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PREVIEW

The Relationship between Alcohol Expectancies  
and Social Anxiety

by

Cameron Stuart White

A DISSERTATION

Presented to the Faculty of  
The Graduate College at the University of Nebraska  
In Partial Fulfillment of Requirements  
For the Degree of Doctor of Philosophy

Major: Psychology

Under the Supervision of Professor P. Clayton Rivers

Lincoln, Nebraska

August, 1995

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PREVIEW

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DISSERTATION TITLE

The Relationship between Alcohol Expectancies and

Social Anxiety

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GRADUATE COLLEGE  
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# The Relationship Between Alcohol Expectancies and Social Anxiety

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University of Nebraska, 1995

Adviser: P. Clayton Rivers

The belief that alcohol alleviates social anxiety and acts as a social lubricant has long been recognized anecdotally, but only recently has this topic been the focus of systematic research. The purpose of this study was to determine the relationship between alcohol expectancies and social anxiety. To explore this, forty social phobics and two hundred and forty-seven college undergraduates were given the Alcohol Expectancy Questionnaire, social anxiety measures, and alcohol consumption and alcohol dependence questionnaires.

AEQ alcohol expectancy scale scores were calculated for each group. Next, the social anxiety measures were correlated with the domain of Increased Social Assertiveness (scale 4) of the AEQ. In separate analyses, AEQ scale scores were compared across group, level of alcohol consumption, gender, and social phobia subtype.

The relative order of the AEQ scales was found to be the same for both groups [i.e., Global Positive Changes (scale 1), Increased Social Assertiveness (scale 4), Physical and Social Pleasure (scale 3), Relaxation and Tension Reduction (scale 5), Arousal and Power (scale 6), and Enhanced Sexual

Performance (scale 2)]. Social anxiety was not found to be correlated with Increased Social Assertiveness (scale 4) for either anxious group, but was moderately correlated with this expectancy domain for the entire college sample. Analyses revealed that for the social phobics, the domain of Increased Social Assertiveness (scale 4) was best predicted by Global Positive Changes (scale 1), the Social Avoidance and Distress Scale (SADS), or quantity of alcohol consumption, whereas for the socially anxious college group, Increased Social Assertiveness (scale 4) was predicted by Relaxation and Tension Reduction (scale 5), Arousal and Power (scale 6), or degree of alcohol dependence. The social phobics' alcohol expectancies were found to be significantly lower than those of the college sample. Several AEQ scales were found to be positively correlated with alcohol consumption. Finally, as predicted, there were no gender or social phobia subtype differences in strength of AEQ alcohol expectancies.

The limitations of the study are described and the results are discussed in terms of future research.

## DEDICATION

I dedicate this work to my parents, Dr. E. Bruce and Judith J. White who provided steadfast support throughout my educational endeavors and who never let me lose sight of the light at the end of the tunnel.

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## Introduction

It has been hypothesized in the alcohol literature for many years that there is a significant relationship between alcohol use and anxiety (for reviews see Cappell & Herman, 1972; Wilson, 1988). In fact, one early but enduring etiological theory of alcohol use, the tension reduction hypothesis, proposes that alcohol reduces tension or anxiety and that this reinforces drinking behavior (Conger, 1956). Although the tension reduction hypothesis has been the target of much research, it has only been partially supported in the literature (Cappell & Herman, 1972; Wilson, 1988).

Another newer, but growing, part of the alcohol literature is research on alcohol expectancies, or beliefs about the effects of alcohol. A smaller body of work exists on the co-variation of social anxiety with alcohol expectancies among non-clinical populations. A consistent finding in the literature is that social phobia and alcohol abuse are strongly and positively correlated. Surprisingly, no study has assessed the alcohol expectancies of a clinically socially anxious sample, although several studies have been done with populations having sub-clinical levels of social anxiety. The next logical step is to document what types of alcohol expectancies people with severe social anxiety maintain and then determine if and how they vary from those of other populations (Kushner, Sher, & Beitman, 1990).

The present investigation is designed to determine

precisely what types of alcohol expectancies socially anxious people maintain. The results of this project will clarify which particular expectancy domain(s) is (are) most strongly endorsed by a clinically socially anxious group and a non-clinical socially anxious group. The results will also provide information that bears on competing theoretical explanations regarding the reasons socially anxious people use alcohol (i.e., the tension reduction hypothesis versus the self-medication hypothesis).

#### Significance

This research project has significance for several reasons. For example, it documents the alcohol expectancies of extremely socially anxious people which has not been done before. The findings will shed light on the reasons socially anxious people drink alcohol (i.e., to self-medicate or to reduce anxiety). Furthermore, the results of this study will contribute significantly to the alcohol expectancy literature by replicating the prior alcohol expectancy work with non-clinical socially anxious college populations.

The results also have potential value from a treatment perspective. For example, given that the newer treatments often focus on matching specific sub-populations of drinkers to particular treatments (e.g., Hester & Miller, 1989), and if it is found that the interaction of social phobia and alcohol use is different than it is for the other anxiety disorders (as suggested by Kushner, Sher, & Beitman, 1990), then

existing treatments may be refined to focus on the unique aspects of this particular combination (see Massey & Goldman, 1988; Conners & Maisto, 1988). Conners and Maisto (1988) suggest that once the maladaptive expectancy patterns are identified then cognitive restructuring can be used to alter and "normalize" them.

One study has shown that the ability of treatment to change drinkers' beliefs is an important mediator of outcome (Young & Longmore, 1987). Specifically, Young and Longmore found that cognitive-behavioral therapy was more effective than education and supportive therapy for problem drinkers. One important finding was that the clients who showed the most improvement also had the most change in their alcohol expectancies (i.e., the expectancies became more like the sample of normal drinkers). Overall, information from the current research project increases the understanding of alcohol expectancies, social anxiety, and alcohol users who are socially anxious.

#### **Review of the Literature**

The following sections contain brief reviews of pertinent areas of the literature in order to provide background to the reader. Alcohol expectancy research is the first area reviewed and both descriptive and theoretical information about expectancies is covered. Next, a general survey of research addressing the association of social anxiety and alcohol use is reviewed. The section that follows describes



several specific studies assessing social anxiety and alcohol expectancies. Since social phobia and alcohol use can be viewed from the perspective of "dual diagnosis" (i.e., the co-existence of a substance abuse and another mental health disorder), pertinent information from this literature will be briefly reviewed. The next section covers theoretical work germane to the topic of social anxiety and alcohol use with an emphasis on the potential importance of cognitive factors for these two problems. Finally, the statement of the problem and hypotheses section contains a review of relevant theoretical information which provides clues about the relationship between alcohol use and social anxiety and outlines the specific goals of this project.

### **Alcohol Expectancies**

Origin of Alcohol Expectancies: Only within the last fifteen years has the role of alcohol expectancies in the initiation and continuation of alcohol use been recognized in the alcohol literature. This new cognitive emphasis can be traced, in part, to the current emphasis in psychology on cognitive mediators for all types of behavior. It is not surprising, then, that there is now recognition that cognitive factors play a significant role in the initiation and maintenance of alcohol consumption (Goldman, Brown, & Christiansen, 1987; Marlatt & Gordon, 1985; Wilson, 1987).

The notion of expectancy per se is not new, and one of the first to discuss this concept was Tolman (1932).

Specifically, he commented on the importance of mediating variables (e.g., purpose, knowledge, thinking) in the stimulus response chain. Therefore, he made the important contribution of expanding the list of possible variables that account for behavior to include cognitive factors, such as expectancies.

Another early researcher to focus on the expectancy concept was Rotter. He defined expectancy as the "the probability held by the individual that a particular reinforcement will occur as a function of a specific behavior" (Rotter, 1954, p. 107). However, according to Rotter, expectancy is only one of the three most powerful predictors of behavior (along with the valence of the consequence and the psychological situation) (Rotter, 1954). Thus, he went beyond the expectancy concept to provide a formula to make strong predictions about behavior. Rotter (1981) also hypothesized that one's expectancies become more set and less changeable as the same stimulus situation occurs repeatedly. This has significant implications for the practicality of changing expectancies as a treatment intervention. It has yet to be determined whether expectancies "crystallize" or become more stable over time or not.

In the 1970s, alcohol researchers began to view expectancy differently and started to systematically control for the cognitive variable of expectancy, or instructional

set, using the balanced placebo design (Shapiro, 1978). This experimental design involved telling subjects that they received alcohol (i.e., were given that expectancy), but neither they nor the researcher knew whether they actually did or not.

From 1980 to the present, research has continued unabated on expectancies. Even though the expectancy construct continues to become better defined and measured, it is still in the process of theoretical evolution and empirical verification and much more work remains to be done to refine this concept (Brown, Goldman, Christiansen, & Smith, 1989).

Development of Alcohol Expectancies: Alcohol expectancies appear to develop much like other beliefs and attitudes. Research findings suggest that they begin to develop at a young age through observational learning, exposure to the mass media, and contact with alcohol and alcohol-related behavior in other contexts (Goldman, Brown, & Christiansen, 1987). Based on these experiences, the person begins to make attributions about the relationship between alcohol consumption and its effect on mood states and behavior (Goldman, Brown, & Christiansen, 1987). These experiences, along with the resulting attributions, are the basis for the development of a person's schema about the effects of alcohol (i.e., alcohol expectancies). Since people have unique learning histories and genetics, there are significant individual differences in the strength and pattern of alcohol

expectancies that develop. Interestingly, it appears that personal experience with alcohol is not necessary in the development of alcohol expectancies. For example, research has shown that the expectancies of twelve to fourteen year-olds with no experience with alcohol are very similar to those of older children and to college students (Christiansen, Goldman, & Brown, 1985).

Measurement of Alcohol Expectancies: Several different instruments have been developed to assess the types of alcohol expectancies people have (e.g., The Alcohol Beliefs Scale (ABS), Connors, O'Farrell, Cutter, & Thompson, 1987; the Effects of Drinking Alcohol scale (EDA), Leigh, 1987; and the Alcohol Effects Scale (AES), Southwick, Steele, Marlatt, & Lindell, 1981). Most researchers have used the statistical method of factor analysis to determine homogenous expectancy domains, and a number of factors have been identified (Brown, Goldman, Inn, & Anderson, 1980). The Alcohol Expectancy Questionnaire (AEQ) (Brown, Goldman, Inn, & Anderson, 1980), which measures beliefs about the positive effects of alcohol, is the most widely used instrument in alcohol expectancy research and was used in this study (see method section for additional information regarding AEQ scale construction and development).

Criticisms of Alcohol Expectancy Work: Despite the fact that research on alcohol expectancies has added significantly to our understanding of alcohol use, the whole area has been

criticized for a number of reasons (see Leigh, 1989, for a representative critique). For example, Corcoran & Parker (1989) have argued that alcohol expectancy research has not been clearly tied to any proven theoretical base. However, in all fairness, it must be noted that alcohol expectancy research is still in a nascent stage which accounts for the absence of a comprehensive theory of expectancy (Brown, Goldman, Christiansen, & Smith, 1984). Another reason for this specific criticism is that although many studies have offered theoretical explanations for the relationship between alcohol expectancies and alcohol use, many do not make explicit the conceptual links between the construct of expectancy and prior theoretical work. For example, although Goldman, Brown, and Christiansen (1987) offer a very cogent discussion of the theoretical underpinnings that bear on alcohol expectancy research, there is no real explanation of where or how the expectancy construct fits into the larger nomological net. Nevertheless, the authors correctly note that even though a unifying theory of alcohol expectancy has yet to be developed, a number of theoretical underpinnings are clearly present. For example, the alcohol expectancy construct evolved from the work of early learning theorists who studied this concept, such as Tolman (1932) and Rotter (1954). In addition, other social learning theorists such as Bandura (1977, 1986) have enlarged the expectancy concept by adding the notion of specific categories of expectancies such

as outcome and efficacy expectancies. Significant contributions to the development of the expectancy construct have also been made by alcohol researchers (e.g., Goldman, Brown, & Christiansen, 1987).

Another major criticism that has been leveled at alcohol expectancy research is that expectancies are currently measured in a lopsided fashion with only positive expectancies being assessed (Adams & McNeil, 1991; Leigh, 1989). This criticism fueled new research and recent findings suggest that negative expectancies are not nearly as useful for the prediction of drinking behavior as positive expectancies are (Stacy, Marlatt, & Widaman, 1990). For example, since the positive outcomes associated with alcohol use are more immediate than the negative outcomes, they are considered to be more powerful determinants of behavior and hence more useful to measure (Stacy, Marlatt, & Widaman, 1990). This finding, along with the principle of encoding specificity (i.e., the notion that retrieval of information is enhanced in situations approximating the one in which encoding originally occurred), suggests that information about positive experiences with alcohol may be more readily retrieved from memory (and hence more measurable) than is information about negative experiences with alcohol (Stacy, Marlatt, & Widaman, 1990). Therefore, there appear to be sound reasons to focus on measuring only positive expectancies.

In summary, it is probably unfair to criticize expectancy

researchers for not developing a single umbrella theory for the concept of expectancy at this time because it is still in the early stages of development. Many believe the expectancy concept is promising and has value because specific expectancies have been found to be good predictors of future drinking patterns for a number of groups such as adolescents and college students (Mann, Sher, & Chassin, 1987; Brown, 1985). Also, specific expectancies, such as Relaxation and Tension Reduction (scale 5), have been found to predict type of drinking (including problem drinking) (Brown, 1985; Zarantonello, 1986). Finally, several studies show that alcohol expectancies account for a substantial proportion of the variance regarding drinking behavior and treatment outcome (Brown, 1985; Brown, Goldman, Inn, & Anderson, 1980).

In conclusion, alcohol expectancy appears to be a useful, if incompletely defined, construct in the alcohol literature. In the final analysis, a larger body of research is needed to determine the significance of expectancies and the degree to which they enhance our understanding of alcohol use.

#### **Anxiety and Alcohol Use**

In contrast to expectancies, the topic of anxiety and alcohol use has appeared in the alcohol literature for many years. However, this topic is complex and the precise relationship between the two has yet to be unequivocally determined.

One early, but classic theory bearing on this topic is

Conger's (1956) tension reduction hypothesis. In essence, this theory is an application of learning principles to alcohol use. The tension reduction hypothesis postulates that alcohol is consumed because it provides relief from tension (which can be more narrowly conceptualized as anxiety, see Wilson, 1988) which in turn reinforces the drinking response. Inherent in this notion are two ideas; that alcohol reduces tension and that alcohol is consumed for this effect (Cappell & Herman, 1972). Although the tension reduction hypothesis has fueled almost four decades of research, at least one much-cited review (Cappell & Herman, 1972) states that the body of literature on tension reduction is "...negative, equivocal, and often contradictory". Others, such as Wilson (1987b), have reviewed the recent studies and have begun to reconcile the seemingly opposite findings by taking into account their different measures, populations, and methodologies. According to Wilson (1987b), rather than determining whether alcohol reduces tension, it is more useful to ask the question "...under what conditions, at which doses, in whom, and on what measures alcohol reduces anxiety" (p.136).

The findings of several studies have supported the notion that people believe alcohol has the effect of reducing social anxiety. For example, one study found that patients diagnosed with social phobia and agoraphobia attributed tension-reducing properties to alcohol consumption (Smail, Stockwell, & Canter, 1984). The results of other research appears to be converging