The Differential Role of Alcohol Expectancies and Drinking Refusal Self-Efficacy in Problem and Nonproblem Drinkers*

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ABSTRACT. Objective: The present study aimed to examine the discriminatory ability of alcohol expectancies and drinking refusal self-efficacy and to identify the differential role of these constructs in social and problem drinkers. Method: Drinkers (N = 276) were self-selected from general (n = 185) and clinical (n = 91) populations to complete a 40-minute questionnaire that asked about alcohol expectancies, drinking refusal self-efficacy, consumption, degree of dependence and demographics. Results: The results showed that in social drinkers both the expectancy and self-efficacy constructs were reliably able to discriminate between types of drinker. Expectancy was related to consumption in social drinkers, but did not appear to account for a significant proportion of the variance in problem drinkers. Conclusions: The findings are discussed in terms of a two-process model of drinking behavior that suggests that expectancies operate differently in social and problem drinkers. (J. Stud. Alcohol 59: 704-711, 1998)

EXPECTATIONS about the effects of alcohol (alcohol expectancies) and one's perceived ability to resist drinking (drinking refusal self-efficacy) are an integral part of social learning formulations of alcohol use and misuse.

Drinking refusal self-efficacy (DRSE) is the belief in one's ability to resist drinking in certain, usually high-risk, situations and originated from Bandura's (1986) concept of efficacy expectations—one's perceived ability to achieve a desired outcome in a particular situation. Several authors (e.g., Lee and Oei, 1993; Young, 1994; Young and Oei, 1996) have referred to the necessary modification of this definition to a drinking situation and others have extended this term to refer to resisting heavy use (e.g., Annis and Graham, 1988), resisting urges (Rist and Watzl, 1983) and confidence in not using (DiClemente et al., 1985), among other definitions. The evidence supporting the role of DRSE in alcohol consumption is somewhat sparse, but fairly convincing. Heather and colleagues (1983), for example, found that beliefs about personal drinking problems were directly related to relapse after treatment, and Burling et al. (1989) showed a relationship between abstainers and high refusal self-efficacy. Researchers have also found that low refusal self-efficacy is related to higher consumption levels in non-treatment populations (Hays and Ellickson, 1990). In addition, research from the Oei laboratory (Baldwin et al., 1993; Lee and Oei, 1993; Oei and Dunk, submitted for publication) has shown that adult social drinkers' refusal self-efficacy is strongly positively correlated with consumption in certain situations.

Alcohol expectancies (AEs) refer to the beliefs held by an individual about the effects of drinking or the possible outcomes of drinking. They are related to desired outcomes of drinking and to the likelihood of the outcomes occurring. The decision to drink is thought to be mediated by an individual's beliefs about the desirable consequences of drinking (Leigh, 1989). Expectancies are said to develop, possibly before experience with alcohol (Christiansen and Goldman, 1983; Christiansen et al., 1982; Christiansen et al., 1989), largely through vicarious learning and other conditioning mechanisms and are mediated by other cognitive and personal factors (Goldman et al., 1987). Drinking by parents, relatives, peers and media role models has been blamed as a source for the development of expectancies by influencing attitudes and values about drinking (Beck et al., 1993; Goldman et al., 1987) and by modeling behavior in a social context (Abrams and Niaura, 1987). According to expectancy theorists, early expectations about the effects of alcohol are then reinforced by both environmental contingencies and the direct pharmacological effects of drinking. The maintenance of drinking is dependent upon expectations about alcohol being confirmed or contradicted during drinking sessions.

Numerous studies, using a variety of questionnaires developed to measure these constructs, have found that expectancies are closely associated with consumption patterns in adults (Knight and Godfrey, 1993; Lee and Oei, 1993) and can even predict future consumption patterns in adolescents (Christiansen et al., 1989). Although limited, there is also evidence that indicates that alcohol expectancies can successfully distinguish between different types of drinker (Oei

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and Sweeney, submitted for publication). Much of this research has focused on gender differences (Gustaffson, 1993; McMahon et al., 1994), although studies have shown that alcohol expectancies are able to discriminate between lone and group problem drinkers (Jones and McMahon, 1992) and between restrained and unrestrained drinkers (Bensley, 1991).

There is a growing body of evidence that supports an association between expectancies about alcohol and high-risk drinking (Brown, 1985; Oei and Pacey, 1988; Wernert et al., 1993) and suggests that heavy/high-risk drinkers have expectancies that are substantively different from those of light/low-risk drinkers (Baldwin et al., 1993; Jones and McMahon, 1994a; McMahon et al., 1994). Others have shown that expectancies can predict abstinence after treatment (Rather and Sherman, 1989) and, perhaps more important, that a change in expectancies is related to posttreatment success (Brown et al., 1985).

Most of these studies have concentrated on the role of positive AE, and negative expectancies have been largely overlooked in previous work, with research in the area flourishing only relatively recently. Popular expectancy scales (e.g., Alcohol Expectancy Questionnaire [AEQ]; Brown et al., 1987) have been criticized for neglecting the importance of negative alcohol expectancies (NAE) (Jones and McMahon, 1992, 1993, 1994b; McMahon and Jones, 1992, 1993) and the limited number of studies investigating NAEs (e.g., McMahon et al., 1994; Young and Knight, 1989) have found a link between the two. McMahon et al. (1994) suggest that NAEs have important utility in explaining drinking behavior and even go so far as to suggest that positive AEs are unimportant when assessed against NAEs. However, in studies that have examined these constructs together, heavier drinkers have been found to have some greater negative expectancies, but also some greater positive expectancies, than lighter drinkers (Leigh, 1987; Young and Knight, 1989).

Studies such as these certainly suggest that at least one important factor underlying the development of harmful drinking is an individual’s expectancies about alcohol. However, many of these studies have not shown consistent results, and often in treatment studies researchers have found that AEs did not change immediately after treatment and did not predict consumption patterns until 3-month or more follow-up (e.g., Connors et al., 1993; Jones and McMahon, 1993).

So, while expectancies are evidently an important influence on drinking behavior at many levels, the exact nature of their influence is still unclear. Goldman and colleagues (Goldman and Rather, 1995; Rather et al., 1992; Roehrich and Goldman, 1995) suggest that expectations about the effects of alcohol are stored as memory processes, and, although they have presented data using a word priming paradigm to support this, their interpretation has been challenged (Kerby, 1995; Oei and Dunk, submitted for publication) and their proposal is as yet inconclusive.

In a broader model, Oei and Baldwin (1994) have put forward a two factor theory of expectancy action, which suggests that expectancies, developed through operant learning and modeling processes and classically conditioned responses, operate to a large extent independently and differentially in different types of drinkers. The first process, the acquisition phase, is seen as being dominated by controlled processing, involving instrumental learning processes, where the decision to drink is mediated by the weighing up of positive and negative expectancies. After repeated associations between (internal and external) cues and drinking behaviors, classical conditioning processes begin to become more salient. In this maintenance phase of drinking, specific expectations about reinforcement are no longer in the form of conscious hypotheses, which may be examined and disputed, but become incorporated into a nonconscious process in which conditioned cues are automatically able to elicit the drinking response. In this model, nonproblem drinkers’ drinking practices are best explained by the acquisition phase of the model and problem drinkers’ by the maintenance phase. The role of DRSE in this process is still unclear, but the authors suggest that DRSE is likely to be acting as a mediator between AE and consumption.

Studies already cited have shown that each of these constructs is related to drinking behavior in both problem and nonproblem drinkers, but their interaction has not been widely investigated. Most studies that have examined both constructs (e.g., Solomon and Annis, 1990) have not utilized compatible instruments to measure the two constructs. This use of incompatible instruments introduces possible measurement error, particularly when the instruments contain different scales, use qualitatively different anchor points and different styles of question, and are developed and validated on different populations. Studies that have used instruments that have been developed as companion measures (Baldwin et al., 1993; Lee and Oei, 1993; Young and Oei, 1993) have found an important, but differential, role for both types of expectancies in nonproblem drinkers.

The present study attempted to address several issues using more appropriate measurement instruments and a wider sample. The issues of the importance of positive versus negative expectancies and the relative contribution of DRSE and AEs were examined using the Drinking Expectancy Profile (Young and Knight, 1989; Young et al., 1991; Young and Oei, 1996) which measures both positive and negative alcohol expectancies in one instrument and includes a companion measure of DRSE. The study examined the differential role of these two constructs in both social and problem drinkers to examine the hypothesis, implicit in Oei and Baldwin’s (1994) two process model, that expectancies will not contribute significantly to drinking behavior in drinkers in treatment.

It was expected that (1) AEs and DRSE will successfully discriminate between social and problem drinkers; (2) both positive and negative AEs will be related to consumption in social drinkers, as will DRSE; and (3) neither AE nor DRSE will account for a significant amount of variance of
consumption in problem drinkers as drinking behavior is no longer under the influence of conscious processes.

Method

Subjects

Subjects (N = 276) were gathered from both the community and clinical population. There were 185 participants (50.8% men) in the community sample. They were self-selected from a large east coast Australian city. The age range was 18 to 62 with a mean (±SD) age of 31.2 ± 11.85 years. Respondents ranged from nondrinkers to hazardous drinkers (NHMRC, 1987), but were not currently seeking treatment for an alcohol- or drug-related problem. The clinical sample comprised 75 (82.4%) men and 16 (17.6%) women. They were selected from three major inpatient treatment and detoxification centers and one outpatient clinic in the same city. Their ages ranged from 20 to 65, with a mean age of 35.7 ± 10.98 years.

Instruments

Drinking expectancy profile (part I): The Drinking Expectancy Questionnaire (DEQ). The DEQ (Young and Knight, 1989; Young and Oei, 1996) is a 43-item questionnaire measured on a five-point Likert-type scale from 1 (strongly disagree) to 5 (strongly agree). Factor analytic work supported six subscales, two measuring negative expectations (the belief that drinking alcohol will produce a negative affective change and the belief that drinking will result in a loss of control over consumption) or a dependence on alcohol; and four measuring positive expectations (the belief that drinking alcohol will increase social assertiveness, produce sexual enhancement, cognitive enhancement and result in tension reduction). Most statements refer specifically to the effect alcohol has on one's self (e.g., I get better ideas when I'm drinking) and are intended to reflect self-expectations.

Drinking expectancy profile (part II): The Drinking Refusal Self-Efficacy Questionnaire (DRSEQ). The DRSEQ (Young et al., 1991; Young and Oei, 1996) was developed as a companion to the DEQ to measure self-efficacy to resist drinking. Together they constitute the Drinking Expectancy Profile (DEP). The DRSEQ is a 31-item questionnaire. Responses are measured on a five-point Likert-type scale from 1 (I am very sure I would NOT drink) to 5 (I am very sure I WOULD drink). In early factor analytic work three significant factors emerged that accounted for 60% of the variance (Young et al., 1991). These were the belief in one's ability to resist drinking in social situations, in opportunistic drinking situations (i.e., when alcohol is available) and when emotional relief is required.

There were three methodological considerations that influenced the choice of measure in this study: The DEP (parts I and II) were developed in Australia and New Zealand and provide normative data from an Australian population, which makes them more appropriate for use with the present sample than the more popular North American-normed Alcohol Expectancies Questionnaire (AEQ, Brown et al., 1987). In addition, the AEQ measures only positive expectancies about the effects of alcohol and does not include a comparable measure of self-efficacy to resist.

Khavari Alcohol Test (KAT). The KAT (Khavari and Farber, 1978) consists of 12 questions in three sections about drinking practices. The test is designed to quantify consumption in terms of both quantity and frequency to give more sensitivity in distinguishing types of drinker. Respondents are asked four questions for each of beer, wine and spirits: How often do you drink (beer/wine/spirits)? (usual frequency). How many drinks would you usually have in one session? (usual quantity). What would be the maximum number of drinks you would have in one session? (maximum quantity). How often do you drink this maximum amount? (maximum frequency). Usual and maximum frequency are reported on a multiple choice scale with 12 response possibilities ranging from 0 (never) to 11 (daily). The KAT uses open-ended format for quantity questions which are converted to standard drinks. Indices of frequency, quantity and average consumption per week/month can be calculated. The structure of the questionnaire assumes that respondents drink only one type of beverage per session.

Short-form Alcohol Dependence Data Questionnaire (SADD). The SADD (Davidson and Raistrick, 1986) is a 15-item self-report scale intended to measure "present state alcohol dependence," assumed to be on a continuum. It assesses behavioral, subjective and psychobiological responses to alcohol that have been shown to be associated with the Alcohol Dependence Syndrome (Edwards and Gross, 1976). Both exploratory and confirmatory factor analyses have been performed (Davidson et al., 1989) which suggest that the scale is unidimensional. Scores for the 15 items are added to produce one "dependence" score. High order and significant correlations (r = .83) have been found with SADQ (Stockwell et al., 1979) and other measures related to various aspects of alcohol dependence (Davidson and Raistrick, 1986). Split-half reliability of r = .87 (Raistrick et al., 1983) and test-retest reliability of r = .87 (McMurran and Hollin, 1989) with a number of samples have been reported. While the SADQ has more extensive reliability and validity data associated with it, it has been criticized on a number of grounds, particularly its near exclusive focus on the presence of withdrawal symptoms and its limited utility for distinguishing between drinkers of low to moderate dependence (Davidson and Raistrick, 1986). The SADD has been found to have good validity with low to moderately dependent drinkers (Davidson, 1987), which this sample was expected largely to comprise.

Demographic data. Demographic data collected included respondents' age, gender, marital status, occupation/employment status, education level and country of origin. These were collected primarily as a description of the sample.
Procedure

Respondents were asked to complete a booklet of questionnaires which contained written instructions for each questionnaire and an assurance of anonymity and confidentiality. The questionnaire took approximately 40 minutes to complete. Of 250 questionnaires distributed to the community sample 185 (74%) were returned. Respondents completed the questionnaires in their own time and returned them in a sealed envelope to the researchers in person. All inpatient subjects completed questionnaires on site and returned them to the researchers the same day. All inpatients had been diagnosed with alcohol abuse or dependence according to DSM-III-R criteria by trained psychiatrists and had been admitted for at least a week after detoxification before completing the questionnaires.

Results

Diagnostics and demographics

Prior to analysis, the data were examined for violations of assumptions using SPSS FREQUENCIES and DESCRIPTIVES and REGRESSION (Mahalonobis’ distance). The KAT measure was moderately positively skewed and was submitted to a logarithmic transformation. This procedure resulted in a reduction in skewness and no change to the final interpretation. There were no multivariate outliers and all other assumptions for the analyses were met.

Demographic information was used to compare the sample with the population from which it was drawn. State census figures were used and showed that the sample adequately reflected population statistics on occupation, formal education and income. Age and gender were incorporated into the analyses reported below.

Discriminant analysis

A discriminant analysis was performed through SPSS DISCRIMINANT to examine the ability of AE and DRSE to discriminate between type of drinker. The full sample was divided into three groups: light drinkers, moderate drinkers and problem drinkers, based on drinking levels reported on the KAT. Light drinkers comprised social drinkers who consumed less than four standard drinks per week and problem drinkers comprised the sample of drinkers in treatment.

Six AE and three DRSE factors defined by Young and Oei (1996) were entered into the discriminant analysis. Two significant functions emerged. The first function ($\chi^2 = 275.69$, 18 df, $p < .001$) accounted for 89.74% of the between group variability; the second ($\chi^2 = 41.86$, 8 df, $p < .001$) accounted for 10.26% of the variance. Structure loadings show that dependence AE, negative affective change AE, sexual functioning AE and emotional and opportunistic DRSE were the combination of variables that best discriminated the groups in the first function. The second function comprised tension reduction AE, cognitive enhancement AE, assertiveness AE and social DRSE. Group centroids for the two functions are shown in Figure 1. Function 1 separated problem drinkers from social drinkers; Function 2 best separated light and moderate social drinkers, with problem drinkers between the two. Table 1 shows classification results. Overall, 73% of cases were correctly classified, with the majority of misclassifications falling into adjacent groups. Problem drinkers had the best classification rate (78.9%).

![Figure 1. Drinking group centroids on two discriminant functions derived from AE and DRSE factors](image)

**Table 1.** Classification of groups by AE and DRSE

<table>
<thead>
<tr>
<th>Actual group</th>
<th>$n$</th>
<th>Light</th>
<th>Moderate</th>
<th>Problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light</td>
<td>84</td>
<td>60</td>
<td>23</td>
<td>1</td>
</tr>
<tr>
<td>Moderate</td>
<td>87</td>
<td>22</td>
<td>61</td>
<td>4</td>
</tr>
<tr>
<td>Problem</td>
<td>71</td>
<td>3</td>
<td>12</td>
<td>56</td>
</tr>
<tr>
<td>Ungrouped cases</td>
<td>7</td>
<td>1</td>
<td>6</td>
<td>0</td>
</tr>
</tbody>
</table>

Note: “Grouped” cases correctly classified: 73.14%.

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**Table 2.** Correlation of consumption with all other variables

<table>
<thead>
<tr>
<th>Consumption</th>
<th>Community sample</th>
<th>Clinical sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>-0.126</td>
<td>0.029</td>
</tr>
<tr>
<td>Gender</td>
<td>-0.497*</td>
<td>-0.148</td>
</tr>
<tr>
<td>SADD</td>
<td>0.569*</td>
<td>0.375*</td>
</tr>
<tr>
<td>Assertive AE</td>
<td>0.351</td>
<td>0.220*</td>
</tr>
<tr>
<td>Affective AE</td>
<td>0.053</td>
<td>0.053</td>
</tr>
<tr>
<td>Dependence AE</td>
<td>0.039</td>
<td>0.401*</td>
</tr>
<tr>
<td>Sexual functioning AE</td>
<td>0.013</td>
<td>0.253*</td>
</tr>
<tr>
<td>Cognitive enhancement AE</td>
<td>0.287*</td>
<td>0.032</td>
</tr>
<tr>
<td>Tension reduction AE</td>
<td>0.155</td>
<td>0.092</td>
</tr>
<tr>
<td>Social DRSE</td>
<td>0.481*</td>
<td>-0.096</td>
</tr>
<tr>
<td>Emotional DRSE</td>
<td>0.445*</td>
<td>-0.214*</td>
</tr>
<tr>
<td>Opportunistic DRSE</td>
<td>0.494*</td>
<td>-0.211*</td>
</tr>
</tbody>
</table>

*p < .05; *p < .001.
Group means for AE and DRSE factor scores are shown in Figure 2. There were differences between the three groups on each of these measures: assertive AE (F = 55.64, 2/260 df, p < .001), affective AE (F = 75.98, 2/263 df, p < .001), dependence AE (F = 120.58, 2/261 df, p < .001), sexual functioning AE (F = 41.58, 2/266 df, p < .001), cognitive AE (F = 13.03, 2/266 df, p < .001), tension reduction AE (F = 6.92, 2/263 df, p < .01), social DRSE (F = 54.40, 2/258 df, p < .001), emotional DRSE (F = 191.38, 2/267 df, p < .001), opportunistic DRSE (F = 122.83, 2/268 df, p < .001). Post hoc Scheffé testing revealed differences among all three groups on DRSE measures and assertive AE. Problem drinkers were significantly different from social drinkers on affective AE, dependence AE and sexual functioning AE. Moderate drinkers were different from problem drinkers on tension reduction AE and from problem and light drinkers on cognitive AE.

Hierarchical regression

The discriminant analysis showed that drinkers could be grouped according to their AEs and DRSE relatively successfully. A series of linear regression analyses were performed through SPSS REGRESSION to investigate whether a relationship still exists between expectancies and consumption when the effects of age, gender and dependence, all of which have been shown to be related to consumption in the past, have been statistically removed. That is, do expectancies give us more information about consumption than do “traditional” indicators?

The social and problem drinkers were analyzed separately to investigate the differential effect on consumption of expectancies. Each equation was evaluated in three steps. Age and gender were entered in Block 1, SADD was entered in Block 2 and finally DRSEQ and AEQ were entered in Block 3. The dependent measure was typical weekly consumption, measured by the KAT. Table 2 shows correlations between consumption and all other variables. The correlations indicate how much weight each of the variables uniquely provides to the prediction of consumption. SADD and the three DRSE had the highest correlations with con-

<table>
<thead>
<tr>
<th>Variable</th>
<th>sr²</th>
<th>β</th>
<th>R²change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>0.001</td>
<td>-0.002</td>
<td>0.249*</td>
</tr>
<tr>
<td>Gender</td>
<td>0.056</td>
<td>-0.268*</td>
<td>0.132*</td>
</tr>
<tr>
<td>Assertive AE</td>
<td>0.003</td>
<td>0.084</td>
<td></td>
</tr>
<tr>
<td>Affective AE</td>
<td>0.020</td>
<td>-0.178*</td>
<td></td>
</tr>
<tr>
<td>Dependence AE</td>
<td>0.002</td>
<td>-0.052</td>
<td></td>
</tr>
<tr>
<td>Sexual functioning AE</td>
<td>0.002</td>
<td>-0.050</td>
<td></td>
</tr>
<tr>
<td>Cognitive enhancement AE</td>
<td>0.011</td>
<td>-0.136</td>
<td></td>
</tr>
<tr>
<td>Tension reduction AE</td>
<td>0.001</td>
<td>-0.026</td>
<td></td>
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<tr>
<td>Social DRSE</td>
<td>0.001</td>
<td>-0.038</td>
<td></td>
</tr>
<tr>
<td>Emotional DRSE</td>
<td>0.000</td>
<td>-0.034</td>
<td></td>
</tr>
<tr>
<td>Opportunistic DRSE</td>
<td>0.023</td>
<td>-0.265*</td>
<td></td>
</tr>
</tbody>
</table>

*p < .05; *p < .01; **p < .001.
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TABLE 4. Clinical sample regression (sr) analysis

<table>
<thead>
<tr>
<th>Variable</th>
<th>$\beta$</th>
<th>$R^2_{\text{change}}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>0.019</td>
<td>0.022</td>
</tr>
<tr>
<td>Gender</td>
<td>0.003</td>
<td>0.221</td>
</tr>
<tr>
<td>SADD</td>
<td>0.265</td>
<td>0.150*</td>
</tr>
<tr>
<td>Assertive AE</td>
<td>0.006</td>
<td>0.094</td>
</tr>
<tr>
<td>Affective AE</td>
<td>0.006</td>
<td>0.103</td>
</tr>
<tr>
<td>Dependence AE</td>
<td>0.054</td>
<td>0.316*</td>
</tr>
<tr>
<td>Sexual functioning AE</td>
<td>0.012</td>
<td>0.135</td>
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<td>Cognitive enhancement AE</td>
<td>0.000</td>
<td>0.002</td>
</tr>
<tr>
<td>Tension reduction AE</td>
<td>0.001</td>
<td>0.051</td>
</tr>
<tr>
<td>Social DRSE</td>
<td>0.007</td>
<td>0.148</td>
</tr>
<tr>
<td>Emotional DRSE</td>
<td>0.000</td>
<td>0.038</td>
</tr>
<tr>
<td>Opportunistic DRSE</td>
<td>0.003</td>
<td>0.128</td>
</tr>
</tbody>
</table>

*$p < .05$; *$p < .001$.

Consumption in social drinkers, and dependence AE and SADD were most highly correlated in the clinical sample. Table 3 shows the regression analysis for social drinkers. Block 1 accounted for a significant amount of variance; gender ($\beta = -0.268, p < .001$) was the major contributor. Men drank more than women. In Block 2, SADD ($\beta = 0.292, p < .001$) was a significant predictor; as dependence increased so too did consumption. Block 3 variables accounted for a significant amount of variance after the influence of the Block 1 and Block 2 variables had been taken into account ($R^2_{\text{change}} = 0.135, p < .001$). The major contributors to the variance in this block were affective AE ($\beta = -0.178, p < .001$), cognitive AE ($\beta = 0.136, p < .05$) and opportunistic DRSE ($\beta = -0.265, p < .01$).

By comparison, Table 4 shows regression analysis for the clinical sample. Block 1 variables did not account for a significant amount of the variance. SADD provided significant prediction over age and gender ($R^2_{\text{change}} = 0.150, p < .001$). DRSE and AE variables did not add significant prediction over the Block 1 and Block 2 variables. Dependence AE was significant in Block 3, but overall change was not significant making the result inapplicable.

Discussion

The first aim of this study was to replicate and confirm earlier findings that drinkers could be discriminated by their outcome and self-efficacy expectancies. The results showed that this was the case. A discriminant analysis using these variables successfully predicted over 73% of cases. Problem drinkers appear to have quite a different set of expectations than do social drinkers.

The second aim was to investigate further the relationship between consumption and expectancies within the problem and social drinker samples. A regression analysis showed that expectancies related to consumption differentially in problem and nonproblem drinkers. In fact, expectancies did not appear to be related to consumption at all in problem drinkers, and a mixture of both positive and negative alcohol expectancies and self-efficacy expectancies were related to consumption in nonproblem drinkers.

This finding at first appears to be somewhat at odds with a proportion of the literature to date, which suggests that both constructs are on a continuum of drinking including the clinical population, but it supports the two process model put forward by Oei and Baldwin (1994). The two process model suggests that expectancies are no longer an important determinant of consumption in a clinical drinker. Consistent with the present results, Young (1994) found that problem drinking was more strongly related to DRSE than to AE in a clinical sample, and both Solomon and Annis (1990) and Jones and McMahon (1996) have found that (positive) expectancies did not predict posttreatment consumption levels.

The latter two studies did, however, find that self-efficacy to resist urges (Solomon and Annis, 1990) and negative expectancies (Jones and McMahon, 1996) were related to consumption in the problem-drinking population. A methodological explanation may be the failure of previous research to measure AEs adequately; in particular, the neglect of negative expectancies in conjunction with positive expectancies, the failure to distinguish between DRSE and AE and the use of potentially incompatible measurement instruments.

Yet, it is possible to argue in support of the model on theoretical and empirical grounds. In fact, much of the research to date has found that problem drinkers have expectations that are different from those of social drinkers and that expectancies can predict abstinence and other indicators of posttreatment success, but has not related expectancies to actual consumption levels, except among nonproblem adults, young adults and adolescents. Some studies have also shown that changes in expectancies during treatment are related to posttreatment success and even consumption levels. These findings have, however, been within problem drinker samples, and the two process theory might contend that after treatment, for successful clients, classically conditioned responses are weakened somewhat allowing expectancies once more to exert some influence over consumption. The two process model would predict that clients who were successful in treatment will show expectations about self and alcohol that are different from the expectations of those who were unsuccessful, and that a reduction in reactivity to alcohol-related cues will accompany this change.

The results presented here suggest that problem drinkers in treatment certainly have expectancies that are different from those of social drinkers, but that these expectancies are not salient in the motivation to drink. This may also explain why, at the conclusion of treatment, expectancies are rarely able to predict immediate posttreatment success (e.g., Connors et al., 1993). At 3-month follow-up, studies have nearly unanimously shown that expectancies are once again related to consumption (e.g., Jones and McMahon, 1993). The change in expectancies, which is often evident in problem drinkers from pre- to posttreatment, may not become salient until sufficient extinction of the classically
conditioned response has occurred. It is interesting to note that Jones and McMahon (1996) have found evidence to suggest that expectancy value, but not expectancies per se, is related to posttreatment survivorship in problem drinkers, and they question the use of expectancies in alcohol research.

Future studies might focus more closely on the role of expectancies in problem drinkers within the context of this two process model, looking in particular at the interaction between expectancies and conditioned responses in the drinking process.

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