list these strategies as opposed to others?

Are there other reasons?

2. How did you learn about these strategies?

3. How did you train yourself to use them?

4. You placed an 'X' next to (describe strategy), why would you use this strategy over the others?

Are there other reasons?

### **C. Global Self-Efficacy in Maintaining Sobriety**

(Review self-efficacy scale)

1. How do you know that your level of self-confidence in maintaining sobriety is \_\_\_?

## D. General Questions

I now have some general questions about sobriety and relapse that I would like to ask you.

1. What was going on for you during your last relapse? Describe the situation to me.
2. When did you realize that you might start using?
3. What were you thinking, or saying to yourself at the time?

Anything else?

4. If I had been watching a movie of this, what might I have seen?

Anything else?

5. Did you consider using any strategies, which ones?

Any others?

6. Which ones did you try to use?

7. Do you have any ideas why these strategies didn't work for you?

8. Do you think you were not successful in using these strategies because of a lack effort and ability or because the situation was difficult, or maybe you were unlucky?

9. Looking back at that situation, can you think of what you might have done differently?

10. If there were a group of kids here who decided to stop using and were concerned about relapse, what words of advice do you have for them?

## APPENDIX H

### Description of the Research

We are interested in understanding how adolescents maintain sobriety and prevent relapse. This information will help us as counsellors be most effective in our work with young people who are experiencing problems with drugs and/or alcohol.

Your participation is completely voluntary and would involve completing five questionnaires (and participating in an audiotaped interview, should you wish to do so with the researcher/research assistant). The questionnaires ask you about: a) some background information, b) conditions or situations that might lead to relapse, c) strategies that help you deal with maintaining sobriety, d) your level of confidence in maintaining sobriety and e) expectations about gaining control of drug use. The interview will involve reviewing some of the responses that you have made on the questionnaires. Any identifying features will be erased from the tapes so that confidentiality and anonymity can be maintained.

If at any time you wish to withdraw your participation from this study, you may simply do so without any consequences.

Thank you for your consideration.

John Walsh PhD.

Selina Robinson

Participant Consent Form

I, \_\_\_\_\_ agree to participate in the coping strategies and relapse research conducted by Dr. John Walsh and Selina Robinson from Simon Fraser University's Faculty of Education. I have read the attached description of the study and I understand the nature and purpose of this research. My voluntary involvement will include answering five questionnaires (and participating in an interview, should I wish to do so, which will be audiotaped ). I understand that confidentiality is guaranteed. The results of the study may be obtained by contacting either Dr. John Walsh or Selina Robinson at the Faculty of Education. At the completion of the study, the questionnaires will be shredded and the tapes will be erased. If at any point in the study I wish to discontinue my participation, my decision will be fully respected. Any questions I have related to this research study will be answered by the researchers. Comments may be addressed to the Associate Dean of Education, Dr. Stan Shapson (291-4517).

\_\_\_\_\_  
Participant's signature

\_\_\_\_\_  
Witness' signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Date

Parent/Guardian Consent Form

I, \_\_\_\_\_ the Parent/Guardian of \_\_\_\_\_

(name of participant)

agree to the above-named participating in the coping strategies and relapse research conducted by Dr. John Walsh and Selina Robinson from Simon Fraser University's Faculty of Education. I have read the attached description of the study, I understand the nature and purpose of this research and they have been fully explained to

\_\_\_\_\_.

(name of participant)

The participant may withdraw from the study at any time and anonymity is guaranteed. The results of the study may be obtained by contacting either Dr. John Walsh or Selina Robinson at the Faculty of Education at Simon Fraser University. At the completion of the study, the questionnaires will be shredded and the tapes will be erased. Any questions I have related to this research study will be answered by the researchers. Comments may be addressed to the Associate Dean of Education, Dr. Stan Shapson (291-4517).

\_\_\_\_\_

Parent/Guardian Signature

\_\_\_\_\_

Witness' Signature

\_\_\_\_\_

Date

\_\_\_\_\_

Date