

**Intention to Drink Following Treatment for Alcoholism:**  
**A Test of the Theory of Reasoned Action**

by

Valdiene McCutcheon

A thesis  
presented to the University of Manitoba  
Faculty of Graduate Studies  
in partial fulfillment of the  
thesis requirement for the degree of  
Master of Education  
in  
Department of Math and Natural Science

Winnipeg, Manitoba  
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ISBN 0-315-76864-9

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A thesis submitted to the Faculty of Graduate Studies of  
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## **ABSTRACT**

The theory of reasoned action has been used to predict behavioral intentions across a diverse range of behavioral contexts. Previous applications of the theory to drug and alcohol use have been confined to high school or college populations who were predominantly social, experimental or non-users. No study to date has applied the theory of reasoned action to an adult alcoholic population. This study tested the applicability and sufficiency of the theory of reasoned action to predict male alcoholics' intention to drink in the first month following completion of a residential treatment program. The application of this model permitted an examination of the relative influence of attitudinal and normative variables on the intention to drink after a period of abstinence. Multiple regression analysis yielded a correlation coefficient of  $R = .73$  ( $p < .001$ ), which suggests that the theory of reasoned action is capable of predicting male alcoholics' intention to drink from the weighted sum of attitude and subjective normative beliefs. There was a nonsignificant correlation between predicted intention and actual drinking behavior. The regression coefficients assigned the normative and attitudinal components of the theory indicated that the normative component, subjective norm ( $r = .77$ ,  $p < .001$ ) was more influential in determining the behavioral intention to drink than was the attitude towards having a drink ( $r = -.17$ ). The results of this study failed to adequately answer the question of whether the theory is generalizable and sufficient enough to predict recovering alcoholics' intention to drink. Further research with a larger sample size is needed to address methodological issues concerning the adequacy of the attitude construct to measure the complex belief structure of alcoholics and whether the attitudinal and normative components should be measured and calculated as multidimensional rather than unidimensional constructs. It is recommended that future application of the theory of reasoned action to an alcoholic population examine the prediction of intention to not drink and extend the model to include a measure of the construct perceived behavioral control.

## ACKNOWLEDGEMENTS

The completion of this thesis could not have been realized without the support and assistance of many individuals. I would like to take this opportunity to formally recognize these people and acknowledge their various contributions.

My thesis advisor, Dr. Dexter Harvey, has been an integral part of my formal education as a Health Educator. Thank-you for your sustained belief in my ability over these years. Your assistance and feedback throughout the various stages of my thesis were invaluable and always encouraging. Thank-you to Dr. Riva Bartell, my departmental committee member, and to Professor Walter Driedger, my external committee member, for their review and comments on my final draft.

I would like to express my gratitude for the cooperation of the Alcoholism Foundation of Manitoba and the staff of the residential treatment program in assisting me with the data collection. A special thank-you to Heather Coates, Zenon Lisakowski and Norm Taylor for paving the way and for your support and cooperation throughout the data collection period.

My thanks to the following members of the independent review panel for their assistance in classifying the many survey responses into belief statements for the questionnaire: Dr. Bob Murray, Kent Somers, Linda Campbell and Kim Clare.

To my colleagues Lesley and Dianne, thank-you for your support and personal appreciation of the long and sometimes arduous journey towards the completion of ones studies. To my director Dr. Bob Murray, I am indebted to you for your assistance with the data analysis and for providing me with a supportive environment. Thank you all.

Finally, this thesis is dedicated to two women who saw me through the many trials, tribulations and personal triumphs while completing this thesis; to my dear friend Shirley and healer Judy.

## **CHAPTER 1 - INTRODUCTION**

The past decade has witnessed an unprecedented amount of research interest and clinical attention focused on the issue of relapse in the field of addictions. Today, relapse and relapse prevention are the major issues faced by both clinicians and researchers who are concerned with substance abuse.

### **Statement of the Problem**

#### **Relapse Rates**

It is widely known that relapse is the rule and not the exception in substance abusers entering or completing treatment. Alcohol treatment outcomes six months posttreatment discharge have been reported as being 80% or more (Armor, Polich, & Stambul, 1978; Gottheil, Thornton, Skolada, & Alterman, 1979). Vaillant (1983) pooled the results of four studies in which a total of 685 treated alcoholics were followed for two years. At the end of two years, 63% were abusing alcohol while 21% were abstinent or drinking socially. In Vaillant's own sample at the end of two years, 67% were abusing alcohol and 20% were abstinent or drinking socially. By the end of the eight-year followup period, 95% had resumed drinking at some time, but not all had relapsed to alcohol or dependence.

There is a significant body of literature which suggests that the majority of people leaving treatment programs will relapse at least once, with greatest vulnerability to relapse in the first three months following treatment (Hunt, Barnett & Branch, 1971; Hall & Havassy, 1986; Hubbard & Marsden, 1986; Maddux & Desmond, 1986; Simpson & Marsh, 1986 ). Marlatt (1979) has found that the average time from abstinence to relapse varies from four to thirty-two days for tobacco, alcohol and opiates. Gottheil, Thornton, Skoloda and Alterman (1982) reported that only 19% of 20 treated alcoholics remained abstinent during six months following treatment; 48% became relapsed drinkers during that time. Two other studies were cited by the authors,

having a combined total of 499 treated alcoholics, in which only 18% remained abstinent during six months after treatment.

In Manitoba, a 1978 Health and Drinking Survey revealed that 7% or 44,000 Manitobans were drinking at or beyond a hazardous consumption level and were certainly candidates for rehabilitative services. A level of roughly six drinks per day is fairly well accepted by the medical profession as constituting physically hazardous drinking.

According to the most recent annual report of the Alcoholism Foundation of Manitoba (1988 - 1989), a total of 9901 adults took part in primary care, residential or non-residential AFM programs for alcoholism. Of this total, 3159 participated in residential treatment programs.

In spite of the best intentions of both the alcoholic client and the treatment counsellor, it is estimated that approximately 40% of treated patients may develop a severe and progressive relapse syndrome that will not respond to treatment. Subsequently they may become chronic recidivists and eventually die from alcohol and/or drug abuse. For those more fortunate, approximately 20% will experience one or more short term low consequence relapses within the first two years of recovery, but eventually achieve and maintain abstinence. If both Alcoholics Anonymous (A.A.) and professional counselling are utilized, approximately 40% will recover with no complications following their first treatment experience (Gorski, 1982).

### **Health and Social Costs of Relapse**

There is a growing realization that relapse prevention needs to be an integral part of alcohol treatment programs and that the first few months of aftercare are critical. The reality is that the cost of recidivism is extremely high; not only in terms of the thousands of dollars in societal resources expended in treatment efforts, medical care, the legal system, and lost productivity, but also in context of the debilitating

psychological and social effects which beset the relapse prone patient and his/her family and friends.

A report published by Health and Welfare Canada (1984) states that the use of alcohol was directly implicated in deaths from alcohol-related cirrhosis, alcohol dependency syndrome, the non-abuse of alcohol, alcoholic psychosis, and accidental poisoning by alcohol, totalling 2,110 deaths in 1980. Indirect alcohol-related deaths, including deaths from such events as motor vehicle accidents, falls, fires, drownings, homicides and suicides, totalled 5,554 in 1980. In all, alcohol-related deaths in 1980 totalled 17,974. This means that up to an estimated one in every 10 Canadian deaths (10.5%) resulted from an alcohol-related condition, whether directly ( 1 in 80 ) or indirectly ( 1 in 11 ).

Respondents to the 1981 Canada Health Survey who were classified as current drinkers were asked to identify problems they associated with their drinking. Negative consequences for the drinker's family and friends were seen as the most predominant problem by 8% of the male and 4% of the female drinking population. The second most prominent problem concerned health, which was reported by 3% of the male and 2% of the current female drinkers.

Injuries to self or others rated equally with trouble with the law as the fourth overall set of problems. Trouble with the law was slightly more important for male drinkers than was injury, being reported by nearly 2% as compared with the 1.5% of male drinkers. Finally, trouble at work or school was experienced by 1.5% and .7% of male and female drinkers respectively.

Morbidity and mortality statistics clearly indicate a need for relapse prevention efforts aimed at possible identification and intervention with those at high risk of returning to destructive addictive behavior. As with any other form of prevention, it is necessary to identify reliable risk factors and to have some conceptual framework from which to work. A great deal more research is needed to identify risk factors and

predictive variables associated with treatment outcome and relapse. Equally important is the need for a comprehensive theoretical model of relapse which can guide clinicians in the design and implementation of effective relapse prevention strategies.

### **The Study of Variables Predictive of Relapse**

Research has long attempted to identify variables which are predictive of the outcome of alcoholism treatment programs. The most frequently studied variables include patient characteristics, treatment factors and post treatment experiences (Finney, Moos & Mewborn 1980; Fowler, Liskow & Tanna, 1980). Some examples of patient variables which have been studied include pretreatment consumption levels (Eckardt, Graubard & Ryback, 1982), neuropsychological functioning (Donovan, Kivlahan & Walker, 1984; Sussman, Rychtarik, Mueser & Glynn 1986, Eckardt, Rawlings & Graubard, 1988) psychopathology (Rounsaville, Dolinsky & Babor, 1987) initial level of functioning and number of alcohol related problems (Sannibale, 1989; Craft, Sheehan, Driggers, Driggers & Dubois, 1975; Ruggels, Armor, Polich & Mothershead 1975), various intake variables including demographics and number of previous treatments ( Ojehagen, Skjarris & Berglund, 1988; LaJeunesse & Thoreson, 1988; Gibbs & Flanagan, 1977; Ornstein & Cherepon, 1985; Schuckert, Schwei & Gold, 1986), psychological correlates (McMahon, Davidson & Flynn, 1986), self concept (Cooper, 1983), and locus of control (Canton, Giannini, Magni & Bertinaria, 1988; McGovern & Caputo, 1983; Apao & Damon, 1982; Caster & Parsons, 1977; Donovan & O'Leary, 1975; Hinrichsen, 1978; Kivlahan, Donovan & Walker, 1983; Marlatt, Demming & Reid, 1973; O'Leary, Rohsenow & Donovan, 1974). Studies have yielded variable results regarding the predictive power of these factors, in part because of the differences across studies in treatment populations, length of followup and type of outcome criteria used (Cronkite & Moos,1978). As the relapse phenomenon has become subject to more thorough examination, previous reports of treatment outcome have come under criticism.

Svanum and McAdoo (1989) note that alcoholics in treatment are very heterogeneous and that this high variability may mask the predictive significance of some variables. Also various research definitions of outcome success might relate to

one type of success (e.g., abstinence) and not to another (e.g., asymptomatic drinking). Furthermore, the length of time since treatment makes outcome definitions more difficult to apply because many, if not the majority of treated persons, alternate in treatment status. Polich, Armor and Braiker (1981) report that over a four year period following treatment, approximately 90% of alcoholics will experience some degree of relapse and that even over shorter periods of time, great variability in outcome status is observed. These comments deserve mention and should be taken into account when reviewing the vast number of variables that have been examined in relation to treatment outcome and factors related to relapse and recovery.

Much of the current clinical knowledge concerning factors which put alcoholics at high risk of relapsing is based on clinical observation, retrospective studies and the reported experience of recovering alcoholics. Several studies have attempted to identify the most common precipitants of relapse including certain high risk situational and emotive states (Gallant, 1984; Sandahl, 1984; Pickens, Hatsukami, Spicer & Svikis, 1985; Maisto, O'Farrell & Connors, 1988; Deardorff, Melges, Hout & Savage, 1975; Marlatt & Gordon, 1980). Other research has selectively examined the potential correlation between a return to drinking and self-identity (Eastman & Norris, 1982), self-concept (Cooper, 1983), self-efficacy (Rollnick & Heather, 1982; Clifford, 1983; Burling, Reilly, Moltzen & Ziff, 1989) stress (Billings & Moos, 1985; Sadava, Thistle & Forsyth, 1978) stressful or significant life-events and environmental stressors (Rosenburg, 1983; Billings & Moos, 1983), 'craving' and subsequent loss of control (Ludwig & Wikler, 1974), social support or resources (Rosenburg, 1983; Havassy, Hall & Tshann, 1987; Billings & Moos, 1983), familial factors (Billings & Moos, 1983; Melvin, 1984; Maisto et al., 1988; Slater & Linn, 1982-83) participation in after-care (Ahles, Schlundt, Prue & Rychtarik, 1983; Knouse & Schneider, 1987; Sheeren, 1988; McLatchie & Lamp, 1988; Walker, Dopnovan & Kivlahan, 1983; Gilbert, 1988) cognitive capacity or dysfunction (McWilliams & Brown, 1977; Heilbrun, 1971; Gregson & Taylor, 1977; beliefs in controlled drinking (Watson, Jacobs & Pucel, 1984), locus of control (Canton et al., 1988; McGovern & Caputo, 1980; Abbott, 1984; Apao & Damon, 1982; Caster & Parsons, 1977; Donovan & O'Leary, 1975;

Hinrichsen, 1978; Kivlahan et al., 1983; Marlatt et al., 1973; O'Leary et al., 1974), expectancies associated with alcohol consumption (Russell & Bond, 1980; Donovan & Marlatt, 1980; Brown, 1985; Brown & Berger, 1984), coping skills, responses and behavioral effectiveness (Rosenburg, 1983; Billings & Moos, 1983; Litman, 1984) and problem solving skills (Jones & Lanyon, 1981).

A review of these studies yields inconsistent findings regarding the utility of many of these factors in the identification of high risk individuals and in the prediction of relapse. From a preventive point of view, isolated variables are of little utility unless they can be understood in the context of a conceptual framework of relapse. But as Donovan and Chaney (1985) point out, just as there are many models of the etiology of problem drinking and alcoholism, there are also many models concerning relapse.

### **Social Learning, Expectancy Theory and the Prediction of Drinking**

There is a growing and significant body of literature and research based on social learning and expectancy theory which supports the contention that cognitive factors such as self-efficacy beliefs and expectancies (concerning the anticipated effects of alcohol) play a significant role in determining drinking behavior (Burling et al., 1989; Abrams & Niaura, 1987; Abrams, Niaura, Carey & Monti, 1986; Goldman, Brown & Christiansen, 1987; Marlatt & George, 1984; Wilson 1978, 1980; Brown & Berger, 1984; Christiansen, Goldman & Inn, 1982; Brown, Goldman, Inn & Anderson, 1980; Donovan & Marlatt, 1980; Cummings, Gordon & Marlatt, 1980).

Marlatt and Gordon (1985) are acknowledged as having made a landmark contribution to the understanding of relapse and relapse prevention with the development of a cognitive-behavioral model of relapse. The model delineates the role of expectancies and self-efficacy in the relapse process. According to this model, when an abstinent person encounters a 'high risk' situation:

If the person does not or can not perform an adequate coping response, we predict an immediate decrease in self-efficacy, a concomitant increase in feelings

of helplessness, and a tendency to 'give in' to the situation. In addition, the temptation to relapse will grow stronger if the person has positive outcome expectancies about the indulgent behavior's effectiveness as a coping response. (Cummings et al., 1980, p. 299).

The notion that assessments of expectancies can predict behavioral outcomes has already been demonstrated in the lab (Rohsenow & Bachorowski, 1984; Sher, 1985). Expectancy patterns have also successfully predicted drinking behavior at all levels of the drinking continuum, from the onset of drinking in adolescents to alcoholism.

Recent studies employing expectancies to predict future drinking status indicate that expectancies do indeed have a powerful predictive capacity. Christiansen and Goldman (1983) used seven alcohol expectancy factors to predict adolescent drinking patterns. The prediction of drinking patterns using these expectancies surpassed in accuracy those obtained using a variety of background demographic variables that had been previously established in the literature as powerful predictors. Expectancies assessed among 12 - 14 year olds, prior to the onset of drinking, have predicted subsequent patterns and levels of consumption as well as the onset of problem drinking at one and two year followup intervals (Christiansen, Goldman, Roehling & Smith, 1989; Roehling, Smith, Goldman, & Christiansen, 1987; Smith, Roehling, Christiansen, & Goldman, 1986). In a review of expectancy theory and drinking, Goldman, Brown and Christiansen (1987) cite several studies among adolescent, college and adult populations, which demonstrate that the strength and pattern of alcohol expectancies can discriminate between light and heavy drinkers, at-risk and control groups, and problem and non-problem drinkers. To date however, there has only been one study of adult alcoholics which has used expectancies prospectively to predict relapse following an alcoholism treatment program (Brown, 1985).

One major flaw in expectancy research is, with few exceptions (McCarty, Morrison & Mills, 1983; Bauman & Byran, 1980), that studies omit examination of the individual's evaluation of the consequences of drinking. Understanding the desirability or value alcoholics place on the consequences of drinking gives critical

information concerning the function drinking has for them. The Alcohol Expectancy Questionnaire (Brown et al., 1987), has been the most extensively used instrument to measure expectancies. The 90 item questionnaire ascertains the perceived likelihood of certain behavioral and emotional consequences of drinking occurring for an individual but does not include a measure of how desirable these outcomes are.

In summary, what is evidently lacking in the relapse literature, is the application of a theoretical framework whereby predictive variables (such as expectancies and others) can be empirically tested. In an extensive review of models and methods pertaining to relapse prevention, Donovan and Chaney (1985) note that there is still too little data to propose a comprehensive theory of relapse determinants.

### **The Theory of Reasoned Action**

A predictive model of social behavior known as the theory of reasoned action (Fishbein, 1967) has been used to predict behavioral intentions across a diverse range of health and social behavioral contexts ( Granrose,1984; Speckart & Bentler, 1982; Inoue, Hirose & Tanaka, 1984; Koballa, 1988; Lane, Mathews & Presholdt,1988; Strube, 1988; Fortini, 1987; Warshaw, 1986; Halgin, 1987) ranging from consumer behavior (Sampson & Harris, 1970; Tuck, 1976; McQuarrie, 1988), political voting behavior (Fishbein, Thomas & Jaccard, 1976; Fishbein, Ajzen & Hinkle, 1980; Echabe, 1988), road safety (Budd, North & Spencer,1984; Budd & Spencer, 1986; Wittenbaker, Gibbs & Kahle, 1983), family planning (Pagel & Davidson, 1984; Davidson & Jaccard, 1975; Jaccard & Davidson, 1972), choice of contraceptive method (McCarty,1981), infant feeding (Manstead, Plevin & Smart, 1984; Manstead, Proffit, & Smart, 1983), childbirth methods (Lowe & Frey, 1983), drug compliance (Davidhizar,1982; Reid & Christiansen, 1988; Cochran & Gitlin,1988; Leventhal & Cameron, 1987), and dental hygiene (McCaul, O'Neil & Glasgow, 1988; Toneatto & Binik, 1987), to various preventive health behaviors (Wurtele, 1988; Timko, 1987; Hill, Gardner & Rassaby, 1985; Kristiansen & Eiser, 1986; Mullen, Hersey &

Iverson, 1987; Hecker & Ajzen, 1983; Shenkel et al., 1985-86; Pender & Pender, 1986; Hoogstraten, de Hann & ter Horst, 1985; Godin & Lepage, 1988).

In the field of addictions, the theory of reasoned action has been applied to behavioral intentions related to smoking ( Tucker, 1984; Beck & Davis, 1980; Grube, McGree & Morgan, 1986; Budd, 1986; Sherman, Pressman, Chassin, Bensenburg, Corty & Olshavsky, 1982; Godin & Lepage, 1988; Norman & Tedeschi, 1989; Chassin et al., 1984) and to drug and alcohol abuse (Fishbein, Ajzen & McArdle, 1980; Budd, Bleiker & Spencer, 1983; Schlegel, Crawford & Sanborn, 1987; Budd & Spencer, 1984; Schlegel, 1977; McCarty, 1983; Beck, 1981; Cook, Lounsbury & Funelle, 1980; Pomazel & Brown, 1977; Bearden & Woodside, 1978; Bentler & Speckart, 1979).

According to Fishbein's theory, behavior is immediately determined and thus predictable from the knowledge of an individual's behavioral intentions. These intentions in turn, are shaped by the relative influence of attitudinal and normative factors; namely one's attitude towards and perceived norms concerning the performance of a given behavior.

The theory of reasoned action posits that overt behavior (B) is a function of a person's intention to perform it. A behavioral intention (BI), in turn, is predicted by the person's attitude toward that particular behavior or act ( $A_{act}$ ) and by a set of subjective normative beliefs (NB) which are the person's beliefs that significant others think that (s)he should or should not perform that behavior, and finally a desire or motivation to comply (MC) with those social referents. This relationship can be expressed as follows:

$B \sim BI = W_1 A_{act} + W_2 (NB \times MC)$  where  $W_1$  and  $W_2$  are weights derived from a multiple regression analysis. The empirical weights given to the attitudinal and normative components of the equation are proportional to their relative importance. These empirical weights ( $W_1$  and  $W_2$ ) are expected to vary

with the type of behavior that is being predicted, with the conditions under which the behavior is to be performed and with the person who is to perform the behavior. Behavioral intention is thus a function of the weighted sum of these two variables.

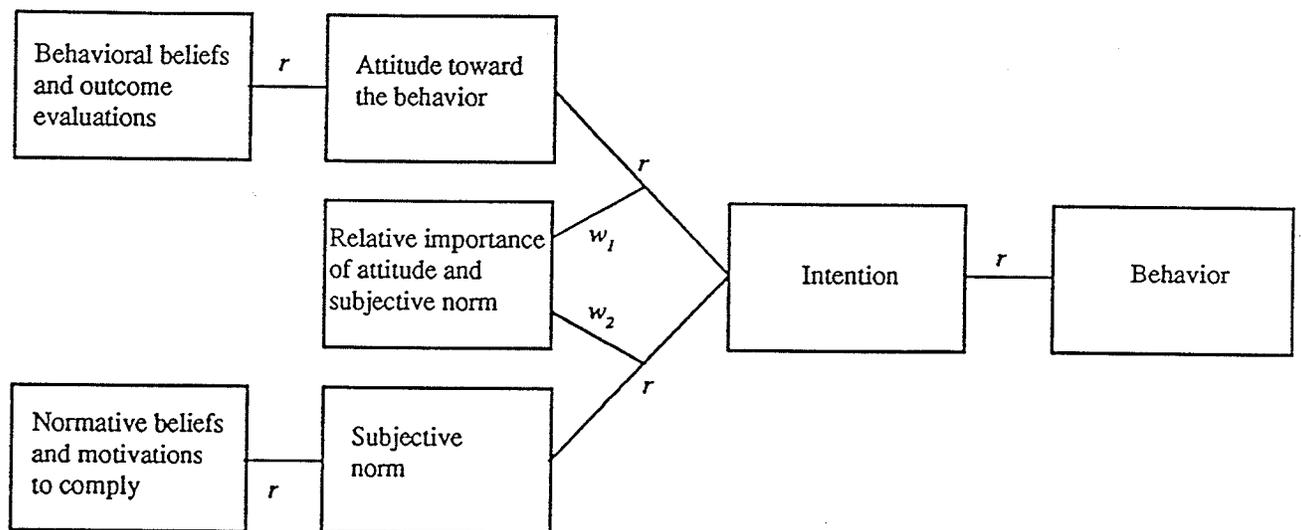


FIGURE 1  
Relations among beliefs, attitude, subjective norm, intention, and behavior

personality or demographic factors would all be viewed as being extraneous or background variables. That is to say, that these variables are expected to be related to behavioral intentions, and hence behavior, if and only if, they influence either the attitude towards the performance of the behavior, the subjective norm or the respective weights of these predictors.

A review of the current literature indicates that no studies to date have utilized the theory of reasoned action to predict people's intention to drink following a residential treatment program for alcoholism. The application of the TRA to the prediction of relapse in this particular target population could yield important implications for current and future treatment efforts with recovering alcoholics. Knowledge of specific expectancies associated with alcohol use and the relative influence of the perceived

expectations of others on drinking behavior, could greatly assist the clinician in identifying where their efforts should be directed in order to facilitate behavior change.

### **Definition of Terms**

In contrast to the traditional definitions and measurements of attitude and subjective norm, Fishbein has operationalized these concepts in accordance with Dulaney's (1967) theory of propositional control, from which the theory of reasoned action has been derived.

#### **Attitude**

Fishbein (1967) suggests that rather than measuring attitudes towards an object, it is the attitude toward the specific act (ie. toward performing a particular behavior with respect to a given object) that needs to be measured in order to better predict overt behavior. Based on Dulaney's (1967) theory, attitude is operationalized as the sum of the (behavioral) beliefs about the consequences of performing a given behavior multiplied by the subjective evaluation of these consequences (ie. the belief or degree of subjective probability that these consequences would result for self). This conceptualization of attitude toward an act is consistent with a number of other formulations proposed by theorist such as Rotter (1966), Peak (1955) and Rosenberg (1956, 1965).

Rotter's (1966) social learning theory maintains that the probability of the occurrence of a given behavior in a particular situation is determined by two variables: the subjectively held probability (or expectation) that the behavior in question will result in certain outcome consequences and the value of these consequences to the subject.

Similarly, both Peak (1955) and Rosenberg (1956, 1965) view attitudes as a function of beliefs about the instrumentality or utility of the attitude object in obtaining goals and the value placed on these goals.

In addition, Fishbein's (1967) formulation of attitude is essentially equivalent to that proposed in the decision theory model (Blackwell & Girshik, 1954). The subjective or expected utility of a given alternative action is seen a function of the subjective probability that certain outcomes will follow the particular act, multiplied by their respective subjective values.

### **Subjective Norm**

Typically, sociologists use the term 'norm' to refer to a rather broad range of permissible, but not necessarily required behaviors. Norms are usually viewed as being socially agreed upon rules; the definition of what is right and wrong.

Fishbein's (1967) conception of subjective norm departs from the traditional sociological view of norms. In his theory, the normative component is operationalized as the sum of the normative beliefs (ie. a person's perception that important others desire the performance or nonperformance of a specific behavior) multiplied by the degree of motivation to comply with the perceived expectations of others.

### **Stability of Variables**

#### **Stability of Intention**

Fishbein's theory does not predict behavior directly, rather it predicts behavioral intentions. The degree of correlation found between intentions and actual behavior is greatly strengthened if measurements of attitude, subjective norm and intentions (ie. in terms of the wording of the questionnaire statements) correspond on four critical elements: target, action, time and context. In the present study, relapse (outcome) will be predicted on the basis of the intention to drink (action) alcohol (general target of behavior) in any situation or environment (general context) during the next month (time frame).

Behavioral intentions can change over time due to a conceivable change in beliefs concerning behavioral consequences or normative expectations associated with alcohol consumption. Thus, if a significant gap of time ensues between the measurement of intention and behavior, it is quite possible that the original intention will not correspond to the intention at the time the behavior is performed. Generally speaking then, the longer the time interval between measurements, the lower the observed relationship between intention and behavior will be.

However, aggregate intentions are apt to be more stable over time than are individual intentions. There is evidence from family planning and consumer behavior that even when individual predictions are relatively poor, predictions of behavior from intentions at the aggregate level is often remarkably accurate (Fishbein et al., 1980; Fishbein & Ajzen, 1980). The one possible exception to this may be in the case of the occurrence of an external event that changes the intentions of a large proportion of the target population in the same direction.

### **Purposes of the Study**

Using a voluntary convenience sample of male alcoholics (minimum age of 18 and not dually addicted) who received residential treatment for their drinking problems through the Alcoholism Foundation of Manitoba; Winnipeg, Manitoba, the objectives of the study were as follows:

1. Determine whether the attitudinal and normative variables of the theory of reasoned action are predictive of recovering alcoholics' intention to have a drink during the first month following discharge from a residential treatment program.
2. Determine which of the two components, attitude or subjective norm, is more influential in determining the behavioral intention to have a drink.

3. Determine whether there is a correlation between the behavioral intention to have a drink and actual drinking behavior.
4. Determine the behavioral and normative beliefs which most significantly differentiate abstainers from non-abstainers.
5. Examine the (expectancy-value) structure of attitude and subjective norm that strongly correlate with alcohol use.

### **Hypotheses**

1. The attitudinal and normative variables of Fishbein's theory of reasoned action will be predictive of male alcoholics intention to have a drink one month following a residential treatment program.
2. The normative component will have a greater influence on the (aggregate) intentions of male alcoholics to have a drink.
3. There will be a significant correlation between the prediction of intention to have a drink and actual drinking behavior.
4. Statistical analysis of the attitudinal and normative belief structures will be able to differentiate abstainers from non-abstainers.

### **Limitations of the Study**

1. Subjects participating in this study will be voluntary, gender specific and non-representative of all those who need or are seeking help for their drinking problem through alternative avenues. Thus the results and any implications of this study will not be generalizable to any other individuals or groupings of recovering alcoholics.

2. The study will employ a predictive model of social behavior which is not intended to identify the etiology of relapse. Rather, it is hoped that the application of Fishbein's theory to this particular target population will demonstrate how expectancies associated with alcohol use and the perceived expectations of others contribute to putting individual's at high risk of having their first 'slip' following treatment.
3. There will be an experimental bias introduced by the use/reliance on self-report measures of drinking behavior which may drastically reduce the degree of correlation found between the behavioral intention (to have a drink) and actual drinking behavior during the first month following discharge.
4. It has also been suggested that the generality and sufficiency of Fishbein's model to predict highly complex 'deviant' behaviors (ie. alcohol abuse) from problem defined populations (ie. alcoholics) may be limited (Schlegel et al., 1977; Schlegel and Norris, 1980; Bagozzi, 1981). It is possible that Fishbein's attitudinal and normative measurements are unable to adequately tap and integrate the complex underlying belief and normative structures involved with addictive behaviors.

## **CHAPTER II - LITERATURE REVIEW**

This chapter provides a review of the relevant research and literature pertaining to the theory of reasoned action (TRA) and a detailed analysis of the model's constructs. Particular emphasis is placed on the relation of TRA to other theories of behavior and relapse and the question of the models applicability to an alcoholic population.

### **Introduction**

Fishbein's (1967) theory of reasoned action (TRA) has been applied to the prediction of intentions to use various addictive substances, including the intention to smoke, (Chassin et al., 1981; Presson et al., 1984; Chassin et al., 1984; Newman, Martin & Irwin,1982; Newman, Martin & Aug, 1982; Jaccard, 1975; Fishbein,1982; Grube et al., 1986; Budd, 1986; Sherman et al., 1982; Godin & Lepage, 1988; Norman & Tedeschi, 1989),the intention to use certain drugs (Budd et al., 1983; Pomazel & Brown,1977; Bearden & Woodside, 1978; Bentler & Speckart, 1979) or the intention to consume alcohol (Schlegel et al., 1977; Schlegel, Maushe & D'Avernas, 1985; Schlegel, DiAvernas, Zanna, & DiTecco, 1987; Budd & Spencer, 1984; Budd & Spencer, 1985; Fishbein, Ajzen & Hinkle,1980). A major limitation of these studies is that the subjects have been primarily college or adolescent student populations who range from nonusers to experimental or social users of the substance being studied. Previous researchers have questioned whether or not Fishbein's model is generalizable enough to predict highly complex 'deviant' behaviors from problem defined populations such as alcoholics (Schlegel et al., 1977; Schlegel & Norris, 1980; Bagozzi, 1981). The generalizability and efficiency of Fishbein's model to predict various social behaviors has been demonstrated in comparative studies of the health belief model and intentions to drink while under the influence (Beck, 1981), Triandis' model of behavioral intentions and family planning behavior, (Jaccard & Davidson,1972) and Jessor's mutivariate predictive system for adolescent alcohol use (Schlegel et al., 1977). More recently, Sheppard, Hartwick, and Warshaw, (1988) found strong overall evidence for the predictive utility of the model following a meta-

analysis of 87 studies which had employed Fishbein and Ajzen's (1975) model across a diverse range of behavioral domains.

It is the purpose of this study to test the applicability of the TRA to the prediction of alcoholics' intentions to drink following a residential treatment program. To date, no studies have tested the sufficiency of the TRA to predict alcoholic treatment population's intention to drink.

### **Overview of the Model: The Theory of Reasoned Action**

Briefly, according to the theory of reasoned action, the immediate antecedent of any behavior is the intention to perform the behavior in question. Intentions in turn are determined by two conceptually independent constructs. One is the personal factor termed attitude toward the behavior, and refers to the degree to which a person has a favorable or unfavorable evaluation of performing the behavior in question. The second predictor of intention is subjective norm, a social factor; it refers to the perceived social pressure to perform or not to perform the behavior. Attitude and subjective norm, each weighted for its relative importance, are assumed jointly to determine behavioral intention. Two types of beliefs or salient information relevant to the behavior are considered the antecedents of these constructs. Behavioral beliefs are assumed to influence attitudes towards the behavior and normative beliefs constitute the underlying determinants of subjective norm. The theory of reasoned action can be expressed in the following equation:  $B \sim BI = (A_{act}) w_1 + (NB \times Mc) w_2$  where B = overt behavior; BI = behavioral intention; A<sub>act</sub> = attitude toward performing a given behavior in a given situation; NB = normative beliefs; Mc = motivation to comply with the norms; W<sub>1</sub> and W<sub>2</sub> = empirically determined weights derived from a multiple regression analysis.

In the present study, the attitude of a male alcoholic toward taking a drink and his overall normative expectations about whether significant others would approve or not will determine the strength of their intention to have a drink in the first month following a residential treatment program. The alcoholic's attitude towards taking a drink is

postulated to be product of their behavioral beliefs about the likelihood certain consequences would result and the degree of desirability (or value) associated with each consequence. Subjective normative expectations are a product of their beliefs concerning the degree to which significant others would approve or disapprove and the degree to which they want to comply with these expectations.

### **Relative Influence of Attitudinal and Normative Variables on Behavioral Intention**

According to the theory of reasoned action (TRA) the relative influence of attitude (Aact) and subjective norm (NB) on behavioral intentions is expected to vary according to the type of behavior being predicted, the object or target towards which the behavior is directed, the conditions (ie. time and situational context) under which the behavior is to be performed, and the nature of the target population under study. For example, Schlegel et al. (1977) found that the relative influence of attitudes and normative beliefs on adolescents intention to drink was dependent on the situational or social context. The normative factor proved to be more influential in a social context (ie. home rather than at a party or pub) where their drinking behavior was relatively more controlled by others (namely parents) and the normative expectations were well defined. Other predictive studies of drinking behavior (Kilty, 1978; Beck, 1981) and drug use motivation (Pomazel & Brown, 1977) which did not differentiate between situational contexts, concluded that attitudes were a stronger predictor of intention.

The nature of the target population has also been shown to alter the relative influence of attitudes and subjective norms with respect to the same behavioral intention. Studies of contraceptive-use intentions among college women (Fishbein & Jaccard, 1973; Jaccard & Davidson, 1972) found that the attitudinal component was the only significant factor which influenced the use of birth control pills, whereas in a study of married women (Davidson & Jaccard, 1975) normative influences were an equally important determinant of use intention. Similarly it is speculated that attitudinal and normative influences on men's drinking intentions would vary as a function of whether they were adolescent, college, or adult populations and also depending on their

degree of experience and/or abuse of alcohol. Research also indicates that any generalizations concerning the significance of attitudes or normative beliefs on specific behavioral intentions should be qualified by addressing gender differences (Godin & Shepard, 1986; Jaccard, 1981; Fishbein, 1966). Two studies concerning behavioral intentions to drink found that the normative component was the most salient predictor for men while the attitudinal component predominated for women (Budd & Spencer, 1984; Kilty, 1978).

### **Relationship of Background Variables to Behavioral Intention**

Any additional variables, such as situational, demographic or personality characteristics are held to influence behavioral intention (BI) and hence behavior (B), if and only if, they influence attitude (Aact), subjective norm (NB), the motivation to comply NB(Mc), or the relative weights of these three variables. For example, variables such as self-concept or social economic status may influence intentions to drink, but only to the extent that these factors also influence a person's attitudes or subjective norms regarding drinking. Essentially, Fishbein's theory does not refute the potential influence of these and many other background factors; it merely attempts to explain how and why these factors may influence some people's intention to drink yet not others.

Fishbein's explanation of the role of background or extraneous variables on behavior is perhaps one of the most often challenged aspects of the theory. Some investigators have commented that external variables can influence various types of intention (Bentler & Speckart, 1979; Brinberg, 1979; Chassin et al., 1981; Saltzer, 1981; Schwartz & Tessler, 1972; Stutzman & Green, 1982). More specifically, some research has shown that the extent of personal or prior experience with a given behavior can have a direct and independent influence on subsequent behavioral intentions (Godin & Shepard, 1986; Borgida & Campbell, 1982; Bagozzi, 1981; McCarty, 1981). In a study of the relationship between attitudes, intentions and behavior of blood donors, Bagozzi (1981) noted that "as habit increases, the performance of the behavior becomes less one of a rational evaluation of the consequences of the act and more of a learned response." (p. 625).

Alternatively, other studies have provided substantial support for Fishbein's stance regarding extraneous variables. Schlegel et al. (1977) undertook a comprehensive test of Fishbein's hypothesis within the context of Jessor and Jessor's (1975) multivariate predictive system for adolescent alcohol use and abuse. Data indicated that there was only a marginal increase in explained variance provided by the 33 exogeneous variables drawn from Jessor and Jessor's three multivariate systems; personality, perceived environment and behavior. Pomazal and Brown (1977) also found that while numerous 'drug motivational variables' were related to intentions to smoke marijuana, they were substantially mediated by the model's components.

Subsequent sections in this chapter will provide a critique concerning the basic assumptions and constructs embodied in the theory of reasoned action (TRA) in relation to the question of its applicability and sufficiency to predict male alcoholic treatment population's intention to drink.

### **The Applicability of TRA to an Alcoholic Population**

The TRA, as originally formulated, was explicitly designed to deal with behaviors (such as taking a drink, or exercising) and not outcomes or goals that may result from these behaviors (e.g., getting drunk or losing weight). Intentions to achieve certain goals or outcomes are not very reliable predictors of whether the person will achieve the outcome (e.g., to lose weight), since outcomes are not behaviors that are under an individual's control. Ajzen and Fishbein (1980) have made a distinction between behavior and behavioral outcomes, the latter being dependent on other factors as well as behavior.

The current study will test the sufficiency of the model to predict the behavioral intent to drink (behavior), not necessarily whether individual's will relapse (outcome) following treatment. In a review of 87 studies employing the Fishbein model, Sheppard et al. (1988) found that the intention measure was more accurate in the prediction of individual's behavior but less accurate in the prediction of their outcome or goal attainment.

## **Behavioral Intention**

According to the theory of reasoned action, the immediate antecedent of any behavior is the intention to perform the behavior in question. It is expected that the stronger a person's intention, the greater the likelihood that they will indeed decide to perform the behavior in question. Several researchers have challenged Fishbein's assertion that behavioral intentions are the immediate antecedents to behavior and the assertion that behavioral intentions mediate the effects of attitude and subjective norm (Katz, 1985; Stults & Meese, 1985; Wittenbraker et al., 1983; Gorsuch & Ortberg, 1983).

### **Factors Influencing the Behavioral Intention - Behavior Relationship**

According to Ajzen and Fishbein (1980), behavioral intentions are considered to be a necessary although not a sufficient, immediate cause of behavior. While it is assumed that a high correlation will exist between behavioral intention (BI) and actual behavior (B), several factors may affect the degree of correspondence. Fishbein and Ajzen (1975; 1980) have stated that the effect of intentions is contingent on three conditions, which when met make it both a necessary and sufficient cause of behavior.

### **Behavioral Criterion**

The first condition is that the measure of behavioral intention must correspond in its level of generality to the behavioral criterion. Fishbein and Jaccard (1973) suggest that a behavioral intention consists of four elements: an action, the object toward which the action is directed, the situation or context in which the action is performed and the time at or during which the action occurs. For example, to predict whether or not a person leaving treatment will have a drink (action) of alcohol (general target of action), in the next month (time frame) in any context, the measure of intention should be phrased specifically in terms of 'having a drink in the next month'. It has also been hypothesized that accurate predictions of BI and hence B are lowered when the

attitudinal and normative measures do not correspond on as many of these elements as possible. This hypothesis has received support (Fishbein, 1982; Bentler & Speckart, 1979) from studies including the prediction of adolescent's intention to drink, (Schlegel et al., 1977), drug use motivation (Pomazel & Brown, 1977) and family planning behavior (Davidson & Jaccard, 1979). Exceptions are found in Budd and Spencer's (1984) study of undergraduates intention to drink and in another study (1985) concerning the role of personal normative beliefs in TRA, both of which gave consistently low multiple correlations whether or not correspondent measures were used.

### **Stability of Intentions**

The second condition concerns the stability of intentions. Fishbein and Ajzen (1975; 1980) argue that because intentions are not always stable, present intentions are not always good predictors of future behavior. It is quite conceivable that intentions can change in the interval between the measurement of intentions and behavior and thereby reduce the accuracy of prediction. Therefore the time interval between the measurement of intentions and behavior should be minimized. Generally speaking, the more general the behavioral intention and the longer the time interval between the measure of intention and the actual behavior, the greater the probability that events will occur that produce changes in intentions, and therefore the lower the BI - B correlation will be. The impact of temporal instability on attitude-behavior consistency has been reported by three separate investigations (Norman, 1975; Schwartz, 1979; Kelley & Mirer, 1974).

### **Volitional Control**

The issue of volitional control is the third identified contingency condition effecting the BI-B correspondence. Fishbein and Ajzen (1975; Ajzen & Fishbein, 1980) argue that intentions only predict behavior which is under volitional control, defined as behavior which does not require skills, abilities, opportunities and the cooperation of others. It only requires motivation, ie., intention. Fishbein and Ajzen

(1975) initially claimed that "Since most behavior is under volitional control, most behaviors can be accurately predicted from an appropriate measure of the person's intention to perform the behavior in question". ( p. 380). According to Fishbein and Ajzen (1975) a behavior may be said to be completely under a person's control if the person can decide at will to perform it or not to perform it. Conversely, the more that performance of the behavior is contingent on the presence of appropriate opportunities or on possession of adequate resources (time, money, skills, cooperation of other people, etc.), the less the behavior is under volitional control.

The applicability of the theory of reasoned action to the prediction of alcoholics intention to drink may very well hinge on the issue of volitional control. Whether or not alcoholics intention to drink is viewed as being under volitional control is contingent on the theoretical stance one takes regarding this issue. The disease model would ultimately maintain that alcoholic drinking is not under voluntary control. In contrast, a social learning perspective would view the alcoholic's decision to drink as being under volitional control yet requiring a number of skills, resources and alternatives to drinking in order to exercise self-control to not drink (ie. thus under less volitional control).

### **Conflicting Views of Volitional Control**

The disease model of alcoholism asserts that addictive behaviors are based on underlying physical dependency. In this model, attention is focused on physiological predisposing factors, presumed to be genetically transmitted, as the underlying cause of addiction. The contemporary version of this model was introduced in the late 1940's by E. M. Jellink and his associates at the Yale Center for Alcohol Studies (Jellink, 1960). His position was given sanction in 1956 by the American Medical Association. Ironically however, there is a major paradox in the disease model concerning the very issue of control.

As Marlatt and Gordon (1985) observe,

On the one hand, the disease model assumes that the alcoholic is unable to exert control over drinking behavior because of the compelling influence of internal

physiological factors which underlie the addiction. On the other hand, the alcoholic is told (Catch-22) that the only way to curb the problem is to refrain from drinking, to maintain total abstinence for an indefinite period. Surely the intention or commitment to abstain is itself a form of control. On this basis, an individual can only exercise control while maintaining total abstinence from drinking; to relapse is to lose control. The disease model thereby produces a dichotomous restriction on the possible range of treatment outcomes: one is either abstinent (exerting control) or relapsed (losing control). (Marlatt and Gordon, 1985, p. 7)

This very paradox continues to exist in one of the most successful and largest self-help program for recovery. Alcoholics Anonymous openly endorses a disease model of alcoholism yet advocate that members surrender their personal control to a 'higher power' as their first step in the recovery process.

As Marlatt and Gordon (1985) suggest, adherents of the disease model often tend to ignore or downplay the influence of higher-order cognitive processes in the precipitation of a relapse, instead emphasizing the causative influence of internal states such as physical withdrawal, craving and subsequent loss of control. According to the disease theory of alcoholism, once a drink is taken, craving is increased and the physical demand for alcohol overrides any cognitive or voluntary control. Wilson (1987) notes however that the notion that alcohol in the blood stream itself precipitates involuntary drinking ('one drink, one drunk') has been disconfirmed by experimental research using the balanced placebo design (Engle & Williams, 1972; Marlatt, Demming & Reid, 1973). Laboratory research has been able to demonstrate that the only significant determinant of overall consumption of either alcoholic or non-alcoholic beverages and the subjects' later estimates of the alcohol content of their respective drinks, was the expectancy factor. Regardless of the actual alcohol content of the drinks, Marlatt et al. (1973) found that both alcoholics and social drinkers consumed significantly more beverage if they believed they were sampling drinks containing vodka. Lab experiments have supported the contention that people decide whether to

drink and how much based on the particular emotional effect they wish to achieve rather than being driven by internal compulsions based on body chemistry or withdrawal symptoms (Marlatt & Gordon, 1985; Peele, 1985). The mere belief that alcohol is being imbibed has been found to influence social, sexual and aggressive behavior (Abrams & Wilson, 1979; Lang, Goeckner, Adesso, & Marlatt, 1975; Wilson, 1977). Research also suggests that cognitive and environmental factors such as setting and context often exert greater influence on the outcome of drinking than the pharmacological or physical effects of the drug itself. (Marlatt & Rohsenow, 1980).

The disease model's overemphasis on internal physiological factors neglects the possibility that addictive behaviors are strongly influenced by the individual's expectations or anticipation of the desired effects of the activity. Today there is increasing recognition and research to support the contention that beliefs play an important role in the effects of drugs and in an individual's decision to use or not. Maisto, Connors and Sachs (1981) developed a working model of alcohol intoxication which utilizes the construct of expectation as the key process variable in drinking decisions. According to Maisto et al. "drinking is a volitional behavior that is purposeful" ( p. 13). Alcohol expectancies have been found to be related to both abusive and nonabusive drinking patterns (Brown, Goldman & Christiansen, 1985; Christiansen, Goldman & Brown, 1985), prediction of behavior while drinking (George & Marlatt, 1986; Rohsenow, 1983) and potential mediation of alcohol consumption decisions (Brown et al., 1980).

Cognitive behavioral theories which support a decision making view of alcohol use, represent a major shift from the classical disease model regarding the issue of control. Theories such as social learning theory (Abrams & Niaura, 1987), expectancy theory (Goldman et al., 1987) Marlatt and Gordon's (1985) model of relapse prevention and a motivational model of alcohol use (Cox & Klinger, 1988) all view drinking or not drinking as a choice individuals make as part of a decision making process. "Without denying the brain changes produced by extended use of alcohol (Parsons, Butters, & Nathan, 1987), the peculiarities of the appetitive systems that

subserve the pursuit of alcohol (Baker et al., 1987), or the inheritable individual differences in reaction to alcohol (Cloninger & Li, 1985), the decision view additionally insists that decisions to drink entail choices." (Cox & Klinger, 1988, p. 172). It should be noted though that the decision to drink is not always a conscious one. People are not necessarily aware either of having made the decision or of the factors that lead up to the decision.

Marlatt and Gordon's (1985) model of relapse is viewed by some (Abrams & Niaura, 1987) as being the most well articulated and comprehensive statement of a social learning theory of alcohol use and abuse.

The central assumption of Marlatt's model of relapse is that the individual has voluntarily made a choice to abstain or to control alcohol consumption. An individual must develop general and specific coping skills as alternative to drinking. The choice of abstaining or limiting intake leads to a sense of personal control over drinking and a growing mastery over those situations that may precipitate relapse (ie., "high-risk-for-relapse" situations). The presence of adequate alternative skills and the beliefs that one has sufficient mastery over these skills (self-efficacy expectations) to achieve the desired goals (outcome expectations) will determine whether alcohol or an alternative behavior is chosen. Relapse will occur if the perception of control and self-efficacy diminishes when an individual is confronted with a particularly difficult situation. If the individual is indeed able to cope with a high-risk situation without drinking then a sense of self-efficacy is enhanced. This results in a higher probability that an individual will resist drinking in future situations. (Abrams & Niaura, 1987, p. 169)

According to Marlatt and Gordon's (1985) model of relapse, decision making is an important cognitive process involved in both the habit-change process (i.e., the decision to quit drinking) and the "volitional breakdown" associated with relapse. Drawing on a conflict model of decision making (Janis & Mann, 1977; Mann & Janis, 1982), the act of deciding whether or not to drink can be viewed as a form of conflict resolution.

According to Marlatt and Gordon (1985), the decision process involved in deciding whether or not to resume drinking involves two critical conflicts.

The first (conflict) relates to the expected immediate and long-term gains and losses intrinsic to the alternative of either remaining abstinent or resuming the old behavior. Typically there is a conflict between the expected immediate gratification and the long-range negative health risks involved. ... The second conflict involves disapproval or blame from both the self and significant others that the individual expects as a result of the transgression. Fear of external social disapproval is likely to be most intense for those who have made a public commitment to change or where there is a high probability of being observed by significant others while performing the taboo act. (Marlatt & Gordon, 1985, p. 189)

Both these sources of conflict are assessed in the theory of reasoned action through the attitudinal (behavioral beliefs) and normative components (normative beliefs) respectively.

From a social learning viewpoint (Marlatt & Gordon, 1985; Abrams & Niaura, 1987), the decision to drink or not is ultimately determined by self-efficacy and outcome expectations formulated around a current situational context.

In order to not abuse alcohol an individual must 1) be able to judge in which settings drinking is appropriate; 2) have a rich enough and flexible repertoire of general and alcohol-specific coping skills to achieve desired goals without drinking at all or without drinking to excess; 3) have a full awareness of the long-term negative consequences of alcohol abuse to offset the short term powerful reinforcing effects of alcohol use (e.g., pleasure or reduction of aversive states). (Abrams & Niaura, 1987, p. 152)

While a social learning model of alcohol abuse portrays individual's as having volitional control over their decision to drink, it does not and should not be construed to

mean that individuals are responsible for or make a deliberate choice to abuse alcohol. Individual's are not responsible for, nor do they have any control over contributing factors such as whether or not their parents were alcoholics, whether their upbringing provided them with an opportunity to learn adequate coping skills, what their personal and biological capacity to tolerate stress is or the extent to which media, role models and culture helps to shape and distort their beliefs and expectations about what alcohol and drugs can do for them.

In terms of conditioning factors, an individual who acquires an addictive habit is no more to be held "responsible" for this behavior than one of Pavlov's dogs would be held responsible for salivating at the sound of a ringing bell. In addition to classical and operant conditioning factors, human drug use is also determined to a large extent by acquired expectancies and beliefs about drugs as an antidote to stress and anxiety. Social learning and modeling factors also exert a strong influence (e.g., drug use in the family and peer environment, along with the pervasive portrayal of drug use in advertising and the media). Just because a behavioral problem can be described as a learned habit pattern does not imply that the person is to be held responsible for the acquisition of the habit, nor that the individual is capable of exercising voluntary control over the behavior. (Marlatt and Gordon, 1985, p. 11)

Ajzen and Madden (1986) have stated that the theory of reasoned action, which designates intention as the sole predictor of behavior, will be insufficient whenever control over the behavioral goal is incomplete. From the perspective of cognitive behavioral theories discussed in this section, it appears that the intention of alcoholics to drink falls somewhere on a continuum between volitional and involitional behavior. Many factors can interfere with control over intended behavior, some internal to the person and others external. Marlatt (1979) summarizes the key factors that may precipitate the reoccurrence of excessive drinking as follows: (1) the degree to which the drinker feels controlled by or helpless relative to the influence of others; (2) the individual's view of the self in relation to the environmental events that are perceived

as beyond personal control (i.e., low self-efficacy) in the face of the demands of everyday life, including feelings of powerlessness, fatalism and learned helplessness; (3) the availability of adequate alternative coping responses to drinking, both general and specific; (5) the drinker's expectations about the effects of alcohol as a method of coping.

Several authors have questioned whether it is even conceptually possible to distinguish between volitional and involitional behavior (Sheppard et al., 1988; Liska, 1984). Ajzen and Madden (1986) propose that behavioral control can be best viewed as a continuum. On one extreme are "behaviors that encounter few if any problems of control, while on the other extreme are behaviors or behavioral events over which we have relatively little control. While most behavior falls somewhere in between these two extremes, the problems of control are more readily apparent when people try to overcome such powerful habits as smoking or drinking". (p. 456). Sheppard et al. (1988) suggests that by viewing behavioral control on a continuum, it becomes more significant to realize that there may be variations in intention relative to the variations in resources i.e., skills, abilities, opportunities, social cooperation).

### **Perceived Behavioral Control and Self-Efficacy**

In response to the problems and debate raised by the issue of volitional control, Ajzen (Ajzen, 1985; Schifter & Ajzen, 1985) proposed the theory of planned behavior, which extends the theory of reasoned action to include a construct termed perceived behavioral control.

According to the theory of planned behavior, among the beliefs that ultimately determine intention and action is a set that deals with the presence or absence of requisite resources and opportunities. The more resources and opportunities individuals think they possess, and the fewer obstacles or impediments they anticipate, the greater should be their perceived control over the behavior. As in the case of behavioral and normative beliefs, it is possible to separate out these

control beliefs and treat them as partly independent determinants of behavior. Just as beliefs concerning consequences of the behavior are viewed as determining attitudes, and normative beliefs are viewed as determining norms, so beliefs about resources and opportunities may be viewed as underlying perceived behavioral control. (Ajzen & Madden, 1986, p. 457)

The concept of perceived behavioral control most resembles Bandura's (1977, 1982) concept of self-efficacy beliefs. Bandura and his associates (Bandura, Adams, & Beyer, 1977; Bandura, Adams, Hardy, & Howell, 1980) have provided strong evidence showing that people's behavior is strongly influenced by their confidence in their ability to perform it. Previous research has shown that self-efficacy is an important predictor of intention (Sutton & Eiser, 1984; Prentice-Dunn & Jacobs, 1986; Godin, Shepperd, & Colantonio, 1986; McCaul, O'Neill, & Glasgow, 1988) and that self-efficacy can moderate the degree of intention-behavior consistency (Saltzer, 1978; Mullen et al., 1987).

It is assumed by Ajzen and Madden (1986) that perceived behavioral control has motivational implications for intentions. "People who believe that they have neither the resources or opportunities to perform a certain behavior are unlikely to form a strong behavioral intention to engage in it even if they hold favorable attitudes toward the behavior and believe that important others would approve of their performing the behavior." (p. 457-458) .

Resources and opportunities which have frequently been found to have a bearing on alcoholics treatment outcome are coping skills (Cooper & Russell, 1988), social support (Brown, 1985), and availability or strength of nonchemical incentives in an alcoholics life (Marlatt & Gordon, 1985; Cox & Klinger, 1988).

. . . if a person does not have satisfying positive incentives to pursue or is not making satisfactory progress toward reaching goals that will produce positive incentives, weight will be added to the person's expectations that he or she can better enhance positive affect by drinking. Insofar as a person's life is burdened

by noxious elements or he or she is making unsatisfactory progress toward removing these elements, weight will be added to that person's expectations that he or she can better counteract negative affect by drinking. (Cox & Klinger, 1988, p. 174)

There also is evidence that alcoholic's positive and negative incentives are strong determinants of their decision to drink. In a review of a variety of determinants of relapse, Tucker, Vuchinich, and Harris (1985) found that alcoholics who do not return to drinking following formal treatment have more positive changes and fewer negative changes in various aspects of their lives. Valliant (1983) found that abstinent alcoholics most frequently attributed having developed substitute activities as the reason for them being able to alter their drinking. Similarly, Perri (1985) found that what distinguished serious problem drinkers who eventually recovered from those that did not was the development of some form of alternative, satisfying behavior to take the place of drinking.

In Marlatt and Gordon's (1985) model of relapse, it is postulated that individuals with high self-efficacy about their ability to avoid relapse are more likely to utilize coping responses and less likely to relapse than patients with low self-efficacy.

The presence of adequate alternative skills and the beliefs that one has sufficient mastery over these skills (self-efficacy expectations) to achieve the desired goals (outcome expectations) will determine whether alcohol or an alternative behavior is chosen. Relapse will occur if the perception of control and self-efficacy diminishes when an individual is confronted with a particularly difficult situation. If the individual is indeed able to cope with a high-risk situation without drinking then a sense of self-efficacy is enhanced. This results in a higher probability that an individual will resist drinking in future situations. By contrast, a lack of alternative coping skills, or low self-efficacy expectations, will result in a negative, vicious circle in which loss of confidence leads to alcohol use and than subsequent abuse. (Abrams & Niaura, 1987, p. 169-170).

To date, much of the research on the role of self-efficacy in predicting successful quit attempts or relapse has been done with smokers. In general, it has been found that the self-efficacy of smokers who quit will increase over the course of treatment and during the maintenance phase is predictive of successful outcomes (Baer, Holt & Lichtenstein, 1986; Collette, Supnick, & Payne, 1985; Condiotte & Lichtenstein, 1981; DiClemente, Prochaska, & Gibertini, 1985; Yates & Thain, 1985). Despite Marlatt's proposition about the role of self-efficacy in the relapse process, there has been very little research addressing this question with inpatient alcohol or drug abusers (Rollnick & Heather, 1982; Burling et al., 1989). Of particular interest to the current study is Burling's (1989) study of male substance abuse inpatients in a residential treatment center. Monthly inpatient ratings of self-efficacy to avoid drug and alcohol abuse were examined in relationship to outcomes six months following discharge. While it was found that self-efficacy was higher among abstainers than relapsers, contrary to expectations and the smoking literature, self-efficacy ratings at the end of treatment were not related to substance abuse at followup. Lower self-efficacy at intake was related to longer inpatient stays and more positive treatment outcome. The authors speculated that the latter finding may be due to the fact that residential treatment populations may present a unique challenge in interpreting results with respect to the validity and/or reliability of their self-efficacy ratings.

From a clinical and research point of view, Ajzen's (1985) 'perceived behavioral control' construct may be superior to other self-efficacy instruments in that it provides critical information concerning what is blocking or preventing people from feeling confident they can execute necessary behaviors in certain situations. Ajzen and Madden (1986) operationalize perceived behavioral control by measuring two sets of beliefs. The first set measures the perceived frequency of occurrence of (10) factors which could prevent individuals from performing the behavior. The second measure consisted of three questions all assessing a single underlying dimension; namely the degree to which individual's felt in control of being able to achieve the behavioral goal. The Situational Confidence Questionnaire (Annis, 1982) on the other hand, only assess individual's perceived confidence to handle situations without substance use.

Respondents are asked to estimate on a 0 - 100% rating scale their confidence in their ability to avoid relapse in each of 100 'high-risk' situations.

In the context of the present study, perceived behavioral control would add little to the predictive validity of TRA since the actual degree of volitional control in 'having a drink' is considered to be relatively high. If however, the theory of reasoned action were applied to the prediction of alcoholics intention to not drink in the next month, it is proposed that an addition of the perceived behavioral control construct would greatly enhance the models predictive capacity. To date however, the TRA has almost exclusively been used to predict the intention to use versus not use an addictive substance. Only one study reviewed examined the intention to not perform a behavior. (Godin & Lepage, 1988). In this study, variables drawn from the theories of Ajzen and Fishbein (1980), Triandis (1977) and Bandura (1977) were used in a questionnaire to identify the factors that may influence the decision to not smoke. Three variables were found to equally contribute to nullipara's intention to not smoke following childbirth; perceived self-efficacy, smoking habits during pregnancy, and attitude.

The results of this study suggest that knowledge of perceived consequences of a behavior (attitude) is insufficient to predict intentions and adds support to the suggestion that self-efficacy (i.e., perceived behavioral control) would significantly add to the prediction of alcoholic's intention to not drink.

In the TRA there is no inclusion of an evaluative component examining the expected payoff or consequences of not doing the behavior in question. It is possible that individual's continue or return to drinking because they want to avoid or escape the consequences of not drinking (eg., withdrawal, coping with family or employment consequences of drinking). Beach's ( Holmstrom & Beach, 1973; Beach, Townes, Campbell & Kleating, 1976) adaptation of the general subjective expected utility model (Edwards, 1961) explicitly views each behavioral choice as a decision between doing and not doing a behavior and develops a score for each. Pagel and Davidson (1984) investigated whether or not the two component modeling of the decision process in Beach's model more accurately represented subject's behavior. The TRA and Beach

models each made accurate prediction of intention to use three different types of contraception in 84% of the cases and their conclusion was that no clear pattern of predictive superiority existed between the two models.

Fishbein and Ajzen (1980) themselves have argued that not considering the possibility of choosing among alternative behaviors represents a serious omission in the model. Not only are there consequences to be considered in deciding to drink or not, but the decision to not drink would entail considering and choosing to perform some alternative coping response or action. According to Fishbein and Ajzen (1975), the thoughts and feelings toward alternative behavior, if they have any influence at all, influence performance only through their effect on individual's attitudes and subjective norms toward the particular behavior of interest. In an examination of the intention-performance relationship in studies involving no choice or choice situations, Sheppard et al. (1988) concluded the following:

Concerning individuals' intention and performance, Fishbein and Ajzen's original theory appears to hold. In this model, other alternatives, if they have any influence at all, influence intention and behavior through their prior influence on the particular attitudes and subjective norms that a person holds. An individual's intention to perform some alternative is formed solely on the basis of his/her attitude and subjective norm toward that alternative alone. His/her performance of the alternative is determined solely by his/her intention to perform that single alternative. (Sheppard et al., 1988, p. 338 ).

### **Improving the Predictive Capacity of Intention**

Several studies which have applied the TRA to drug use intentions and other behaviors, have examined the effect of adding additional variables to those proposed in the original model.

Schlegel et al. (1977) found that adding 33 distal variables from Jessor and Jessor's (1975) predictive system of adolescent alcohol use only accounted for an

additional 7-8% of the variance in intentions. Chassin, Presson, Olshavsky, Bensonberg and Sherman (1981) used 17 of Jessor's variables and found that they increased the explained variance in intentions by less than 5% except among the regular smokers where the increase was 12-15%. Pomazel and Brown (1977) included a measure of what they call 'moral norm', that is, the extent to which the person feels morally obliged to do (or not do) the behavior in question. This increased the variance explained in intention over and above that due to Aact and SN by 5%. Budd and Spencer (1984, 1985) used a similar measure (which they refer to as 'ideal behavioral intention') and again found a significant increase in the prediction of intention. Previous research has suggested that factors such as moral obligation or whether or not the statement of intention was private or public has an impact on the strength of the relationship between intention and behavior (Stults & Messe, 1985). In examining the limits of self-reports and tax evasion behavior, Hessing, Effers & Weigel (1988) suggested that the theory of reasoned action may not extend to the domain of socially prescribed behaviors where self-presentation concerns are likely to prompt both misrepresentations of past behavior and reports of attitudes and perceived norms consistent with those misrepresentations.

Another variable, 'personal normative belief' was initially included as a third component in the TRA model (Ajzen & Fishbein, 1975), but was later abandoned. The construct was used to assess whether subjects felt it likely or unlikely that they should perform the behavior in question. Schwartz and Tessler (1972) changed the operationalization of the PNB, with emphasis on the moral obligation aspect. There have been several studies to support their findings that PNB adds significant independent variation to the prediction of BI over and above attitudes and norms (Davidson, Jaccard, Triandis, Morales & Diazguerrero, 1976; Gorusuch & Ortberg, 1983; Jaccard & Davidson, 1972; Pomazel & Jaccard, 1976; Zuckerman & Reis, 1978). In an examination of the intentions to use three different methods of contraception, Pagel and Davidson (1984) found that subject's personal normative beliefs emerged as a strong independent predictor of behavioral plans. The significance of personal normative belief to the decision to drink may only be relevant in contexts where

cultural, societal, or religious factors exert a strong moral influence on the decision making process. In the case of marijuana or other hard drug use, personal normative beliefs may justifiably warrant inclusion in the TRA in view of the potential social or legal censure involved in the decision to use.

### **The Influence of Past Behavior on Intention**

One of the strongest criticisms of the TRA is that it ignores the role of past or current behavior in understanding current and future behavior. This claim is particularly relevant in the context of addictive behaviors where the habitual and addictive nature of use plays such an integral role in consumption; a role which may be only partially mediated or under the control of cognitive factors.

Several studies of drug and alcohol use were able to increase the predictability of intention by adding a measure of past or current use (Pomazal & Brown, 1977; Budd & Spencer, 1985; Bentler & Speckart, 1979; Schlegel et al., 1977; Mullen et al., 1987) or direct experience with the substance in question (Sherman et al., 1982). Budd and Spencer (1985) found that a rating of drinking frequency increased the variance explained in intention to drink 'beer in bars' from 17% to 43%.

According to the TRA model (Fishbein, 1975), past behavior would be viewed as affecting behavior indirectly and only through its influence on attitude and/or subjective norm. However, Bentler and Speckart (1979, 1981) extended Fishbein's model and were able to show that the inclusion of a self-report measure of past behavior significantly improved the model's prediction of behavioral intentions and left little unexplained variance. In their study of alcohol, marijuana and hard drug use, Bentler and Speckart (1979) found that attitudes and past behavior accounted for a highly significant degree of variability in drug consumption that was not accounted for by intention. The effect of past behavior was at least as large as the effect of intention on behavior, suggesting that behaviors are partly under the control of intentions and partly habitual. They also found, contrary to Fishbein and Ajzen's model, that the effect of

attitude on behavior was only partly mediated by intentions. Though the Bentler and Speckart (1979) study showed substantial independent effects of past behavior (frequency of alcohol or drug use in the past two weeks) on intentions two weeks later, this study has been frequently criticized for its failure to measure the attitudinal and normative structures as prescribed by Fishbein and for its reliance on self-report measures of past behavior. Fredericks and Dossett (1983) and Budd et al. (1984) were able to correct for these problems and added support for Bentler's finding that prior behavior has direct effects on both subsequent behavior and behavioral intention. Bagozzi (1981) also found that prior behavior contributes to the prediction of future behavior over and above the effect it has on variables specified in the theory of reasoned action.

However, the degree to which past or current behavior will directly influence behavior may be largely a function of the target group being studied and the behavioral criterion under investigation. For example, measures of past behavior have been found to be relevant in predicting intentions pertaining to seat belt use (Budd et al., 1984), the intention to breastfeed (Manstead, 1984), blood donation behavior (Bagozzi, 1981), help seeking behavior (Halgin et al., 1987), smoking intentions of adolescents who had not smoked in the past month (Presson et al., 1982; Sherman et al., 1982), and the prediction of alcohol, marijuana, and hard drug use among college students. However in relation to an alcoholic treatment population's intentions, there is evidence that Fishbein's original stance on past behavior is valid. Past drinking experience (as measured by quantity and frequency of consumption) appears to influence future drinking intentions indirectly through its influence on expectancies (or behavioral beliefs) about the reinforcing consequences. It has been found that expectancies relate differentially to the quantity and frequency of alcohol consumption (Mooney, Kivlahan & Marlatt 1987), by phase of intoxication and drinking experience (Southwick, Steele, Marlatt & Lindall, 1981) and can differentiate between (male) alcoholics, problem drinkers and nonproblem drinkers (Connors, O'Farrell, Cutter & Thompson, 1986). Southwick et al., (1981) found that among abstainers, occasional, light/moderate and heavy drinkers, alcohol expectancies were systemically related to drinking experience

and by phase of intoxication. Brown, Goldman and Christiansen (1985) compared the expectancies of alcoholics in treatment programs to hospitalized medical patients and college students and concluded that expectancies clearly mediate the drinking patterns of adults. Similarly, Zaratello (1986) found that there is a strong relationship between alcohol expectancies and drinking patterns among clinical samples of alcoholics.

Ajzen and Madden (1986) found that the inclusion of the construct 'perceived behavioral control' had a strong effect on intentions, an effect not mediated by attitude and subjective norm, and not dependent on the influence of past behavior. "Beliefs about behavioral control may be influenced by past experience with the behavior, but it is also influenced by factors such as second-hand information about the behavior, by the experiences of friends and acquaintances and friends, and by other factors that increase or reduce the perceived difficulty of performing the behavior in question." (p. 457). Based on the findings of Ajzen and Madden (1986), it is proposed that perceived behavioral control would carry significantly more predictive weight in determining alcoholic's intention to not drink than would their drinking behavior prior to entering treatment. Logically too, if a measure of past frequency and quantity of drinking were to directly influence future intentions, there would be no abstinent individuals following treatment.

### **Attitudinal and Normative Constructs of the TRA**

According to TRA, there are two major determinants of behavioral intention; a personal or attitudinal component and a social or normative component. Each construct is operationalized using an expectancy-value formulation. A number of expectancy-value formulations of human behavior and decision making have been applied to health and addictive behaviors with varying degrees of success and predictive utility. Most notably these theories include the health locus of control (Wallston & Wallston, 1976; Wallston, Kaplan, Maides & DeVeillis, 1978), the health belief model (Rosenstark, 1974; Becker & Maiman, 1975) and problem-behavior theory (Jessor & Jessor, 1977; Jessor, Hanson & Jessor, 1968).

## **Attitude**

The attitudinal component is defined as simply a person's general degree feeling of favorableness or unfavorableness for the behavior or object in question. Attitude toward a behavior thus translates into a person's judgement that performing the behavior is good or bad; whether he or she is in favor of or against performing the behavior. In the TRA, attitude refers to the individual's own performance of the behavior rather than the general performance or someone else's performance of the behavior.

Fishbein and Ajzen (1975) maintain that a unidimensional and evaluative measure of attitude is adequate for the purposes of the TRA model and that evaluation is the most crucial aspect of attitude to be measured. Fishbein suggests that attitudes be viewed as overall evaluations and that they be measured by a procedure which locates respondents on a bipolar evaluative dimension. A single attitude score is derived from summing the scores from questions concerning the possible consequences and their perceived likelihood of occurrence using the semantic differential scale.

The measurement of attitude towards the performance of a behavior must correspond to the intention in action, target, context and time elements just as intention must correspond to the behavioral criterion.

## **Behavioral Beliefs and Expectancies**

An individual's attitude toward the performance of a given behavior is viewed to be the function of the perceived likelihood (or belief strength) that certain consequences will result as a function of performing the behavior, multiplied by the value of these consequences to the individual. Thus according to TRA, a person's attitude toward a particular behavior can be predicted by multiplying their evaluation of each of the behavior's consequences by the strength of their beliefs that performing the behavior will lead to that consequence and then summing the products for the total set of beliefs.

Beliefs concerning the consequences of performing a certain behavior are termed behavioral beliefs in the TRA and are synonymous with the term expectancies used in social learning and expectancy theory.

In cognitive behavioral theories of drinking, behavioral beliefs or expectancies as they will be referred to here after, are viewed as playing a significant role in the development of maladaptive drinking patterns (Donovan & O'Leary, 1979; Marlatt, 1976; Donovan & Marlatt, 1980). Cognitive capacities such as anticipation, expectancy, memory of previous use and modelling play a primary and mediating function in the determinants of drinking behavior, including the initiation, continuance and possible abuse of alcohol. Cognitive factors have been implicated in the drinking patterns of adolescents and adults both in terms of the purported reasons for drinking (Bry, McKeon, & Pandina, 1982; Sadava, 1975) and the anticipated effects of drinking (Brown et al., 1980; Christiansen et al., 1982). Expectancies specifically, have been found to contribute a great deal to the understanding of alcohol use. Research has shown expectancies to be related to both abusive and non-abusive drinking patterns (Brown et al., 1985; Christiansen, Goldman & Brown, 1985), prediction of behavior while drinking (George & Marlatt, 1986; Rohsenow, 1983), the potential mediation of alcohol consumption decisions (Brown et al., 1980, Goldman et al., 1987; Marlatt & Rohsenow, 1980), as well as the prediction of future drinking (Brown, 1985). Of particular relevance to this study is the finding that alcohol expectancies have been found to be correlated with participation and progress in alcoholism treatment programs, and prognostics ratings of short-term and long-term success following alcoholism treatment (Brown & Goldman, 1981)

Cognitive behavioral theories posit that an individual's expectancies about the effectiveness of alcohol consumption as a coping response to anxiety producing or stressful situations may increase the probability of drinking. According to Marlatt and Gordon's (1985) cognitive behavioral model of relapse, when an abstinent person encounters a high risk situation.

If the person does not or can not perform an adequate coping response . . . we predict an immediate decrease in self-efficacy, a concomitant increase in feelings of helplessness, and a tendency to 'give in' to the situation. In addition, the temptation to relapse will grow stronger if the person has positive outcome expectancies about the indulgent behavior's effectiveness as a coping response. (Cummings et al., 1980, p. 299 ).

Key factors which may precipitate the reoccurrence of excessive drinking have been summarized by Marlatt (1979) as follows: (1) the degree to which the drinker feels controlled by or helpless relative to the influence of others; (2) the individual's view of the self in relation to the environmental events that are perceived as beyond personal control (i.e., low self-efficacy) in the face of the demands of everyday life, including feelings of powerlessness, fatalism and learned helplessness; (3) the availability of adequate alternative coping responses to drinking, both general and specific; (5) the drinker's expectations about the effects of alcohol as a method of coping. Those with positive expectations of outcome will be more likely to drink. (Abrams & Niaura, 1987, p.168)

Cooper and Russell (1988) empirically tested a comprehensive social learning model of alcohol abuse. The model postulated that alcohol abuse could be predicted from a causal chain that includes alcohol consumption and 'drinking to cope' as proximal determinants and general coping skills and positive alcohol expectancies as more distal determinants. Drinking to cope emerged as the most powerful predictor, exerting influence via direct and indirect pathways. Coping styles indicative of avoidance of emotion emerged as more important predictors of abuse than problem focused coping. Alcohol expectancies were found to moderate the predictive value of coping in that avoidant styles of coping with emotion were predictive of abuse status only among drinkers expressing a greater belief in alcohol's positive reinforcing properties.

A limited number of studies have tested the predictive capacity of expectancies to predict future drinking habits (Brown, Berger & Barry, 1984; Brown, 1983, 1985;

Christiansen et al., 1989; Jackson & Matthews, 1988; Christiansen, Goldman & Brown, 1985; Brown, 1985). Among adolescents, expectancies were found to be predictive of differential patterns of drinking and when compared to demographic/background variables, alcohol related expectancies were "at least equalled and even added to the predictive power of background variables." (Christiansen & Goldman, 1983). Among college students, Brown (1983) found that expectancies added to the predictive power of traditional background demographics in identifying drinking styles. For subjects with reported heavy drinking patterns, the expectancy of tension reduction was second only to sex of the subject as a predictor. In another study, (Brown, Berger & Barry, 1984; Brown, 1985) expectancies were compared to traditional predictors of treatment outcome for effectiveness in predicting abstinence amongst males who had gone through an alcohol treatment program. The one year followup results showed that low levels of stress, higher levels of social support, and living with family members were the best predictors of abstinence, accounting for 55% of the variance of the outcome measure. There was however a significant negative correlation of year-long abstinence with the total reinforcement expectancy score and overall abstinence was best predicted by lower expectancies of relaxation/tension reduction from alcohol consumption. The results of this study support Marlatt's view that in the presence of stressful or nonsupportive environments, poor or inadequate coping skills and strong alcohol reinforcement expectancies, alcoholics are at particular risk of returning to drinking.

To understand how cognition processes mediate the influence of alcohol on affect, Wilson (1987) suggests that it is necessary to consider them in the context of the amount consumed, the person's previous experience with alcohol, individual differences concerning physiological responsiveness to alcohol, learned expectations about alcohol and its effects, and the social settings in which the drinking occurs. Applications of expectancy theory to the study of alcohol use and abuse have revealed that expectancies vary according to the age group (Christiansen, Goldman & Inn, 1982; Christiansen & Goldman, 1983), gender (Brown et al., 1980; Brown, 1983; Rohsenow, 1983), type of beverage (Lindman & Lang, 1986), the context of drinking

(Brown et al., 1985; Cutter & O'Farrell, 1984), according to phase of intoxication (Southwick et al., 1981; Tamerin, Weiner & Mendelson, 1970), for self versus others (Rohsenow, 1983) and for alcoholics versus other classifications of drinkers (Brown et al., 1980; Brown, Goldman & Christiansen, 1985; Brown 1985; Brown, Christiansen & Goldman, 1987; Roizen, 1983; Rohsenow, 1983; Southwick et al., 1981; McCarty et al., 1983, Zarantonello, 1986; Connors, O'Farrell, Cutter & Thompson, 1986)

It is quite conceivable that people will have both positive and negative consequences associated with the performance of a given behavior. Therefore, their attitude toward the behavior will correspond to degree of favorability or unfavorability of the total set of consequences, each weighted by the strength of the person's beliefs that performing the behavior will lead to each of the consequences. Individuals who tend toward heavier alcohol use or those classified as alcoholics have been found to expect a significantly greater percentage of positive experiences as a result (Battistich & Zucker, 1980; Critchlow, 1987; Connors et al., 1986; Zarantonello, 1986; Brown, Goldman and Christiansen, 1985) and show much less expectation for negative reinforcement (Farber, Khavari, & Douglas, 1980). In Marlatt's (1976, 1984), expectancy model of addiction, it is postulated that people learn to expect short-term positive consequences from drinking. The increase in physiological arousal in the first phase of the biphasic reaction is said to form the basis for these positive expectations. Alcohol also forestalls negative affect because it blocks the memory of aversive consequences of excessive consumption. Alcohol frees the individual from the inhibitory effect of past negative experience and thereby reduces the outcome expectation of negative consequences of excessive consumption. (Wilson, 1987, p. 346)

The fact that alcoholics have been found to expect more positive expectancies can be explained by a number of factors. Drinking can transform negative to positive feelings rather than to reduce negative affect. This positive expectation will interact with the degree of perceived stress and other available coping responses to determine how much drinking will occur. Alcohol is known to impair memory and this may help to

account for why alcoholics hold positive expectations of drinking even when their actual experiences are negative (Tamerin et al., 1970; Wilson, 1978). Alcoholics will initiate drinking despite the expectation of possible long-term negative consequences, not in lieu of them. As Marlatt (1984) puts it:

Freed from the pressures of past painful memories and the anxious anticipation of future negative consequences, the heavy drinker experiences a narrowing of attention to the 'here and now' ... an increased responsiveness to immediate external cues to the exclusion of other past or future events. (Wilson, 1987, p. 436)

Not all alcoholics have the same expectancy set regarding alcohol. Both quantity and frequency of consumption and social/physical context of drinking have been found to be differentially related to the expectancy patterns of alcoholics; an effect which cannot be solely attributed to the pharmacological effects of the drug. Research has demonstrated a relationship between expectancies and consumption patterns (Mooney, 1987; Brown, Goldman & Christiansen, 1985) as well as the context of drinking. Brown (1985) found that among men and women alcoholics, the reinforcing experiences associated with alcohol varied significantly with the social features of habitual drinking. The findings suggest that the more impersonal the social context of drinking, the more likely it is that alcoholics will attribute strong reinforcement characteristics to alcohol, whereas alcoholics who habitually drink in the context of family members view alcohol in less positive terms. Similarly, Brown (1983) found that adult alcoholics who typically drank at home or with family members expect less reinforcement from alcohol than alcoholics drinking in all other contexts (e.g., with friends, alone or with acquaintances at parties, in bars or other places). Also, alcoholics with the most abusive drinking patterns maintain the strongest beliefs regarding alcohol's power to produce global transformations of experience and improve assertiveness. Interestingly enough it was found that alcohol reinforcement did not vary as a function of the physical context of drinking, raising the possibility that social stimuli may be more salient or more directly tied to the reinforcing features of drinking behavior than physical features of the environment (Brown, 1985). Alcohol

expectancies also have been found to be related to drinking patterns as defined by quantity and frequency of consumption (Mooney et al., 1987; Brown, 1983). In general, alcoholics moderating their consumption either in terms of frequency (2-4 times per week) or quantity (up to 6 ounces of alcohol) attributed the most reinforcement to alcohol. Individuals who drank 2-4 times per week in excessive quantities differed from other classifications of drinkers in that they expected more social and physical pleasure from drinking. In addition, binge drinkers acknowledged less socially assertive interaction changes than any other subgroup in the study.

The vast majority of research on alcohol expectancies in the past decade has utilized the Alcohol Expectancy Questionnaire (A.E.Q.) developed by Sandra Brown (Brown, 1980; Brown et al., 1987). Both the adolescent and the adult forms of this instrument are designed to measure the degree to which individuals expect alcohol to produce a variety of general and specific effects. The 90 item questionnaire examines whether alcohol in moderate quantities (e.g., 'a few drinks' or 'a couple of drinks') produces a specific effect under six different domains: 1) global positive changes, 2) sexual enhancement, 3) physical and social pleasure, 4) increased social assertiveness, 5) relaxation and tension reduction and 6) arousal and aggression. There are some major differences between this expectancy questionnaire and the way in which behavioral beliefs or expectancies are measured according to the TRA. The most significant difference is that the A.E.Q. consists of 90 items, all of which are positive consequences, presented in a true-false response format. In contrast, Fishbein maintains that only salient beliefs of the target population, including positive and negative consequences, should be used in the development of a TRA questionnaire. The TRA's use of a bi-polar Lickert scale versus a true-false format permits a much more sensitive measure of a person's perception of how likely the effect would occur. In addition, the Lickert scale allows one to separately analyze each effect and assess a person's degree of certainty for each effect. Finally, the A.E.Q. only assesses the perceived likelihood that a given consequence would occur; it does not measure evaluation of desirability which is critical information concerning motivation to perform a given behavior. Both subjective expected utility and social learning theory

consider the performance of a behavior to be a function of the perceived likelihood of consequences occurring and the value or desirability attached to these consequences.

An expectancy-value model of attitude serves to provide further insight into why traditional unidimensional measures of attitude have failed to correspond to behavior, and perhaps more importantly why efforts directed towards attitude change do not always result in behavioral change.

It is apparent that two individuals who associate the same set of consequences with performing a given behavior may hold different attitudes toward the behavior if they evaluate the consequences differently or if the strength of their beliefs differs. By the same token, people who have different sets of salient behavioral beliefs (ie. who associate different consequences with performing the behavior) may nevertheless have the same attitudes.

A related implication is that one or more of a person's beliefs can change and yet his attitude may remain the same. For example, even though one salient belief may be replaced by another, they may both have the same belief strength and evaluation. Alternatively, two beliefs might change simultaneously, with the net result being no change in attitude. (Fishbein et al., 1980, p. 67)

Research has indicated that it is possible to differentiate and learn more about those who do or do not intend to perform a particular behavior by analyzing the differences in their attitudinal and normative belief structures. (McCarty et al., 1983; Godin & Shephard, 1986; Pomoza & Brown, 1977; Bagozzi, 1981; Beck, 1981).

Thus, it has been suggested that the real significance of Fishbein's expectancy-value model of attitudes rests in its implications for behavioral change (McCarty, 1981). If, as hypothesized, behavior is a function of behavioral intentions, then the latter may be changed in the desired direction by facilitating changes in either the related attitudinal or normative component (depending on which one has proven to be more

influential for a given target behavior and population). For example, if the attitudinal component was found to contribute a significant influence on the behavioral intention of alcoholics to drink following a residential treatment program, then educational and counselling efforts should address critical aspects of the underlying belief structure. Favorable attitudes towards a return to drinking could be altered by either i) changing beliefs regarding the consequences ii) changing the evaluation of the consequences from positive to negative or vice versa or iii) introducing new beliefs and evaluations of the consequences of drinking.

There is considerable evidence to support the expectancy-value model of the relationship between beliefs and i) attitudes toward an object (Anderson & Fishbein, 1965; Fishbein, 1963; Kaplan & Fishbein, 1969) and ii) attitudes towards the performance of a behavior (Ajzen & Fishbein, 1973; Jaccard, 1981). This expectancy-value conceptualization of attitude also corresponds to a number of other theoretical formulations including social learning theory (Rotter, 1966; Peak, 1955; Rosenberg, 1956, 1965; Bandura, 1985) and subjective expected utility theory (Edwards, 1961).

There also is considerable evidence to demonstrate that beliefs and attitudes are related, with correlations ranging from .60 to .80 (Fishbein & Ajzen, 1975). However, there is some debate as to whether or not beliefs affect behavioral intentions and behavior independently of the effect of attitude. Research by Schlegel and DiTecco (1982) and by Bagozzi and Burnkrant (1979) suggests that they do; and research by Rosenberg (1968) and Norman (1975) suggests that the effect of attitude on behavior may be contingent on attitude-belief consistency.

The Fishbein/Ajzen model views attitude formation and change as a product of information processing; the information value of beliefs is thought to be processed into an affective evaluative dimension. Yet, as information processing takes time, changes in attitudes may lag behind changes in beliefs, perhaps in some cases by months or even years; in the meantime both beliefs and attitudes may independently influence intentions and behavior. (Liska, 1984, p.66)

The work of Bagozzi and Burnkrant (1979) and that of Schlegel and DiTecco (1982) suggests that belief structures are frequently too complex to be completely captured in an affective evaluative dimension, and that these beliefs also influence intentions and behavior.

Triandis (1977) argues that attitudes are not just the product of information processing. They are also the product of classical and operant conditioning. Thus it is possible that attitudes and beliefs may vary independently and may independently affect intentions and behavior.

### **Subjective Norm**

Subjective expected utility theory (SEU) (Edwards, 1954, 1961) has formed the basis for many expectancy models, including TRA. Where the TRA does depart from the traditional SEU approach is that it incorporates a separate normative component. In the SEU approach, normative aspects of behavior would be regarded simply in terms of the rewards and costs that accrue from performing it. For example, the anticipated approval from one's spouse for abstaining from drinking would be regarded as just another reward (or cost) involved in making the decision to not drink.

The normative component of TRA deals with the influence of the social environment on intention, though this influence may not necessarily be present in the immediate social context. In departure from the traditional sociological definition of 'norm', the normative component of Fishbein's model refers to the individual's beliefs regarding whether those referents who are important to him or her think that he or she should perform a given behavior. A person's subjective norm for a behavior may be determined by first obtaining such normative beliefs from the individual concerning each relevant referent, then multiplying each belief score by the motivation to comply with the given referent, and finally summing these products across all relevant referents.

Both the attitude and normative components are assigned weights via a multiple regression analysis, indicating their relative importance in determining intention. The relative weights may vary from one behavior to another, as well as from one target population to another for the same behavior.

### Theoretical Issues and Criticisms of the TRA

#### **Mediating Influence of Intentions**

According to TRA, intentions mediate the effect of attitudes on behavior. The considerable research generated by this contention appears to be equivocal on both sides of the issue. Katz (1985) used path analysis to test the assertion that behavior intentions are the immediate antecedents to behavior. The contention that intentions mediate the effects of attitude and subjective norm was not born out. Liska (1984) suggests that the reason for this is that "... behavioral intentions are frequently unstable and ill formed; frequently, they are only formed just immediately before behaving, making them a somewhat uninteresting cause and ineffectual predictor of behavior." (p. 67)

Some studies have shown that while intentions are better predictors of behavior than are attitudes, the direct or unmediated effect of attitude is still substantial (Zuckerman & Reis, 1978, Bentler & Speckart, 1979; Manstead, Proffitt & Smart, 1983). However, neither Bagozzi (1981) nor Fredericks and Dossett (1983) found support for a direct path from attitude to subsequent behavior. Their conclusion was that attitude influenced behavior only in an indirect manner through its impact on intentions, as maintained by Fishbein.

Some researchers have suggested that attitudes are even better predictors of behavior than are behavioral intentions (Schwartz & Tessler, 1972; Albrecht & Carpenter, 1976; Bentler & Speckart, 1979). For example, Bentler and Speckart's (1979) predictive study of alcohol, marijuana and hard drug use found that controlling for the effect of behavioral intentions left a statistically significant attitude effect that, for two of the three behaviors, was substantially stronger than the intentions effect.

## Measurement of the Attitudinal Construct

There have been differing opinions as to whether or not the attitudinal construct should be measured as a unidimensional or multidimensional construct. According to a unidimensional conceptualization, attitude is defined as a person's position on a dimension of affect or evaluation. On the other hand, the multidimensional view holds that attitude is defined in terms of the person's beliefs about the object (ie., cognitions), his or her feelings toward the object (ie., affect) and his or her tendencies with respect to the object (ie., conation or behavioral intentions).

There is some evidence that expectancy-value attitude exists as a multidimensional structure rather than a unidimensional structure (Bagozzi, 1981, 1982; Bagozzi & Burnkrant, 1985 ) and evidence in support of the existence of a multidimensional behavioral component of behavior (Triandis, 1964). On the other hand, Dillon and Kumar (1985) contend that while a two-factor model cannot be rejected, when it comes to predicting behavior there is much to be said for the single-factor, one-component model.

It has generally been accepted that the attitude an individual holds towards an object or behavior is unidimensional in nature, expressing the degree of favorability/unfavorability felt by the person in relation to that object or behavior. In accordance with an expectancy-value model of attitude, the perceived consequences and evaluation of performing a certain act are summed into a single score representing one's overall attitude. However, as Bagozzi points out:

. . . the possibility exists that attitudinal reactions might at times be more complex in nature. This would especially be expected as the intricacy and/or ambiguity of an attitudinal act increases, as the meaning of that act rises in saliency and in the number of consequences for the person, and as the cognitive complexity and information processing abilities of a person expand. Under these conditions, the probability of a multidimensional attitudinal response should be enhanced. (Bagozzi, 1981, p. 608-609)

In a study predicting marijuana use, Schlegel (1975) was able to show that the attitude structure pertaining to drug usage may be complexly determined and consequently would require a multidimensional mapping of the various belief elements which compromise the attitude construct. Schlegel (1973) also suggests that the complexity of the attitude structure increases as one's behavioral involvement with the attitude object becomes more extensive. In instances of increased behavioral involvement, Schlegel and DiTecco (1978) found that Fishbein's unidimensional attitude towards the act' may be unable to integrate adequately the complex, underlying attitude structure.

If the attitude construct does exist as a multidimensional construct, there are significant implications for the way in which the attitude construct is scored and for the overall predictive validity of the TRA. As Burnkrant and Page (1988) have pointed out,

. . . it suggests it may be inappropriate to sum all salient belief-evaluation products prior to assessing the effects of attitude. Researchers who have examined the theory of reasoned action have almost invariably summed all belief-evaluation products to yield a single expectancy-value attitude score for each individual, and they have similarly summed normative-belief-motivation to comply products to yield a single NBMC construct for each subject. This summation assumes that the belief-evaluation products and the normative belief-motivation to comply products are all separate representations of single unidimensional expectancy-value attitude and NBMC constructs, respectively. It has been shown that, when this assumption does not hold, treating these measure as if they are unidimensional representation can lead to invalid predictions. (Burnkrant & Page, 1988, p. 68)

Furthermore, it is conceivable that belief elements most relevant to the behavior prediction may not be adequately integrated by a unidimensional measure of attitude. Schlegel and Norris (1980) proposed that a more elaborative model may be necessary

to overcome the problems posed by a unidimensional attitude measure. In their equation, each belief is accompanied by its own particular regression weight. The size of the beta weights in this regression permit one to identify which target beliefs should be chosen to effect attitude and subsequent behavior change. But as Schlegel (1973) learned, the beliefs with the highest betas in the regression may be the most resistant to change and attempts to alter such beliefs may cause reactance such that the belief becomes even more reinforced.

There is some evidence in the information processing literature that people hold multidimensional representations of complex objects (Schroeder, Driver, & Streufert, 1967; Scott, Osgood, & Peterson, 1979). From the viewpoint of a network representation of memory, Burnkrant and Page (1988) speculate that it would be reasonable to expect that linkages in memory among the positive consequences and among the negative consequences would be stronger than linkages between positive and negative consequences combined. For example the memory of having a drink may be linked with certain related concepts and learned associations. Some of these associations will be more closely linked with one another than others. It would be reasonable to assume that consequences such as feeling relaxed and feeling more confident would be more closely related in memory than feeling relaxed and getting angry. As Burnkrant and Page (1988) point out, this should lead to stronger correlations among the positive belief-evaluation products and among negative belief-evaluations products than between positive and negative-evaluations products and support a two-dimensional model of expectancy-value attitude.

In a study of blood donation behavior, Burnkrant and Page (1988) added support to Bagozzi's (1981) finding that expectancy-value attitude is a multidimensional rather than a unidimensional construct. The positive consequences associated with donating blood formed one dimension and the negative consequences formed the other dimension.

### **Interrelationship of the Attitudinal and Normative Constructs**

It has been argued that there is very little evidence to support the normative component or the joint representation and separation of the normative and attitudinal components of the TRA. Minard and Cohen (1981) have argued that the two constructs are operationally inseparable. They argue that the specific beliefs which underlie TRA's subjective norm are not conceptually distinct from those which underlie attitude. In their view, beliefs concerning consequences of behavior and beliefs concerning expectations of others are conceivably the same beliefs, differentiated only by syntax. For example, the expectation of disapproval from others may well be the most significant expected consequence of drinking. It is also possible that there is significant interplay between these beliefs, since beliefs about the consequences of drinking can be used to infer other's disapproval and beliefs about other's expectations can be used to infer the social consequences of behavior. However, as Liska (1984) points out,

. . . while attitudes and subjective norms can be, and frequently are, supported by similar and interrelated belief systems, contrary to Minard and Cohen, this is not to say that they are conceptually indistinct. For the causal processes by which they affect intentions and behavior are distinctly different, paralleling the traditional distinction in social psychology between intra-individual (psychological) and inter-individual (social) processes. Yet, contrary to the Fishbein/Ajzen model they are not causally independent, either. Subjective norms may affect intentions directly and indirectly through their effect on attitudes, and they may be spuriously related to intentions through the effects of underlying specific beliefs on subjective norms and intentions. (Liska, 1984, p. 68)

Some researchers have found evidence of a statistical interaction effect between attitude and subjective norm, signifying that the effect of attitude is contingent on subjective norms and vice versa (Acock & DeFleur, 1972; Liska, 1974; Andrews & Kandel, 1979). Fishbein and Ajzen (1981) replied that each component correlated more highly with intentions than with the other component. Shepherd and O'Keefe (1984)

also found substantial intercorrelations of the components but cautioned this should not necessarily be interpreted as a weakness in the TRA model. The authors suggested that further research was needed to identify specific behavioral contexts in which multicollinearity problems were likely before placing limitations on the applicability of TRA. Subsequently, Burnkrant and Page (1982, 1988) have offered evidence and a rationale based on Kelman's (1958) compliance process which supports the separation of the attitudinal and normative components as independent constructs. They were also able to provide empirical support for the contention that perceived socially mediated rewards and punishments underlie the normative component.

The rationale for the normative component in Fishbein's model is that it accounts for influence to act in a particular manner that is not already reflected in attitude. Compliance influences are not directly reflected in attitude (Kelman, 1958), although they may lead to change in attitude over time due to dissonance or self-perception processes (Fishbein & Ajzen, 1975). Compliance occurs when the individual accepts influence from another person or group in order to attain rewards or avoid punishments mediated by others . . . Clearly, approval and disapproval convey the reward-punishment connotations treated under the compliance process. If NBMC accounts for compliance influence, then NBMC should be directly related to the perception or belief that performance (or nonperformance) of the behavior will lead specific referents to administer certain rewards or punishments and the evaluation or value of these rewards or punishments. (Burnkrant & Page, 1988, p. 72)

### **Influence of Background Variables on Behavior**

In the TRA, it is assumed that only attitudes and subjective norms affect behavior through their effects on intentions, and that all other variables affect behavior either through their effects on the model weights, or through their direct effects on attitudes and subjective norms. Thus demographic background variables such as socioeconomic status or social support would be viewed as impacting indirectly on drinking behavior through their influence on attitude and subjective norm. While it would be hard to argue

these factors do not have any influence on attitude towards drinking, behavioral beliefs about the consequences or the extent of anticipated disapproval, the fact remains that these same factors can greatly affect the opportunities or access to resources needed to abstain from alcohol or act in accordance with others expectations. For this very reason it is suggested that the TRA should be extended to include the component 'perceived behavioral control' as proposed by Ajzen and Madden (1986) in their theory of planned behavior.

### **Causal Structure of the TRA**

The TRA has been sharply criticized for assuming a recursive-chain causal structure underlying the relationships between attitudes, intentions and behavior (Liska, 1984; Sarver, 1983). The model fails to account for the reciprocal effect of behavior on attitude and intention by specifically focusing on the prediction of behavior in a linear causal fashion. Liska (1984) suggests that a reciprocal effects model is warranted; one which would take into account and be able to estimate the extent to which any combination of psychological and social contingency factors impact on the reciprocal effects between attitude /intention and behavior and the effect of behavior on the latter.

The issue of reciprocal effects between components of the TRA is however no closer to refinement or methodological agreement than is research concerning the relationship between attitude and behavior. Kahl and Berman (1979) note that research has already taken four different perspectives concerning the causal relationship between attitudes and behavior. Attitudes cause behavior (McGuire, 1976); behaviors cause attitudes (Bem, 1972); attitudes and behavior have mutual causal impact (Kelman, 1974); and attitudes and behaviors are slightly, if at all, related (Wicker, 1969).

### **Summary**

There is strong support from decision making theory, social learning and expectancy theory, as well as from Marlatt and Gordon's (1985) cognitive behavioral

model of relapse for the application of the TRA to the prediction of alcoholics' intention to drink.

The sufficiency of the TRA to predict an alcoholic population's intention to drink rests on certain unresolved methodological issues. In an application of the TRA to adolescent alcohol use, Schlegel et al. (1977) raised the possibility that the attitude construct may be simply inadequate in its ability to tap the complex underlying belief structures involved with alcohol use and abuse. Schlegel carried this line of reasoning one step further and raised the question of whether the two components of the TRA alone would ever be capable of predicting behavior, such as alcohol abuse, when the behavior was complexly determined by both personal and situational factors. There is theoretical support from a social learning perspective on alcohol use and abuse to confirm Schlegel's speculation but no empirical test of this issue using the TRA.

Another issue related to the TRA's sufficiency concerns the debate as to whether or not the attitudinal and normative structures should be measured and thus scored as multidimensional rather than unidimensional constructs. To date however, there is limited empirical evidence to support a multidimensional structure of expectancy-value attitude or subjective norm. The strongest evidence has been demonstrated in studies of the intention to donate blood (Burnkrant & Page, 1988; Bagozzi, 1981). Clearly one can not simply generalize the existence of a multidimensional attitude and normative structure from blood donation intentions to alcohol use intentions.

The current study did not attempt to address the issues concerning the adequacy of the attitude construct nor its existence as a multidimensional construct in context of the TRA's application to an alcoholic population. The main reason for this was that there is no well formulated or tested methodology in the current literature to follow as a guideline in addressing these issues. It is recommended however that future research attempt to replicate the methodology used in Burnkrant and Page's (1988) study to determine if the TRA's attitude and normative components should be measured as multidimensional constructs when applied to addictive behaviors.

In conclusion, a review of the issues concerning volitional control and drinking intentions has lead to the recommendation that the TRA be expanded, as proposed by Ajzen and Madden (1986), to include a construct known as perceived behavioral control when and if applied to the intention of alcoholics to not drink

## **CHAPTER 3 - METHODOLOGY**

This chapter examines the methodology used in the study. The research design, sample selection, procedures for instrument development and data collection, and the data analysis are described below.

### **Overview of Methodology**

The study employed an ex-post facto research design, utilizing descriptive methodology. The independent variables (or predictors) in this case were attitude and subjective norm, while the dependent variable was 'the intention to drink' following a residential treatment program for alcoholism.

Measures of the TRA's theoretical constructs were collected from male residents of a residential alcohol treatment program in accordance with Fishbein and Ajzen's (1980) guidelines for questionnaire design. The same questionnaire was administered both at entry (A) and then again prior to discharge (B) to determine whether there was any significant shift in the behavioral or normative belief structures during this interval. Tabulation and analysis of the (B) questionnaire responses were used to determine whether or not the TRA was predictive of the behavioral intention to drink in the first month following discharge. A followup mail questionnaire one month after the completion of treatment was used to ascertain the degree of correlation between the predicted behavioral intentions and actual drinking behavior.

### **Subject Selection**

The subjects were a convenience sample of male alcoholics who sought or were mandated to receive a residential treatment program for their drinking problems. Eligible subjects had to be the age of consent (18 years) and could not be dually addicted.

Data were collected from a voluntary convenience sample of men involved in a men's residential treatment program offered through the Alcoholism Foundation of Manitoba (AFM) in the City of Winnipeg, Manitoba. There were 26 respondents to the entry administration of the questionnaire, 23 to the exit administration and 13 responses to the followup mail questionnaire. A chi-square test revealed that there was no significant difference in the demographic profile between those who completed the questionnaire at both the entry and exit administration and those who responded to the one month followup.

The mean age of subjects who completed the entry and exit administration was 41 years. The majority had either Gr. 10 - 12 high school (23.8%) or some trade or technical training (23.8%). The marital status of subjects was about equally divided between those who had never been married (30.4%), those who were currently married (34.8%), and those who were either separated (17.4%) or divorced (17.4%). Most of the respondents were employed full (57.1%) or part-time (4.8%) and had no previous involvement with the AFM (47.6%). The primary sources of referral to residential treatment were self (38.1%), family or friend (14.3%), Employee Assistance Program (9.5%) or the Chemical Withdrawal Unit (9.5%). Despite the heterogeneous nature of the alcoholic population, those who enter government funded treatment programs will not necessarily be representative of those who need or are seeking help through other avenues.

### **Questionnaire Development**

To ensure that the expectancy beliefs and referents used in the questionnaire were representative of an alcoholic population receiving intervention, an independent voluntary subsample of 20 male alcoholics attending AFM's outpatient groups were asked to complete an open-ended survey. The survey asked respondents to identify i) their most salient beliefs (i.e., the first five that came to mind) regarding the perceived positive and negative effects/consequences of having a drink and ii) the most significant people or groups in their lives who would approve or disapprove of their having a drink. (See Appendix A for Survey). A preliminary content analysis was used

to classify the responses into belief groupings. An independent review panel was then asked to review and make recommendations concerning reclassification or renaming of belief statements. This process resulted in the identification of 10 modal salient beliefs (6 positive and 4 negative) and 7 modal referents for inclusion in the study questionnaire. (See Appendix A for Classification of Survey Responses). The positive behavioral beliefs or consequences of having a drink were: get a good feeling; help to forget problems; feel more confident; help to loosen up; relief from tension frustration or stress; and help to have friends. Perceived negative consequences of having a drink were: getting into trouble; getting sick; getting angry; and feeling down. The three most frequently mentioned beliefs were: get a good feeling; help to forget problems; and get angry. The salient referents included: wife (ex-wife or girlfriend); close friends; father; mother; sister; brother; and helpers (e.g. counsellor, social worker, A.A. sponsor, doctor or minister). It was interesting to note that women (wife/girlfriend and mother) were most often identified as being disapproving of subjects having a drink and close friends were reported most frequently as approving.

### **Variables and Measures**

Measures of the theoretical constructs, attitude and subjective norm, were obtained in a closed format questionnaire following the guidelines outlined by Fishbein and Ajzen (1980). Procedures for the measurement of these theoretical constructs have been developed and refined through previous research (Ajzen & Fishbein, 1969, 1970; Fishbein, 1963). Measures of the various elements of the TRA were based on the semantic differential technique (Osgood, Suci & Tannenbaum, 1957; Snider & Osgood, 1969). Careful attention was paid to the construction of questionnaire items to ensure correspondence between the measurement of attitude, subjective norm and behavioral intention and the four elements of the behavioral criterion; namely action (intention to drink), target (alcohol), time (within the next month) and context (any situational or environmental context in which one might drink). All measurements of the theoretical constructs were scored -3 to +3, with the exception of normative beliefs which were scored from 1 to 7. (See Appendix B for Questionnaire )

### **Behavioral Intention**

Subjects intention to have a drink in the next month was measured on a 7 point probability dimension. For example:

I intend to drink within the next month

Likely ( -3 \_: +3 ) Unlikely

### **Attitude Towards the Act**

Attitude toward having a drink was measured by summing across three 7 point semantic differential scales. For example:

Drinking in the next month would be

Good ( -3 \_: +3 ) Bad

Pleasant ( -3 \_: +3 ) Unpleasant

Important ( -3 \_: +3 ) Unimportant

### **Subjective Norm**

The subject's perception of whether significant others think they should or should not have a drink was measured on a 7 point scale. For example:

Most people who are important to me think:

I Should have a drink ( -3 \_: +3 ) Should Not have a drink

### **Behavioral Beliefs**

**Beliefs About the Consequences of Drinking.** A 7 point probability scale was utilized to measure the extent to which subjects believe in the likelihood that certain consequences would result from having a drink.

For example:

Drinking in the next month would make me angry or aggressive.

Likely ( -3 \_: +3 ) Unlikely

**Evaluation of the Consequences of Drinking.** The subject's evaluation of each of the salient behavioral beliefs was measured on a 7-point scale.

For Example:

For me, being able to forget my problems is  
Important ( -3 \_: +3 ) Unimportant

### **Normative Beliefs**

For each of the salient referents, subjects rated their perceptions of whether referents think they should or should not have a drink.

For example:

My wife/girl friend thinks  
I Should not drink ( -3 \_: +3 ) I Should drink

**Motivation to Comply.** For each of the salient referents, subjects rated their degree of motivation to comply with what referents think they should do.

For example:

Generally speaking, how much do you want to do what your wife thinks you should do?  
I very much do not want to (1\_:7) I very much want to

### **Procedures for Collecting Data**

A presentation was made to all residential treatment staff and their supervisors to inform them of the purpose and nature of the study, and secondarily to foster their cooperation in data collection. It was agreed that treatment staff would screen for eligible residents (i.e., not dually addicted) and be responsible for administering the collection of questionnaires at entry and exit from the treatment program. To ensure anonymity of the subjects responses, all questionnaires were returned to their counsellor in a sealed envelope provided by the researcher. Each subject's questionnaire was coded with their existing AFM file code to permit later retrieval of

demographic information. A prefix of A or B was added to the front of the code to identify whether the questionnaire had been done at entry (A) or exit (B). Counsellors filled in the subject's code and the date at which both entry and exit questionnaires were completed on the face of the sealed questionnaire envelope. The completion date of the exit questionnaire was used to determine the one month followup window.

The study's questionnaire was administered by program counsellors twice during the residential treatment period; within the first 3 days of entry and shortly before completion of the program. Program counsellors explained the nature of the study to eligible subjects and got a signed consent form releasing their name, address and phone number to the researcher for the purpose of the one month followup. (See Appendix C for Letter of Introduction and Consent Form). For those who agreed to participate, completed consent forms and questionnaires were returned to the counsellor in a sealed envelope. Willing participants were asked to complete the same questionnaire again prior to their discharge, with the same procedures in place to ensure confidentiality. Subjects received a followup mail questionnaire one month later. The questionnaire asked respondents whether they had had a drink in the past month. If respondents answered yes, they were also asked to identify how long after they left the treatment program; how often and how many drinks on each occasion. (See Appendix D for Followup Mail Questionnaire).

### **Statistical Analysis**

Data in this study were analyzed with the Statpac Gold Statistical Analysis Package, version 3.

Sub-scale scores were calculated for each of the five dimensions of the model; behavioral intention; attitude towards the act; subjective norm; behavioral beliefs and normative beliefs. Behavioral intention has a single response score whereas attitude is scored by summing across three 7 point semantic differential scales. Scores for behavioral and normative beliefs were determined by summing all salient belief-evaluation products and normative belief-motivation to comply products respectively.

Correlation coefficients were then calculated between the following sets of scores: behavioral beliefs and attitude; normative beliefs and subjective norm; behavioral intention and actual behavior.

The statistical test of the accuracy with which the TRA can predict the intention of subjects to drink, involves a multiple regression analysis regressing behavioral intention on the two components of the theory (attitude toward the act and subjective norm). A high multiple correlation would reflect the adequacy of the model for predicting the intention to drink from the weighted sum of attitudes and subjective normative beliefs. Such an analysis also yields a standardized regression coefficient for each the components, thereby determining which of the two components is more influential in determining the behavioral intention to drink. In order to identify which of the behavioral and normative beliefs most significantly differentiates abstainers and non-abstainers, a one way analysis of variance can be performed on each of the evaluative beliefs and perceived social expectations.

## **CHAPTER 4 - RESULTS**

This chapter will report on the results of the analysis used to test the study hypotheses and also the sufficiency of the TRA to predict the behavioral intention to drink. Results are based on the analysis of data (N= 23) collected from questionnaires answered prior to discharge from treatment.

### **Comparison of Entry and Exit Scores**

Although it was not necessary for the purposes of this study, data were collected from subjects both at entry and again prior to discharge from the treatment program. These two sets of data were used to determine whether there had been any significant shifts in the mean expectancy-value scores of behavioral or normative beliefs over the course of the treatment period (See Tables 1 and 2). A two tailed t test revealed that there was only one behavioral belief, 'would likely not make me feel down', that showed a significant difference between entry and discharge.

Separate analysis of the mean expectancy (See Table 3) and mean value (See Table 4) scores for behavioral beliefs revealed that the expectancy score contributed to this shift. While there was no significant change in the importance or value assigned to not feeling down (Table 4), there was a significant difference in the perceived likelihood of feeling down. At the time of discharge, subjects believed more strongly that having a drink would not make them feel down (Table 3). There was no significant difference in the mean expectancy scores for referents (See Table 5) or in the motivation to comply (See Table 6) scores from entry to discharge.

**TABLE 1****Mean Expectancy - Value Scores for Individual Behavioral Beliefs**

Having a drink would:		Entry		Exit	Difference
Give me a good feeling	M	- 6.13	M	-5.35	.27
	SD	3.88	SD	4.33	
Give relief from tension	M	-4.39	SD	-4.26	.92
	M	5.55	SD	5.60	
Help to forget problems	M	-5.52	SD	-4.04	.14
	SD	3.95	SD	4.48	
Help to have friends	M	-5.43	M	-5.30	.82
	SD	3.30	SD	3.56	
Help to feel confident	M	-4.43	M	-5.35	.37
	SD	5.87	SD	4.75	
Help to loosen up	M	-3.00	M	-2.86	.85
	SD	4.50	SD	5.18	
Not get me into trouble	M	-3.54	M	-6.00	.25
	SD	7.15	SD	4.98	
Not make me sick	M	-3.77	M	-4.77	.52
	SD	6.08	SD	5.29	
Not make me angry	M	-2.77	M	-5.00	.096
	SD	5.29	SD	4.97	
Not make me feel down	M	-1.48	M	-5.33	.01**
	SD	6.40	SD	3.98	

Note. \*\* denotes mean difference is significant  $p < .01$ .

**TABLE 2****Mean Normative Belief - Motivation NB (Mc) to Comply Scores**

Expectations of :		Entry		Exit	Difference
Wife	M	17.87	M	17.94	.95
	SD	5.24	SD	7.18	
Close Friends	M	13.86	M	14.24	.79
	SD	8.17	SD	7.31	
Father	M	14.14	M	10.28	.32
	SD	9.28	SD	7.72	
Mother	M	15.08	M	16.46	.19
	SD	6.29	SD	7.05	
Sister	M	14.38	M	13.92	.78
	SD	7.34	SD	7.94	
Brother	M	11.75	M	12.91	.51
	SD	9.14	SD	9.33	
Helpers	M	19.50	M	19.80	.58
	SD	4.19	SD	2.82	

Note There were no mean difference that reached a level of statistical significance.

**TABLE 3****Mean Expectancy (Likely - Unlikely ) Scores for Behavioral Beliefs**

Having a drink would:	Likely - Unlikely				Difference
		Entry (A)		Exit (B)	
Give me a good feeling	M	2.30	M	2.13	.21
	SD	1.36	SD	1.52	
Give relief from tension	M	1.82	M	1.87	.92
	SD	1.97	SD	2.00	
Help to forget problems	M	2.30	M	2.04	.35
	SD	1.74	SD	1.92	
Help to have friends	M	2.48	M	2.43	.86
	SD	1.30	SD	1.20	
Help to feel confident	M	1.83	M	2.26	.10
	SD	2.04	SD	1.66	
Help to loosen up	M	1.61	M	1.70	.70
	SD	2.10	SD	2.10	
Not get me into trouble	M	1.35	M	1.82	.55
	SD	2.57	SD	2.06	
Not make me sick	M	1.48	M	2.00	.38
	SD	2.25	SD	1.86	
Not make me angry	M	1.35	M	1.78	.34
	SD	2.19	SD	2.00	
Not make me feel down	M	0.52	M	2.34	.002**
	SD	2.68	SD	1.33	

Note. Scale is scored likely -3 . . . +3 unlikely

\*\* Mean difference is significant,  $p < .01$

**TABLE 4****Mean Value (Important - Unimportant) Scores for Behavioral Beliefs**

Having a drink would:	Important - Unimportant				Difference
		Entry	Exit		
Give me a good feeling	M	-2.35	M	-2.43	.70
	SD	0.88	SD	0.66	
Give relief from tension	M	-2.39	M	-2.43	.82
	SD	0.72	SD	0.79	
Help to forget problems	M	-1.69	M	-1.69	1.00
	SD	1.52	SD	1.29	
Help to have friends	M	-2.04	M	-2.21	.33
	SD	0.88	SD	0.67	
Help to feel confident	M	-2.35	M	-2.48	.66
	SD	1.26	SD	0.59	
Help to loosen up	M	-1.86	M	-1.91	.81
	SD	0.83	SD	0.92	
Not get me into trouble	M	-2.64	M	-2.86	.28
	SD	0.90	SD	0.35	
Not make me sick	M	-2.36	M	-2.36	1.00
	SD	1.13	SD	1.00	
Not make me angry	M	-2.00	M	-2.45	.09
	SD	1.07	SD	0.67	
Not make me feel down	M	-2.09	M	-2.33	.29
	SD	1.14	SD	0.79	

Note. Scale is scored important -3 . . . +3 unimportant

**TABLE 5****Mean Normative Belief Scores (Should Not or Should drink)**

Expectations of :	Should Not or Should drink				Difference
		Entry		Exit	
Wife	M	2.81	M	2.62	.49
	SD	0.54	SD	1.26	
Close Friends	M	2.33	M	2.33	1.00
	SD	1.39	SD	1.46	
Father	M	2.57	M	2.14	.35
	SD	1.13	SD	1.46	
Mother	M	2.69	M	2.61	.38
	SD	0.85	SD	0.96	
Sister	M	2.46	M	2.30	.67
	SD	1.05	SD	1.18	
Brother	M	1.83	M	2.00	.67
	SD	1.70	SD	1.70	
Helpers	M	2.80	M	2.61	.48
	SD		SD		

Note. Scale is scored should drink -3 . . . +3 should not drink.

**TABLE 6****Mean Normative Motivation to Comply Score**

Expectations of :	Do Not Want to Comply - Want to Comply				Difference
		Entry		Exit	
Wife	M	6.19	M	6.37	.19
	SD	1.17	SD	1.20	
Close Friends	M	5.33	M	5.38	.89
	SD	1.90	SD	1.74	
Father	M	5.43	M	5.00	.57
	SD	2.30	SD	1.41	
Mother	M	5.54	M	6.00	.16
	SD	1.33	SD	1.29	
Sister	M	5.61	M	5.70	.77
	SD	1.39	SD	1.31	
Brother	M	5.33	M	5.33	1.00
	SD	1.61	SD	1.77	
Helpers	M	6.50	M	6.60	.58
	SD	1.39	SD	0.58	

Note. Scale is scored do not want to comply 1 . . . 7 want to comply.

### Predictive Capacity of the TRA's Attitudinal and Normative Variables

The study's first hypotheses was that the attitudinal and normative variables of Fishbein's theory of reasoned action would be predictive of male alcoholics' intention to have a drink in the first month following a residential treatment program. A multiple regression analysis regressing behavioral intention on the two components of the TRA (i.e., attitude toward the act and subjective norm) yielded a multiple correlation coefficient of .73 ( $p < .001$ ) which is considered to be statistically significant (See Table 7). This result indicates that the TRA was capable of predicting the aggregate behavioral intention of male alcoholics to drink following treatment from the weighted sum of attitude toward the act and subjective normative beliefs. The study's first hypotheses is thus supported by this result.

**TABLE 7**

**Correlations, Regression Coefficients, & Multiple Correlation of Aact and NB(Mc) on BI**

	Correlation coefficients		Regression coefficients		Multiple Correlation
	Aact -BI	NB(Mc) -BI	Aact -BI	NB(Mc) -BI	
r	.07	.71	-.17	.77	.73
p	.75	$p < .001^{**}$	.31	$p < .001^{**}$	$p < .001^{**}$

Note. Abbreviations: Aact = Attitude toward the act, NB(Mc) = Normative belief-motivation to comply, BI = Behavioral intention.

\*\*  $p < .01$

### Intercorrelations Among Variables of the TRA

A correlation matrix showing the intercorrelations between the variables of the TRA are presented in Table 8. These variables include behavioral beliefs, attitude toward the act, normative beliefs, subjective norm, behavioral intention and behavior.

Consistent with the TRA there was a strong and significant correlation between subjective norm and its proposed determinants, normative beliefs ( $r = .83$ ,  $p < .0001$ ). This suggests that a further examination of normative beliefs about significant referents may give insight into the variations in intentions. The correlation between attitude and its determinants, behavioral beliefs, was weak and nonsignificant ( $r = -.28$ ).

There was a strong correlation between subjective norm and behavioral intention ( $r = .71$ ,  $p < .0001$ ). The correlation between attitude and behavioral intention however was much weaker and was not significant ( $r = .07$ ).

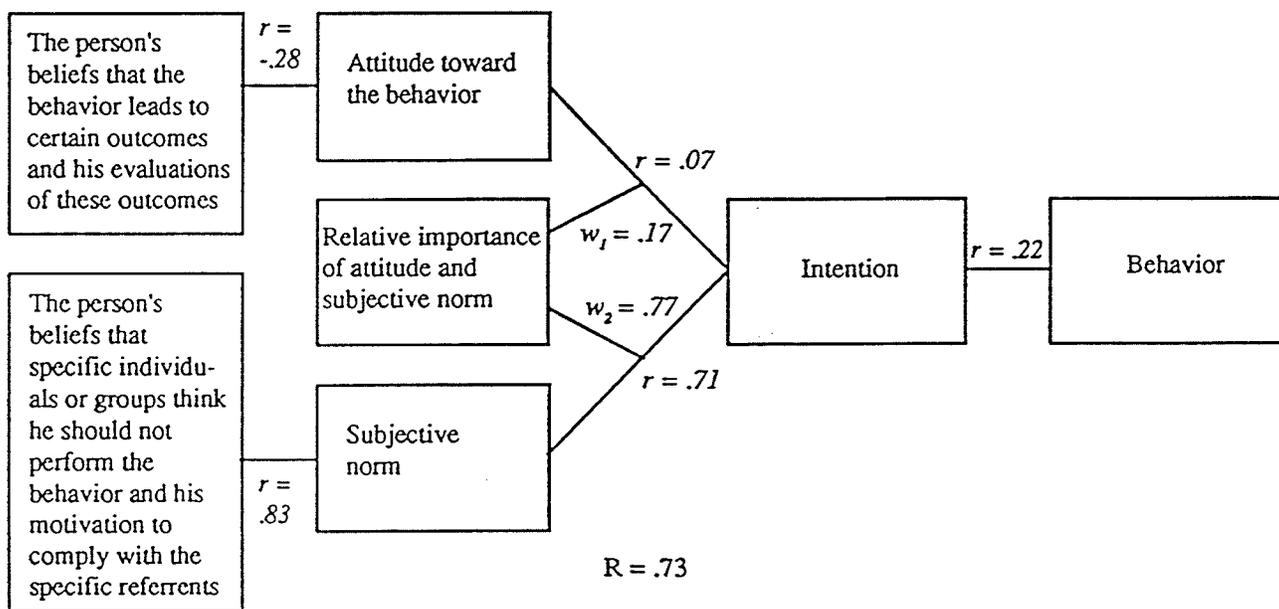


FIGURE 2

Correlations, regression coefficients and multiple correlation of Aact and NB(Mc) on BI

**TABLE 8****Intercorrelation among Variables of the TRA**

Variable	B. beliefs	Aact	N. Beliefs	Sub. Norm	BI	B
<b>B. Beliefs</b>						
Aact	-.28 p = .20					
N. Beliefs	-.31 p = .15	.41 p = .05				
S. Norm	-.10 p = .66	.32 p = .15	.83 p = .0000**			
BI	-.10 p = .6735	.07 p = .7530	.63 p = .002**	0.71 p = 0.00**		.22

**Note** Abbreviations are as follows: B. beliefs = Behavioral beliefs, Aact = Attitude toward the act, N. beliefs = Normative beliefs, S. norm = Subjective norm, BI = Behavioral intention.

\*\* Correlation is significant at  $p < .01$

Table 9 provides the aggregate means for all the variables in the correlation matrix.

**TABLE 9****Aggregate Means for Variables in the Correlation Analysis**

Variable	Mean	Standard Deviation
Attitude	2.04	1.43
Behavioral beliefs	-4.75	2.55
Normative beliefs	14.91	7.01
Behavioral intention	2.32	1.42
Subjective norm	2.26	1.63
Did you drink	1.14	0.36

### **Normative Influence on Behavioral Intention**

Table 7 presents the correlations, regression coefficients and multiple correlation of attitude toward the act (Aact) and subjective norm NB(Mc) on behavioral intention (BI). It was hypothesized that the normative component would have a greater influence on the aggregate intentions of male alcoholics to drink. As hypothesized, the normative variable, subjective norm, had a strong and significant relationship to the behavioral intention to drink ( $r = .71$ ,  $p < .0001$ ). The regression coefficients assigned the normative and attitudinal components of the TRA indicate that the normative component, subjective norm ( $r = .77$ ,  $p < .0001$ ), is more influential in determining the behavioral intention to drink than is attitude toward the act ( $r = -.17$ ). The fact that the attitudinal component did not receive a significant regression weight is not inconsistent with the TRA. The relative weights assigned the two components can be expected to vary depending on the nature of the target population and behavior under study.

### **Correlation Between Behavioral Intention and Behavior**

It was hypothesized that there would be a significant correlation between the prediction of intention to have a drink and actual drinking behavior in the first month following treatment. The study's third hypotheses was not supported by the results. There was only a weak and nonsignificant correlation  $r = .22$  between the behavioral intention to drink and reported drinking behavior in the first month following treatment (See Table 8). This finding may be partially attributed to the small sample size. Perhaps more importantly though is the strong self-report bias present in this study. Information on drinking behavior following treatment was ascertained via a mail out questionnaire and no attempt was made to validate this with a significant other.

### **Differentiation of Abstainers from Non-Abstainers**

It was hypothesized that the statistical analysis of the attitudinal and normative belief structures would be able to differentiate abstainers from non-abstainers. Although it would have been interesting to have been able to identify those attitudinal and normative beliefs which differentiate abstainers from nonabstainers, this was not possible given there was only one subject who indicated a behavioral intention to drink.

## **CHAPTER 5 - DISCUSSION**

This chapter provides a discussion of the study results as they pertain to the study hypotheses. The theory of reasoned action and other applicable theoretical frameworks are used to interpret and, at times, speculate on the outcomes. Application of the results to clinical intervention are discussed. In conclusion, recommendations are made concerning future research with adult alcoholics and the theory of reasoned action.

### **Contribution of Present Study**

The purpose of this study was to test the sufficiency of the theory of reasoned action (TRA) to predict male alcoholics intention to drink in the first month following discharge from a residential treatment program. It has been suggested that the generality and sufficiency of Fishbein's model to predict highly complex 'deviant' behaviors from problem defined populations may be limited (Schlegel et al., 1977; Schlegel & Norris, 1980; Bagozzi, 1981). This exploratory study attempted to address this question.

Previous applications of the TRA to drug and alcohol use has been confined to high school or college populations. In these populations, the model has typically been used to identify the behavioral and normative beliefs which distinguish intenders from nonintenders or one category of user from another. No study to date has examined the applicability of the TRA to predict the intention to use an addictive substance after having made a decision to stop.

Interpretation of the results is limited by the small sample size. Furthermore, in a correlational study such as this, it is impossible to determine the exact causal relationship of the variables. Data were drawn from a self-selected sample of male alcoholics and thus caution must be exercised in making any generalizations of the results to other populations. Nonetheless, the research has stimulated thoughts for future research consideration.

### **Sufficiency of TRA to Predict Intentions and Behavior**

Despite the small sample size ( $N=26$ ), analysis of the data yielded a multiple correlation coefficient  $R = .73$  ( $p < .001$ ), considered to be statistically significant, between the two components of the model and behavioral intention. This result supports the study's first hypotheses and suggests that the TRA is capable of predicting the intention to drink from the weighted sum of attitude and subjective normative beliefs, but should be interpreted with caution. It is recommended that this study be conducted with a larger sample before any conclusions are drawn about the adequacy of TRA to predict alcoholics' drinking intentions.

The fact that the target population was alcoholics receiving treatment for their abuse of alcohol represents a unique challenge in assessing the validity of their intention to drink or not in the next month. Relapse rates in the field of alcoholism (Armor, Polich & Braiker, 1981) would suggest that this intention, however valid at the time of discharge, is subject to change and thus may not correspond to actual drinking behavior. As Fishbein (1980) has stated, although from a theoretical point of view intentions determine behavior, this should not be taken to mean that a measure of intention will always be an accurate predictor of behavior. A behavioral intention is simply a measure of the likelihood that a person will engage in a given behavior. In addition, a person's intention to perform a given behavior can not be used to predict the extent, magnitude, or frequency of that action. In the current study, the correlation between intention and actual drinking behavior was nonsignificant ( $r = 0.23$ ) and thus fails to support the third hypotheses. This finding may in part be attributed to the small sample size and followup response. On the other hand, there are a number of factors which can intervene between the measurement of intention and actual behavior.

## **Factors Influencing the Intention - Behavior Relationship**

### **Correspondence**

One factor which can influence the strength of the intention-behavior relationship is the degree of correspondence between the measure of intention and the behavioral criterion. Intention and behavior must match on as many criterion elements as possible; action, target, context and time elements. Measurement of drinking behavior at the one month followup period was carefully worded to ensure correspondence on action (have a drink), target (any type of alcohol), in the past month (time). It should be noted that no attempt was made to verify subjects' self-reports with a significant other.

The lack of significant correlations between intention and behavior as well as between behavioral beliefs and attitude could conceivably be due to aspects of the behavioral criteria employed. More specifically, it is possible that the action, target and context criterion were too global. The study asked respondents to evaluate behavioral and normative consequences of having 'a drink' and did not specify the type of beverage or context in which it might be consumed. Clearly, with an alcoholic population, the evaluation of consequences from having *a* drink will be very different from their definition of moderate or heavy drinking. Research has indicated that expectancies vary according to the type of beverage (Lindman & Lang, 1986), the context of drinking (Brown et al., 1985; Brown, 1985; Cutter et al., 1984), phase of intoxication (Southwick et al., 1981; Tamerin et al., 1970) and consumption patterns (Mooney, 1987; Brown, Goldman & Christiansen, 1985).

### **Stability of Intentions**

Another factor influencing the intention-behavior relation is the degree to which the intention remains stable over time. Fishbein (1980) maintains that aggregate intentions are much more likely to remain stable over time and that the TRA is not designed to predict individual intentions. There are any number of events in the first

month following discharge that could produce a change in an individual's intention to drink.

In the absence of previous applications of TRA to alcoholics' intentions, the work of Marlatt and Gordon (1985), Prochaska and DiClemente's (1983) 'cycle of change' and Mann & Janis (1982) decision making theory provide a theoretical framework for understanding why the intention to abstain may change.

At a symposium on relapse, sponsored by the Society for the Study of Addiction, it was proposed that a useful working definition of relapse was "a reversal, either temporary or permanent, in a resolution to change". Marlatt and George (1984) regard relapse as a "breakdown or failure in a person's attempt to change or modify any target behavior". "A relapse is viewed as a transitional process, a series of events that may or may not be followed by a return to pre-treatment baseline levels of the target behavior." (p. 263).

What is significant to note in these definitions is that relapse is viewed as a process rather than a linear concept. Prochaska & DiClemente (1983) propose that, at any point in time, drug users can be in different stages of what they call 'the cycle of change'.

In essence drug users may be precontemplators (i.e. untroubled by their use and clearly resolved to continue) or they may be contemplators (in some doubt as to the relative merits of continuing or stopping drug use) or actioners or relapsers. In the latter two cases the resolution to change has been made and then put into practice." (Saunders & Allsop, 1987, p. 419).

As Saunders & Allsop (1987) point out, "the crucial advantage of using either Marlatt's or the 'change in resolution' definition, is that they open up the issue of relapse from being behaviors peculiar to 'alcoholics' and 'addicts' to ones which are everyday conditions of everyone. People frequently make resolutions to change aspects of their behavior and then at a later date reverse those decisions". (p. 419) When people

were asked why their particular resolutions fail, Saunders & Allsop (1987) found that their responses could be classified under three headings — those relating to the initial decision to change, the immediate consequences of undertaking that decision, and the mid to long-term effects of maintaining resolutions. (p. 425). Perhaps it is not so much the intention to abstain, but the way in which this decision was arrived at that differentiates actioners from relapsers. Mann and Janis (1982) have identified four different strategies people use to arrive at a decision.

These include: 'unconflicted adherence, whereby a complacent individual adopts a new course of action usually following advice or recommendations, without undue reflection or difficulty; 'defensive avoidance' where in a state of conflict, the individual procrastinates, passes responsibility onto other people, or makes rationalizations to support the choice of the most desirable (or least objectionable) course of action. The two final decision making strategies are 'hyper-vigilance' which is an impulsive decision making style usually undertaken to avoid conflict; and 'vigilance' which involves a careful weighing up of the information on alternative strategies." (Saunders & Allsop, p. 420, 1987).

Whether or not an individual decides to drink again may be largely influenced by the type of decision making strategy used. Litman et al. (1978) found that in comparing relapsers to those who maintained abstinence, 'vigilant information processing' was a significant contributor to abstinence. Abstainers were more likely to maintain ongoing awareness and attention to situations that would pose a threat to their abstinence. Every time an individual is faced with such a 'high risk' situation, a critical decision has to be made. Janis and Mann (1977) have identified five stages of the decision making process: (i) appraising the challenge; (ii) surveying alternative behavior; (iii) weighing the alternatives; (iv) deliberation on commitment; and, (v) adherence to the decisions to alter behavior. Janis and Mann point out that "stage five persists only so long as (challenges) are ignored, refuted or somehow counteracted".

### **Normative and Attitudinal Influence on Intention**

The study's second hypotheses was supported by the results. The normative component, subjective norm, had a strong and significant relationship to the behavioral intention to drink ( $r = .71$ ,  $p < .0001$ ). Attitude toward the act, on the other hand, had a weak and negative relationship with intention ( $r = .07$ ). The regression coefficients assigned the normative and attitudinal components of the TRA indicate that the normative component, subjective norm, ( $r = .77$ ,  $p < .0001$ ) is more influential in determining the behavioral intention to drink than is attitude toward the act ( $r = -.17$ ). This finding supports the study's hypothesis and is not inconsistent with the TRA. According to Fishbein (1980) each component is given a weight reflecting its relative importance as a determinant of the intention. The relative weights may change from one behavior to another and from one person to another.

### **Discussion and Implications of the Normative Influence**

It has been suggested by Rutter and Bunce (1989), that the most likely behaviors to be influenced by subjective norm are 'high involvement' behaviors - those with significant consequences, both for the individual and for the people who depend on them. Drawing on a conflict model of decision making (Janis & Mann, 1968, 1977; Mann & Janis, 1982), Marlatt and Gordon (1985) propose that the decision to resume drinking or not involves two critical conflicts. The first relates to expected immediate and long term gains and losses associated with remaining abstinent or resuming drinking. The second conflict involves disapproval or blame from both the self and significant others that the individual expects as a result of drinking. It is further suggested that fear of external social disapproval is likely to be most intense for those who have made a public commitment to change or where there is a high probability of being observed by significant others while drinking.

Ajzen and Fishbein's (1980) conceptualization of the normative construct, subjective norm, is consistent with Kelman's (1958) compliance process. Compliance

occurs when the individual accepts influence from another person or group in order to attain rewards or avoid punishments mediated by others. As Orford (1988) points out "... an effective source or recommendation for addictive behavior change does require ... some basis for social power or influence over the person to whom the recommendation is directed. " (p. 101). A limitation of the TRA is that while it can identify the relative influence of the normative factor on behavior and identify those referents who are most influential, it can not identify the type of social influence or power that individuals are most responsive to, or which referents exert what kind of power. The notion of reward (approval) and punishments (disapproval) conveyed in the TRA's normative component most closely resembles reward or coercive power as outlined by French and Raven (1959) in their typology of the bases of social power.

In this particular study, men's intention to drink following treatment was dictated more by what others would think of their drinking than by their degree of favorableness towards having a drink. Examining the mean expectancy-value scores for disapproval and motivation to comply, the referents who seemed to have the most influence on the men's intention to not drink was wife, mother and helper(s). The immediate implication of this finding is to assume that involvement of significant others during and following discharge from treatment would help to reinforce the decision to not drink.

One of the most salient factors to consider though is the status of the individual's personal and social relationships. In the present study, the sample was about equally divided between being married (34%), single and never married (30.4%) and separated or divorced (34.8%). This demographic information of course in no way depicts the quality of interpersonal relationships men may have with a spouse or girlfriend. However, it is likely that long term or sporadic abuse of alcohol over the years will have had a damaging effect on interpersonal relationships. The nature of social networks and friendship circles is likely to be influenced by drinking habits as well. Taken together, the immediate home environment, quality of relationship with a spouse or significant other and the nature of friendship circles have a great deal of bearing on how well an individual will cope with 'real life' problems and consequences of his drinking after leaving the relative seclusion of the treatment environment. In this context

it is interesting to note that the most frequently cited positive expectancy of drinking for men in this study was '. . . to help me forget my problems'.

Any episode of alcohol abuse has reciprocal individual and social consequences that can exacerbate further drinking by placing increasing stress and strain on subsequent person-environment interactions. On the one hand, the individual becomes increasingly dependent on alcohol to achieve short-term positive outcomes (euphoria, better social interactions, tension relief). On the other hand, the individual's behavior has increasingly devastating long-term personal and environmental consequences. Repeated drunken behavior often results in undesirable social consequences such as aggressive acting out, mood swings, loss of job, divorce, and a downward spiral toward isolation from the mainstream of society and its alternative reinforcers. The severe problem drinker or alcoholic is left either alone or with poor role models (other alcoholic drinking buddies) and with a very limited and inflexible set of alternative methods of coping. . . . Thus, loss of social support leads to increased difficulty coping with environmental stressors which, in turn, results in further drinking which results in short-term relief but further loss of social support, and so on." (Abrams & Niaura, 1987, p. 139)

Perhaps this is why there has been such a strong emphasis on men attending A. A. meetings following treatment. If marital or personal relationships have broken down and existing drinking buddies will only perpetuate the problem, one alternative is to introduce a new circle of 'positive' role models via sponsors and A.A. group members.

In an analysis of drinking episodes of patients in treatment at an alcoholic halfway house, Walker, Sanchez, & MacDonald (1974) found that 43% were associated with an adverse social event (e.g. rejection, criticism, arguments, loss of a spouse, friend or child) and 37% were related to thoughts or feelings about social situations (e.g., negative interaction in the past or anticipated in the future, or feelings of social inadequacy). The influence of social factors on the relapse process has been examined

by Marlatt and Gordon (1980). They report that two social situations tend to precede between 39 and 50% of alcohol relapses. In half the cases, interpersonal conflict preceded the relapse, in the other half, social pressure to drink was the precipitant. Marlatt (1979) identified the degree to which the drinker feels controlled by or helpless relative to the influence of others as one of the key factors that may precipitate the reoccurrence of excessive drinking.

### **Methodological Issues Concerning the Normative Construct**

In the study's survey used to ascertain salient referents, wife, girlfriend and mother were the most frequently reported referents who would disapprove of their drinking. Close friends, on the other hand, were reported most frequently as approving. This raises an important methodological issue, pointed out by Burnkrant and Page (1988), concerning the structure and antecedents of the normative component in the TRA. According to the TRA, subjective norm can be predicted by multiplying the normative beliefs by the corresponding motivation to comply and then sum the products. This assumes that the normative belief-motivation to comply product represents a single unidimensional expectancy-value construct. Burnkrant and Page point out the well-known distinction between the positive reinforcement effects of reward (approval) and the inhibitory effects of punishment (disapproval) and suggest that the expectancy-value model of socially mediated rewards and punishments should not be treated as unidimensional. In their study of blood donation behavior, Burnkrant and Page (1988) provided empirical evidence that the normative belief-motivation to comply (NBMC) composite exists as a multidimensional construct. In their two dimensional model, referents were grouped according to their assumed and logical connection or linkages with each other in the subjects mind. Hypothetically for example, in the present study close friends and family members would likely form one NBMC composite and helpers, boss and sponsor would form another dimension. Within each of these NBMC composites, subjects would evaluate whether they anticipated approval (rewards) or disapproval (punishments). It would be assumed that the NBMC family-friends dimension and the NBMC helpers-boss-sponsor would

predict subjective norm and the subjective norm in turn would predict intention. Burnkrant and Page found that when the NBMC component was split in this way, it provided a significantly better fit to the data. They also found that the two NBMC dimensions differed considerably in their ability to predict subjective norm. Taken together, the fact that the NBMC construct was proven to be multidimensional and that the two dimensions were differentially predictive of subjective norm, suggests that it is inappropriate to sum the normative belief- motivation to comply products of all salient referents. On this basis it is recommended that future applications of TRA should replicate the methodology used in Burnkrant and Page's research to determine whether their conclusions have any merit and to determine the extent to which the type of behavior and target population influences the conclusion.

### **Comparison of Entry and Exit Responses**

Examination of responses collected at entry into treatment and those answered prior to discharge revealed that there was no significant shift in mean expectancy-value scores in either normative or behavioral beliefs, except for the belief 'would not make me feel down'. The mean difference revealed that at the time of discharge, subjects were more confident they would not feel down if they had a drink. This finding is quite conceivable according to the TRA and does not imply that subjects did not change some of their beliefs during the course of the treatment period. As Fishbein & Ajzen (1980) have stated:

It is apparent that two individuals who associate the same set of consequences with performing a given behavior may hold different attitudes toward the behavior if they evaluate the consequences differently or if the strength of their beliefs differs. By the same token, people who have different sets of salient behavioral beliefs (i.e. who associate different consequences with performing the behavior) may nonetheless have the same attitudes.

A related implication is that one or more of the person's beliefs can change and yet his attitude may remain the same. For example even though one salient

belief may be replaced by another, they may both have the same belief strength and evaluation. Alternatively, two beliefs might change simultaneously, with the net result being no change in attitude. (Fishbein & Ajzen, 1980, p. 67)

### **Differentiation of Abstainers from Non-Abstainers**

From a clinical point of view, the utility of the TRA rests in its ability to determine the degree to which men's intentions are influenced by attitudinal or normative factors and what specific kinds of normative and behavioral beliefs differentiate those who abstain or drink. Unfortunately, in the current study, only one subject reported an intention to drink and thus it was not possible to identify these beliefs and test hypotheses number four. A larger sample size would provide the opportunity to determine whether it was in fact possible to distinguish intenders from non intenders on the basis of their normative and attitudinal beliefs. While the study's fourth hypotheses was that analysis of the attitudinal and normative belief structures would be able to differentiate abstainers from non-abstainers, the results of this study would suggest that it is highly questionable whether a treatment population would ever respond that they intended to drink.

### **Correlation Between the Attitude and Normative Constructs and Their Proposed Antecedents**

Direct measures of the attitudinal and normative components revealed that only subjective norm was significantly correlated with its proposed determinants, normative beliefs ( $r = .83$ ,  $p < .0001$ ). Attitude toward the act was poorly related to its determinants, behavioral beliefs ( $r = -.28$ ). According to the TRA though, a person's attitude toward a behavior is determined by salient beliefs about performing the behavior in question. It follows that a high correlation should have been found between attitude and behavioral beliefs. In context of the current study, a number of speculations can be offered to explain why there was little correlation between attitude

towards having a drink and behavioral beliefs. The mean score for attitude was 2.04 while the mean score for behavioral beliefs was -4.75.

It has been suggested that Fishbein's attitudinal and normative measurements may not be able to adequately tap and integrate the complex underlying belief and normative structures involved with addictive behaviors (Schlegel et al., 1977). Another reality is that salient beliefs regarding the consequences of drinking are subject to change over time; they can be strengthened, weakened or replaced by entirely new beliefs. It is also possible that the salient beliefs used in the questionnaire were not salient for the respondents, although according to the TRA modal beliefs collected from the outpatient alcoholic men should be generalizable to the residential treatment population. In an application of TRA to the intention to drink milk, Rutter and Bunce (1989) in fact found that allowing individuals to supply their own salient beliefs resulted in better prediction of intention and present behavior, although not for followup behavior eight weeks later.

A final reason for the lack of correlation between behavioral beliefs and attitude could be due to the very nature of the target population being studied. The validity of subjects responses may be skewed by trying to respond according to what they think they should answer.

### **Summary and Recommendations for Future Research**

Hypotheses number one and two were supported by the results of this study. A high multiple correlation  $R=.73(p<.001)$  between intention to have a drink and the two components of the TRA was observed. The sum of the beliefs about the expectations of significant others times the motivation to comply with these expectations was highly related to subjective norm. For the entire sample, the intention to have a drink was largely mediated by normative considerations.

It is suggested that future application of TRA to alcoholic populations be designed to investigate the intention to *not* drink. After all, this is the purported goal of treatment

programs. However, there is little empirical knowledge concerning the resource deficits and decisional conflicts alcoholics face while attempting to not drink in the early periods of abstinence. An investigation of alcoholics intention to not drink would permit an examination of salient beliefs regarding the perceived benefits and disadvantages of not drinking and how their not drinking would be perceived by significant others.

It is further recommended that the construct perceived behavioral control be incorporated into the TRA as proposed by Ajzen and Madden (1985) in their theory of planned behavior. In a study of the intention to not drink, it is hypothesized that the perceived behavioral control construct would add a great deal to the predictive capacity of the TRA. Beliefs about resources and opportunities are viewed by Ajzen and Madden as underlying perceived behavioral control. Some of the resources and opportunities which have been found to have a bearing on alcoholics treatment outcome are coping skills (Copper & Russell, 1988), social support (Brown, 1985), and availability or strength of nonchemical incentive in an alcoholics life (Marlatt & Gordon, 1985; Cox & Klinger, 1988). It is reasonable to assume that if alcoholics leaving treatment believe they have neither the resources and opportunities necessary to remain abstinent, they are unlikely to form a strong intention to do so, even if they hold favorable attitudes towards staying off alcohol and believe that important others would want them to do the same.

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**Appendix A**

**SURVEY**  
**and**  
**CLASSIFICATION of RESPONSES**

### Survey

I am a graduate student at the University of Manitoba. As part of my Master's Degree in (Health) Education, I am planning a study to find out more about what puts people at risk of having a drink or a 'slip' after leaving a residential alcohol treatment program. The information collected in the study will be useful in finding out whether attitudes towards having a drink and the expectations of others are related to whether or not someone has a 'slip'.

Your help is needed in answering the questions listed below. These answers will only be used to decide what questions are asked in the study. It will take about ten to fifteen minutes to complete the survey questions. Your participation in this survey is totally voluntary. If you agree to fill out this survey, please do not include your name.

Return the survey (whether or not you have completed it) to the group counsellor (sealed) in the envelope provided. In this way, all the information collected in the survey will be anonymous and kept strictly confidential. This information will not be seen by or shared with AFM staff. This survey has been approved by:

Alcoholism Foundation of Manitoba's Research Review Committee Chairperson: Dr. Paul Madak (PH: 786 - 3831)

Faculty of Education, University of Manitoba Ethic's Review Committee Faculty Advisor: Dr. Dexter Harvey (PH: 474 - 9013)

Thank-you for your help.

Val McCutcheon  
Faculty of Education  
University of Manitoba

**Please answer these questions as honestly as you can.**

- A. Generally, when you feel like having a drink, what do you want that drink to do for you? Please list up to the first five things that come to your mind.

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

- B. Generally, when you feel like having a drink, what do you not want that drink to do for you? Again, please list up to the first five things that come to your mind.

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

When answering the next two questions, please include what relationship you have with the person(s) or group you have named. You only need to write down their first name, nickname or initials. For Example:

John	Friend
Mary	Spouse
Jack	Sponsor
Dr. C.	Family Doctor

C. Who are the most important groups or individuals in your life who would approve if you had a drink? Please list up to the first five that come to mind.

NAME	RELATIONSHIP
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

D. Who are the most important groups or individuals in your life who would disapprove if you had a drink? Again, please list up to the first five that come to mind.

NAME	RELATIONSHIP
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

E. Have you ever been in a residential treatment program for alcoholism?  
 YES  
 NO

## Survey Responses

---

### Salient Behavioral Beliefs Perceived Positive Consequences of Having a Drink

---

Belief Groupings	Frequency	Summary
Make me feel happy, high etc.	1	
Have a laugh	1	
Make me happy	1	
Get a buzz	1	
Make me feel god	1	
Feel good	1	
It makes me happy	1	Would give me a good feeling.
Feel good	1	
It makes me happy	1	
Make me drunk (feel good)	1	
To be happy	1	
To feel good	1	
To refresh me	1	
<hr/>		
Help me forget problems	1	
Forget problems	2	
Forget about problems	2	
Help me to forget my problems	1	
Forget unpleasant memories	1	
To get rid of my problems	1	Would help me to forget my problems.
Make me forget (temporarily)	1	
Put problems away for a while	1	
Relieve a problem	1	
Forget my problem or problems	1	

---

Make me feel more confident	1		
Confidence	1		
Help me to have confidence	1		
Security	1		
Give me confidence to tell someone off	1	<u>10</u>	Would make me feel more confident.
Make me able to talk to people	1		
Give me courage to do something	1		
Makes me feel like someone I want to be	1		
Makes me feel better about me	1		
Settle my nervous system	1		
Relieve tension	2		
Relieve frustration	1	<u>8</u>	Would give me relief from tension, stress or frustration.
Relieve emotional stress	1		
Relieve stress	2		
Take away or kill a heavy stress load	1		
Lose inhibitions	1		
Loosen me up	1	<u>7</u>	Would help me to loosen up.
Become more open	1		
Relax	4		
Popular	1		
Friends	1		
Help me to make friends	1		
Help me get friends	1	<u>6</u>	Would help me to have friends.
To fit in with people	1		
Get me back to my old friends	1		

Settle my anger	1	
Relieve anger	2	
Remove the anger	1	5
Suppress anger	1	
<hr/>		
To remove the hurt	1	
Stop the hurt	1	3
Relieve pain	1	
<hr/>		
Settle my fear	1	
Relieve guilt	1	3
Relieve remorse	1	
<hr/>		
Something to do	1	
Go out	1	3
Celebrate	1	
<hr/>		
Deaden all feelings	1	
So I won't have to face up to reality of everyday problems	1	2
<hr/>		
Get out of a depression or mood	1	
Release depression	1	2
<hr/>		
To remove the loneliness	1	
Take away loneliness	1	2
<hr/>		
Act normal	1	
<hr/>		
Fall asleep	1	1

### Perceived Negative Consequences of Having a Drink

Belief Groupings	Frequency	Summary
Anger	1	
Don't want it to make me reckless	1	
Fighting	1	
Violent	1	
Get me into trouble	1	Would become angry or aggressive.
Get me into rubble	1	
Do not want to be aggressive	1	<u>13</u>
Make me angry	2	
Argumentative	2	
I don't want it to make me angry	1	
Make my female be angry with me	1	
Intimate my anger	1	
Not to get in trouble with law	1	
Causing trouble	1	
Going to jail	1	<u>7</u> Would make me get into trouble.
Loosing license	1	
Get into trouble	2	
Sadness	1	
I don't want it to make me feel down.	1	
Depression	1	
Remorse	1	<u>7</u> Would make me feel down.
I don't want it to remind me of what kind of life I've lived.	1	
No self confidence	1	
Make me lose self respect	1	

Make me sick	5	<u>6</u>	
Hangover	1		Would make me sick.
Boredom	1		
Make me sleep	1	3	
Make me lazy	1		
Make me silly	1		
Make a fool of me	1	3	
Don't want it to make me foolish	1		
Start a binge or lead to one	1		
Maybe drink more	1	3	
Take me over the limit	1		
Loneliness	1	1	
Emotional	1	1	
Don't want my worker to know	1	2	
Don't want my boss to know	1		
Dishonesty	1	1	
Hurt family	1	1	
Screw up my life	1	1	

**Salient Normative Beliefs  
Perception of Who Would Approve or Disapprove  
of Having a Drink**

Referent	Approve	Disapprove	Total
Friends	26	4	30
Girlfriend/ex-spouse	5	11	16
Mother/Mom	1	10	11
Father/dad	1	7	8
Sister	3	5	8
Helpers: Sponsor, Pastor, Worker, AFM staff	1	7	8
Brother	2	4	6
Children	1	3	4
Family doctor	1	3	4
Co-worker	2	1	3
Boss	1	2	3
Parents	1	1	2
Brother-in-law	1	1	2
Aunt	1	1	2

**Appendix B**

**QUESTIONNAIRE**

Code#: \_\_\_\_\_

## Questionnaire

**Instructions:** For each of the following statements or questions, please put a check mark in the space that best describes your opinion.

**Example:** If you felt that being in a residential treatment program for your drinking problem was extremely important, you would mark your answer like this:

For me, being in a residential treatment program for my drinking problem is

IMPORTANT 3  2  1  0  1  2  3  UNIMPORTANT  
extremely quite slightly neutral slightly quite extremely

---

For me, being able to get a good feeling is

IMPORTANT 3  2  1  0  1  2  3  UNIMPORTANT  
extremely quite slightly neutral slightly quite extremely

For me, being able to get relief from tension, frustration or stress is

IMPORTANT 3  2  1  0  1  2  3  UNIMPORTANT  
extremely quite slightly neutral slightly quite extremely

For me, being able to forget about my problems is

IMPORTANT 3  2  1  0  1  2  3  UNIMPORTANT  
extremely quite slightly neutral slightly quite extremely

For me, having friends is

IMPORTANT 3  2  1  0  1  2  3  UNIMPORTANT  
extremely quite slightly neutral slightly quite extremely

For me, being able to feel more confident is

IMPORTANT 3 \_\_ 2 \_\_ 1 \_\_ 0 \_\_ 1 \_\_ 2 \_\_ 3 \_\_ UNIMPORTANT  
extremely quite slightly neutral slightly quite extremely

For me, being able to loosen up is

IMPORTANT 3 \_\_ 2 \_\_ 1 \_\_ 0 \_\_ 1 \_\_ 2 \_\_ 3 \_\_ UNIMPORTANT  
extremely quite slightly neutral slightly quite extremely

For me, **not** getting into trouble is

IMPORTANT 3 \_\_ 2 \_\_ 1 \_\_ 0 \_\_ 1 \_\_ 2 \_\_ 3 \_\_ UNIMPORTANT  
extremely quite slightly neutral slightly quite extremely

For me, **not** getting sick is

IMPORTANT 3 \_\_ 2 \_\_ 1 \_\_ 0 \_\_ 1 \_\_ 2 \_\_ 3 \_\_ UNIMPORTANT  
extremely quite slightly neutral slightly quite extremely

For me, **not** getting angry or aggressive is

IMPORTANT 3 \_\_ 2 \_\_ 1 \_\_ 0 \_\_ 1 \_\_ 2 \_\_ 3 \_\_ UNIMPORTANT  
extremely quite slightly neutral slightly quite extremely

For me, **not** feeling down is

IMPORTANT 3 \_\_ 2 \_\_ 1 \_\_ 0 \_\_ 1 \_\_ 2 \_\_ 3 \_\_ UNIMPORTANT  
extremely quite slightly neutral slightly quite extremely

I intend to drink in the next month

LIKELY 3 \_\_ 2 \_\_ 1 \_\_ 0 \_\_ 1 \_\_ 2 \_\_ 3 \_\_ UNLIKELY  
extremely quite slightly neutral slightly quite extremely

Drinking in the next month would be

GOOD      3 \_\_ 2 \_\_ 1 \_\_ 0 \_\_ 1 \_\_ 2 \_\_ 3 \_\_      BAD  
 extremely quite slightly neutral slightly quite extremely

PLEASANT    3 \_\_ 2 \_\_ 1 \_\_ 0 \_\_ 1 \_\_ 2 \_\_ 3 \_\_      UNPLEASANT  
 extremely quite slightly neutral slightly quite extremely

IMPORTANT   3 \_\_ 2 \_\_ 1 \_\_ 0 \_\_ 1 \_\_ 2 \_\_ 3 \_\_      UNIMPORTANT  
 extremely quite slightly neutral slightly quite extremely

Drinking in the next month would give me a good feeling.

LIKELY      3 \_\_ 2 \_\_ 1 \_\_ 0 \_\_ 1 \_\_ 2 \_\_ 3 \_\_      UNLIKELY  
 extremely quite slightly neutral slightly quite extremely

Drinking in the next month would help me to forget about my problems.

LIKELY      3 \_\_ 2 \_\_ 1 \_\_ 0 \_\_ 1 \_\_ 2 \_\_ 3 \_\_      UNLIKELY  
 extremely quite slightly neutral slightly quite extremely

Drinking in the next month would give me relief from tension, frustration or stress.

LIKELY      3 \_\_ 2 \_\_ 1 \_\_ 0 \_\_ 1 \_\_ 2 \_\_ 3 \_\_      UNLIKELY  
 extremely quite slightly neutral slightly quite extremely

Drinking in the next month would help me to have friends.

LIKELY      3 \_\_ 2 \_\_ 1 \_\_ 0 \_\_ 1 \_\_ 2 \_\_ 3 \_\_      UNLIKELY  
 extremely quite slightly neutral slightly quite extremely

Drinking in the next month would help me to feel more confident.

LIKELY 3 \_\_ 2 \_\_ 1 \_\_ 0 \_\_ 1 \_\_ 2 \_\_ 3 \_\_ UNLIKELY  
extremely quite slightly neutral slightly quite extremely

Drinking in the next month would help me to loosen up.

LIKELY 3 \_\_ 2 \_\_ 1 \_\_ 0 \_\_ 1 \_\_ 2 \_\_ 3 \_\_ UNLIKELY  
extremely quite slightly neutral slightly quite extremely

Drinking in the next month would **not** get me into trouble.

LIKELY 3 \_\_ 2 \_\_ 1 \_\_ 0 \_\_ 1 \_\_ 2 \_\_ 3 \_\_ UNLIKELY  
extremely quite slightly neutral slightly quite extremely

Drinking in the next month would **not** make me get sick.

LIKELY 3 \_\_ 2 \_\_ 1 \_\_ 0 \_\_ 1 \_\_ 2 \_\_ 3 \_\_ UNLIKELY  
extremely quite slightly neutral slightly quite extremely

Drinking in the next month would **not** make me get angry or aggressive.

LIKELY 3 \_\_ 2 \_\_ 1 \_\_ 0 \_\_ 1 \_\_ 2 \_\_ 3 \_\_ UNLIKELY  
extremely quite slightly neutral slightly quite extremely

Drinking in the next month would **not** make me feel down.

LIKELY 3 \_\_ 2 \_\_ 1 \_\_ 0 \_\_ 1 \_\_ 2 \_\_ 3 \_\_ UNLIKELY  
extremely quite slightly neutral slightly quite extremely

Most people who are important to me think I

SHOULD 3 \_\_ 2 \_\_ 1 \_\_ 0 \_\_ 1 \_\_ 2 \_\_ 3 \_\_ SHOULD NOT  
strongly moderately slightly neutral slightly moderately strongly

drink in the next month.

**NOTE:** Some of the following questions may not apply to you. For example, you may not have a brother or a sister. If this is the case, simply mark an X in the box beside the words DOES NOT APPLY and go to the next question. If you have more than one brother or sister, answer the question in regards to the one who is most influential or important to you in your life.

---

DOES NOT APPLY [ ]

My wife (ex-wife or girlfriend) thinks I

SHOULD    3 \_\_\_ 2 \_\_\_ 1 \_\_\_ 0 \_\_\_ 1 \_\_\_ 2 \_\_\_ 3 \_\_\_    SHOULD NOT  
 strongly moderately slightly neutral slightly moderately strongly

drink in the next month.

Generally, how much do you want to do what your wife (ex-wife or girlfriend) thinks you should do?

NOT AT ALL 3 \_\_\_ 2 \_\_\_ 1 \_\_\_ 0 \_\_\_ 1 \_\_\_ 2 \_\_\_ 3 \_\_\_    VERY MUCH  
 strongly moderately slightly neutral slightly moderately strongly

---

DOES NOT APPLY [ ]

My close friends think I

SHOULD    3 \_\_\_ 2 \_\_\_ 1 \_\_\_ 0 \_\_\_ 1 \_\_\_ 2 \_\_\_ 3 \_\_\_    SHOULD NOT  
 strongly moderately slightly neutral slightly moderately strongly

drink in the next month.

Generally, how much do you want to do what your close friends think you should do?

NOT AT ALL 3 \_\_\_ 2 \_\_\_ 1 \_\_\_ 0 \_\_\_ 1 \_\_\_ 2 \_\_\_ 3 \_\_\_ VERY MUCH  
 strongly moderately slightly neutral slightly moderately strongly

---

DOES NOT APPLY [ ]

My father thinks I

SHOULD 3 \_\_\_ 2 \_\_\_ 1 \_\_\_ 0 \_\_\_ 1 \_\_\_ 2 \_\_\_ 3 \_\_\_ SHOULD NOT  
 strongly moderately slightly neutral slightly moderately strongly

drink in the next month.

Generally, how much do you want to do what your father thinks you should do?

NOT AT ALL 3 \_\_\_ 2 \_\_\_ 1 \_\_\_ 0 \_\_\_ 1 \_\_\_ 2 \_\_\_ 3 \_\_\_ VERY MUCH  
 strongly moderately slightly neutral slightly moderately strongly

---

DOES NOT APPLY [ ]

My mother thinks I

SHOULD 3 \_\_\_ 2 \_\_\_ 1 \_\_\_ 0 \_\_\_ 1 \_\_\_ 2 \_\_\_ 3 \_\_\_ SHOULD NOT  
 strongly moderately slightly neutral slightly moderately strongly

drink in the next month.

Generally, how much do you want to do what your mother thinks you should do?

NOT AT ALL 3 \_\_\_ 2 \_\_\_ 1 \_\_\_ 0 \_\_\_ 1 \_\_\_ 2 \_\_\_ 3 \_\_\_ VERY MUCH  
 strongly moderately slightly neutral slightly moderately strongly

---

DOES NOT APPLY [ ]

My sister thinks I

SHOULD 3 \_\_\_ 2 \_\_\_ 1 \_\_\_ 0 \_\_\_ 1 \_\_\_ 2 \_\_\_ 3 \_\_\_ SHOULD NOT  
 strongly moderately slightly neutral slightly moderately strongly

drink in the next month.

Generally, how much do you want to do what your sister thinks you should do?

NOT AT ALL 3 \_\_\_ 2 \_\_\_ 1 \_\_\_ 0 \_\_\_ 1 \_\_\_ 2 \_\_\_ 3 \_\_\_ VERY MUCH  
 strongly moderately slightly neutral slightly moderately strongly

---

DOES NOT APPLY [ ]

My brother thinks I

SHOULD 3 \_\_\_ 2 \_\_\_ 1 \_\_\_ 0 \_\_\_ 1 \_\_\_ 2 \_\_\_ 3 \_\_\_ SHOULD NOT  
 strongly moderately slightly neutral slightly moderately strongly

drink in the next month.

Generally, how much do you want to do what your brother thinks you should do?

NOT AT ALL 3 \_\_\_ 2 \_\_\_ 1 \_\_\_ 0 \_\_\_ 1 \_\_\_ 2 \_\_\_ 3 \_\_\_ VERY MUCH  
 strongly moderately slightly neutral slightly moderately strongly

---

DOES NOT APPLY [ ]

Helpers (such as a counsellor, social worker, A.A. sponsor, doctor or minister) think I

SHOULD 3 \_\_\_ 2 \_\_\_ 1 \_\_\_ 0 \_\_\_ 1 \_\_\_ 2 \_\_\_ 3 \_\_\_ SHOULD NOT  
 strongly moderately slightly neutral slightly moderately strongly

drink in the next month.

Generally, how much do you want to do what the helper (s) think you should do?

NOT AT ALL 3 \_\_\_ 2 \_\_\_ 1 \_\_\_ 0 \_\_\_ 1 \_\_\_ 2 \_\_\_ 3 \_\_\_ VERY MUCH  
 strongly moderately slightly neutral slightly moderately strongly

**Appendix C**

**LETTER of INTRODUCTION**

**and**

**CONSENT FORM**

### Letter of Introduction

Dear Sir:

I am a graduate student at the University of Manitoba. As part of my Master's Degree in Health Education, I am doing a study to learn more about what puts people at risk of having a 'slip' following treatment for alcoholism. The information I collect will be useful in determining whether beliefs about the consequences of drinking and the expectations of others are related to whether or not someone drinks or has a 'slip'. Studies such as this will provide valuable information concerning relapse prevention.

The purpose of this letter is as follows:

- To obtain your assistance in this important study.
- To request your permission for the Alcoholism Foundation of Manitoba to release your name and address so that you may participate. The AFM will not release this information unless you agree to take part in this study by signing the attached consent form and returning it to an AFM counsellor (sealed) in the envelope provided.

If you do agree to participate, you will be asked to answer a simple questionnaire twice during the residential treatment program; once at the the beginning and then again just before you leave. This will take about fifteen to twenty minutes each time. Then one month after you have left the program, you will be contacted and simply asked whether or not you have drank in the past month. There will be absolutely no judgement attached to this answer!

All the information collected in this study will be kept strictly confidential and will not be shared with AFM staff or others. Your name will never appear on the questionnaires and all results will be reported on a group basis, therefore your anonymity is assured.

Please return the attached consent form (whether or not you are interested in participating in this study) to your AFM counsellor (sealed) in the envelope provided.

This study has been approved by:

The Alcoholism Foundation of Manitoba's Research Review Committee

Chairperson: Dr. Paul Madak

The Alcohol Foundation of Manitoba Research and Data Systems Coordinator: Dr. Paul Madak

The Faculty of Education, University of Manitoba Ethic's Review Committee

If you have any further question or concerns about this study, please free free to contact me at \_\_\_\_\_ or my faculty advisor (Dr. Dexter Harvey) at 474 - 9013.

Thank-you for your help.

Valdiene McCutcheon

Department of Math &  
Natural Sciences  
Faculty of Education  
University of Manitoba

### Consent Form

---

**NOTE:** If you are interested and agree to participate in this study, please sign below. Participants must be at least eighteen years of age and not be dually addicted.

---

I (please print name) \_\_\_\_\_  
have agreed to participate in the relapse prediction study and give my permission to the Alcoholism Foundation of Manitoba to release my name and address.

I understand that my participation is voluntary and that I may withdraw at anytime. I also understand that my name will never appear on any of the questionnaires and that all the information I provide will be kept strictly confidential.

ADDRESS: \_\_\_\_\_

PHONE: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_

DATE: \_\_\_\_\_

**Appendix D**

**FOLLOWUP MAIL**

**QUESTIONNAIRE**

Code# : \_\_\_\_\_

### Followup Questionnaire

- INSTRUCTIONS:**
- Please answer the following questions as honestly and as best as you can.
  - Mark your answer with a check mark.
  - When you have finished answering these questions, make sure that you return them in the envelope provided.

1. Did you drink in the first one month period after you left the AFM residential treatment program?
 

No  If your answer is no, there are no further questions for you to answer.

Yes  If your answer is yes, please continue and answer questions 2, 3, and 4.
  
2. How long after you left the AFM treatment program was it before you had your first drink?
 

In the first week

In the second week

In the third week

In the fourth week
  
3. How often did you drink in the first month after you left AFM?
 

<input type="checkbox"/> Once	<input type="checkbox"/> Four times
<input type="checkbox"/> Two times	<input type="checkbox"/> Five times
<input type="checkbox"/> Three times	<input type="checkbox"/> More than six times
  
4. How many drinks did you have each time you drank?
 

<input type="checkbox"/> One drink	<input type="checkbox"/> Four drinks
<input type="checkbox"/> Two drinks	<input type="checkbox"/> Five drinks
<input type="checkbox"/> Three drinks	<input type="checkbox"/> More than six drinks

## Followup Questionnaire

Dear Sir:

During your stay at the AFM residential treatment program, you agreed to participate in a Relapse Prediction Study and gave permission to have your name and address released from the AFM.

You have already completed two questionnaires which asked you such things as whether you intended to drink in the next month, what you thought would happen if you did drink, and whether others would approve.

Now that you have left the treatment program, there is one final and important set of questions for you to answer. Your answers to these questions will provide an opportunity to learn more about why some people 'slip' and perhaps how to help them before they relapse.

That is why it is important for you to take a few minutes of your time to complete the enclosed questionnaire and then simply return it in the envelope provided as soon as you can ! Once again, your answers to these questions will be kept strictly confidential and will not be shared with AFM staff or others. Your name will never appear with any of your answers. At the end of this study you will receive a report which summarizes all the information gathered in the questionnaires. However, I would like to take this opportunity now to thank you for your time and willingness to participate in this study.

Yours sincerely,

Valdiene McCutcheon  
Faculty of Education  
University of Manitoba