

**CHANGING DRINKING BEHAVIOUR:
THE MEDIATING EFFECTS OF SATISFACTION ON CONSUMPTION
EXPERIENCES AND READINESS TO CHANGE**

Michael Baird¹

School of Marketing, Curtin Business School
Curtin University of Technology

Robyn Ouschan

School of Marketing, Curtin Business School
Curtin University of Technology

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¹Corresponding author:

Michael Baird
School of Marketing, Curtin Business School
Curtin University of Technology
GPO BOX U1987
Perth, WA 6845
Australia
Tel (+61 8) 9266 4348
Fax (+61 8) 9266 3937
Email: Michael.baird@cbs.curtin.edu.au

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ABSTRACT

This study applies the disconfirmation of expectations paradigm to explain what makes the consumption of sin products (high risk alcohol consumption) a satisfactory or unsatisfactory experience. It further tests if it affects readiness to change behaviour. It illustrates that disconfirmation of expectations should focus on consumption outcomes as they motivate customers to consume products and services. Furthermore, both positive and negative outcome expectancies should be included. The alcohol expectancy literature offers operational definitions of positive and negative outcome expectancies. However, alcohol expectancy studies do not use the disconfirmation paradigm to explain high risk drinking behaviours, even though disconfirmation of expectations have been shown to be a better predictor of customer satisfaction and behavioural intentions than customer expectations. Data gained via convenience sampling of undergraduate students from all divisions within a large Australian University provided a usable sample size of 462. The results and analysis illustrate a very distinct separation of four positive outcome expectation factors and four negative outcome expectation factors. These findings are discussed with implications highlighted for theorists, marketers and social policy makers.

INTRODUCTION

Past research has shown that high risk drinking (defined by Oei & Morawska (2004) as four or more drinks for women and six or more drinks for men per drinking episode) amongst university students is a serious problem, both within Australia and the world (e.g. Burden & Maisto 2000; McNally & Palfai 2001; Neighbors et al. 2003; Oei & Morawska 2004; Park 2004). Alcohol is part of the culture of university life and a large proportion of students (44%) have been classified as high risk drinkers in the US (Oei & Morawska 2004). Similarly, the Salvation Army announced that 44% of Australian adolescents engage in high risk drinking behaviours (Channel 9 News 16-9-2004).

Within customer satisfaction and service quality research, disconfirmation has been operationalised in terms of meeting product / service attribute expectations (Oliver & Bearden 1985; Swan & Trawick 1981). Subsequently three types of discrepancies are

presented; 1) Positive disconfirmation, where performance exceeds expectations, 2) Confirmation, where performance equals expectations, and 3) Negative disconfirmation, where performance falls below expectations. Due to a shift in focus to customer delight, it has been suggested that customer satisfaction surveys need to measure the whole customer experience and other consequences of it (Shaw & Ivens 2002). A need exists to focus on the disconfirmation of consumption consequences, as customers' are motivated by consumption outcomes, rather than product / service attributes. Studies which have investigated emotional responses to consumption experiences highlight that customers may experience positive (e.g. pleased / arousal) and negative (e.g. displeasure / boredom) emotions which are generally presented in the form of a positive to negative continuum (Mano & Oliver 1993). However, social marketing studies have found that positive experience expectations (e.g. feeling relaxed when consuming large quantities of alcohol) differ conceptually from negative experience expectations (e.g. vomiting after a heavy drinking episode). More specifically, positive expectations of high risk drinking include fun, sex, and tension reduction, and negative expectations include physical, cognitive and school problems (McNally & Palfai 2001; Park 2004). A number of studies empirically support the difference between positive and negative outcome expectancies (Leigh & Stacy 1993; McNally & Palfai 2001; Park 2004). However, the alcohol expectancy literature fails to investigate the impact of disconfirmation of consumption outcome expectancies on intentions to engage in harmful consumption behaviours. Considering disconfirmation of expectations is a better predictor of customer satisfaction than expectations and behavioural intentions (e.g. Burton et al. 2003; Oliver 1980; Robledo 2001; Ross et al. 1987; White & Schneider 2000), this is a significant shortcoming as addressed by this study. This study proposes a research model which suggests that satisfactory / unsatisfactory drinking experience mediate the disconfirmation of positive / negative outcome expectancy and readiness to change high risk drinking behaviour.

LITERATURE REVIEW AND HYPOTHESES

While several theories have been used to explain the disconfirmation paradigm (e.g. generalized negativity theory, assimilation theory, contrast theory as cited by Ross et al. 1987), none of these appears to incorporate expectations of negative consumption outcomes. Only one qualitative research paper (Fitchett & Smith 2002), which investigated illicit drug consumption, notes the difference between positive and negative

outcome expectancies. They found that satisfactory experiences reinforced future consumption, whereas dissatisfactory experiences would not cause cessation of usage. If consumption was dissatisfactory, users would employ several strategies to justify further use, including attributing the outcomes to other factors in the forms of deferment and/or denial. This clearly highlights the need to distinguish between positive and negative consumption outcomes.

Lovelock et al. (2004) claimed that the most dominant model in satisfaction research is the disconfirmation of expectations paradigm. Moreover, Oliver et al. (1994) stated that this paradigm is fairly robust across a broad range of context, including the consumption of illicit drugs (Fitchett & Smith 2002). Their rationale being that recreational drugs are desired, purchase and consumed just like any other mass consumer goods, and the differences relate more to social and moral beliefs rather than the effects or consequences of use (as suggested by Hoffman (1990) and D' Angelo (1994)). Clearly this suggests that the disconfirmation paradigm applies to consumption of alcohol. This study extends the qualitative research conducted by Fitchett and Smith (2002) as it proposes hypotheses and operational measures for conclusive testing.

Past studies have investigated the link between expectancies of alcohol outcomes and readiness to change (e.g. McNally & Palfai 2001) and drinking refusal self efficacy (e.g. Oei & Morawska 2004). Burton et al. (2003) have noted that behavioural intentions and customer satisfaction are positively associated with each another and this was confirmed with their own study that found willingness to reuse a service was strongly associated with satisfaction. Thus if a consumer experiences high satisfaction with their high risk drinking, the likelihood that they will cease drinking, or even change their drinking behaviour is expected to be low. Another study (White & Schneider 2000) found that disconfirmation of service quality expectations had a direct impact on behavioural intentions (in terms of the commitment ladder). Based on the combination of these findings, this study suggests that satisfaction with the high risk drinking experience partially mediates the relationship between disconfirmation of positive and negative outcome expectancies and readiness to change high risk drinking behaviour. These propositions are summarised in the hypotheses below:

H₁ – Satisfaction with high risk drinking partially mediates the negative relationship between positive disconfirmation of positive outcome expectations and readiness to change high risk drinking behaviour.

H₂ – Satisfaction with high risk drinking partially mediates the negative relationship between negative disconfirmation of negative outcome expectations and readiness to change high risk drinking behaviour.

METHODOLOGY

A four page survey instrument was developed in the form of a questionnaire for self administered completion. The questionnaire used a combination of established scales, some with minor modification to gain the data required. This was preceded by a cover letter outlining the purpose of the study, as well as requiring respondents to answer two screening questions. The screening questions are particularly important for this study as it requires the respondent to have engaged in high risk drinking. Therefore screening question one ensures respondents are over 17 years of age, the legal drinking age within Australia. Questionnaires marked 17 years of age or below were asked not to proceed any further and were discarded. The second screening question asks how many times the respondent has engaged in high risk drinking in the past four weeks. Since this research is based on the memory of the last high risk drinking experience, it requires respondents for which it has been a fairly recent occurrence in order to limit the possible bias that may occur after a longer period. Questionnaires marked 0 times were asked not to proceed any further and were discarded.

The questionnaire was administered to a variety of lectures within a large Australian University. At least one lecture from each of the 5 divisions of the University was targeted in order to gain a relevant cross section of drinking habits and the behaviour of the University as a whole. A focus was given to lectures within the Business division due to the highest proportion of students residing in this division. Divisions where more than one lecture was targeted were divided into different schools as well as different years so as to avoid any repetition of respondents. The final results were gained from seven lectures and yielded a combination of first, second and third year units. Before the questionnaire was started by students, a brief outline of the study and questions was made clear to all students. Further, an overhead projector slide was shown specifying the

number of standard alcoholic drinks found in typical serving containers, so as to avoid any misinterpretation.

RESULTS

The data collection yielded a total of 859 returned questionnaires, gained from ten different lectures across five divisions. 257 were discarded due to the respondent groups not being involved in any high risk drinking in the past four weeks or they were not the legal drinking age. A further 140 questionnaires were rejected due to the respondents failing to pass the manipulation checks or fully completing the questionnaire. This leaves a total of 462 usable questionnaires, equaling a 56% response rate of students that engaged in high risk drinking within the past four weeks of the survey.

The sample comprised of 53.7% male, with 95.2% of all respondents being between the ages of 18 and 25, and the oldest student being 48. The data also showed that the highest percentage of students (57.1%) last engaged in high risk drinking less than 1 week ago, and the mean number of times a student had engaged in this behaviour within the past four weeks was 4.5. 96.5% of all respondents were full time students, and the average semester studying at university was 2.7. The majority of students (45%) chose Spirits (mixed or straight) as their most preferred alcoholic beverage, with Beer second (38.5%). The alcoholic beverage that students consumed during their last high risk drinking episode was also primarily Spirits with 67.5% and Beer at 54%. There was a fairly even spread of respondents for the amount of standard drinks consumed during their last high risk drinking episode. The highest number being 34% for 10 drinks and above, showing that those who are involved in high risk drinking generally do so at extreme levels. Only 19% of respondents were international students. This must be taken with caution, as a large proportion of international students do not consume alcohol.

Factor analysis was done on the 38 item alcohol expectancy disconfirmation scale. The scale was analysed through factor analysis using the Oblimin with Kaiser Normalisation rotation method. The factor analysis shows a very clear and distinct separation between positive and negative factors within the scale. The scree plot suggests eight components. The Cronbach Alpha scores ranged from 0.39 to 0.83.

Subsequent factor analysis was run including 28 items, rejecting cross-loadings. A total of eight components were still formed, with a clear distinction of four positive and four negative components. This also improved the Cronbach Alpha scores to read from 0.51 to 0.83. (Factor loadings, Eigenvalues, Cronbach's Alpha, KMO Measure of Sampling Adequacy and Bartlett's Test of Sphericity Significance available in appendix). Collectively this explained 61% of variance.

Varimax with Kaiser Normalisation factor analysis was performed on the 16 item Readiness to Change Likert scale. The analysis gave four components, with Cronbach Alphas ranging from 0.42 to 0.79. As was done previously, a second factor analysis was run, not including the items that cross loaded. This resulted in a factor analysis of 11 items. Once run the components remained unchanged, leaving three components, however for the purpose of this study only the strongest component was chosen, namely 'Action' ($\alpha = 0.79$). The 'Action' component refers to making an effort to change the individuals drinking habits, and was thus renamed 'Action to Change'.

Varimax factor analysis was also done on the 6 item Satisfaction scale to confirm the scale is uni-dimensional. The results showed a single component scale, producing a Cronbach Alpha of 0.88 with all 6 items included (KMO = 0.839, Sig. = 0.000). The Eigenvalue of 3.78 explained 63% of variance.

Mediation Analysis Regressions

A series of linear regression analyses were executed in order to test for partial or full mediation using the 4 step analysis proposed by Baron and Kenny (1986). This will conclude which will be the best predictor of a dependent variable from several independent variables.

The analysis specified that Action to Change is the dependent variable and the four positive components as the independent variables within the equation. In order to test this, a regression was run. The four positive components were regressed against Action to Change. The results show that only the 'Sociable' component is significant (Sig = 0.015, Beta = -0.156, $t = -2.436$).

The next regression was done in order to analyse the effect of the significant positive component as the independent variables (Sociable), with Satisfaction as the dependent variable. The positive component regressed showed that it is significant with Satisfaction (Sig = 0.029, Beta = 0.115, t = 2.187) at the 0.05 level. The next regression was done in order to analyse the effect of Action to Change against Satisfaction. It was found to be significant with the independent variable Satisfaction at the 0.01 level (Sig = 0.007, Beta = -0.128, t = -2.729).

Further regressions were run with Satisfaction and 'Sociable' against Action to Change as a dependent. It was found that Satisfaction was significant with the dependent variable at the 0.05 level (Sig = 0.025, Beta = -0.108, t = -2.244). This is in contrast to 'Sociable' which did not get significant results (Sig = 0.070, Beta = -0.088, t = -1.820), thus proving in this equation that full mediation is taking place.

Sobel test analysis was run in order to re-test and confirm its standing as a full mediator. Preacher and Hayes (2004) clearly outlined the method, whereby a number of regressions are run, and raw regression coefficients and standard errors are entered into an equation ($z\text{-value} = a*b/\text{SQRT}(b^2*s_a^2 + a^2*s_b^2)$) where a = raw (unstandardized) regression coefficient for the association between IV and mediator, s_a = standard error of a, b = raw coefficient for the association between the mediator and the DV (when the IV is also a predictor of the DV), and s_b = standard error of b.

The Sobel test was done on the regressions of the independent 'Sociable' against Satisfaction and the independents 'Sociable' and Satisfaction against Action to Change. The Baron and Kenny (1986) method suggested full mediation, and this test confirms that, with a non-significant p-value of 0.053 and a Test Statistic of -1.935.

If this equation is examined in more detail, it can be seen that 'Sociable' consists of the items 'Talkative', 'Talk to people' and 'Outgoing', all of which could be biased aspects of high risk drinking behaviour to individuals that prefer to express themselves. Therefore, it depends on the satisfaction outcome of 'Sociable' as to whether or not the high risk drinker will take the action to change their drinking habits. This is an important finding, as it shows that for this specific positive component, whether or not the drinker is satisfied with their high risk drinking experience (due to it being of a

different nature for different people) will ultimately affect the individual's readiness to change high risk drinking behaviour.

The four step analysis was repeated for the negative components. A multiple regression was done whereby all four negative components were analysed as the independent variables, with the Action to Change component as the dependent variables. The analysis shows that only 'Regret' is significant (Sig = 0.008, Beta = -0.129, t = -2.644).

A regression was run for the single acceptable negative component (Regret), regressed against Satisfaction. Regression of this negative component showed that it was highly significant with Satisfaction at the 0.01 level (Sig = 0.001, Beta = 0.157, t = 3.385).

'Regret' and Satisfaction were regressed against the dependent variable Action to Change. Regression with the dependent showed 'Regret' is not significant (Sig = 0.050, Beta = -0.093, t = -1.963), while Satisfaction is significant at the 0.05 level (Sig = 0.017, Beta = -0.114, t = -2.393). This result shows that for this equation full mediation is taking place.

A Sobel test was conducted over the negative equation from the model. The test confirmed that the equation was correct, with 'Regret', Satisfaction and Action to Change giving a p-value of 0.052, and a Test Statistic of -1.955, showing an insignificant result, resulting in full mediation.

The 'Regret' component is made from only two items, 'Guilty' and 'Problems', and although each item did not have very high factor loadings nor combined Cronbach Alpha, this component could be called the most remorseful of the four components developed. The fully mediating pathway is substantial as it consists of components implying the high risk drinker will change their behaviour. As 'Regret' is made from items for which most would feel regretful over, with satisfaction as the full mediator between the two, it would show negative satisfaction, or dissatisfaction from 'Regret' if the Action to Change was taking place.

DISCUSSION AND IMPLICATIONS

There exist a number of key conceptual and theoretical contributions from which this study adds to the literature. The inclusion of negative expectations into the disconfirmation model is one of the major contributions. Previous disconfirmation models have been too simplistic, and a need existed to analyse this in a more in-depth way, namely, distinguishing between positive and negative expectations. The results show the ability to distinguish between them, which future research will find very useful. This will also allow for further dissection of the disconfirmation paradigm. The transfer of concepts from outside the marketing literature is an important step to help better understand the concepts and market to customers more effectively.

Distinguishing between positive and negative expectations/experiences has been a contribution of this research. Previous literature examining affect (e.g. Jun et al. 2001) and sin products (e.g. McNally & Palfai 2001, Park 2004) have been the only areas where positive and negative expectations or experiences have been separated and examined individually. With this extended into the expectations/experiences literature, it allows the ability to pursue further research to better comprehend the factors and after effects of these individual positive and negative experience expectations.

This study has made methodological contributions. It has provided measurement of disconfirmation of expectations in terms of consumption experience outcomes rather than product/service performance attributes. This is one of very few studies which has operationalised consumption experience outcomes, therefore should provide a basis for further investigation. It should be noted that outcomes have the potential to become a large research area, with or without the disconfirmation of expectations.

The research differentiates and operationalises positive and negative discrepancies as separate constructs as well as highlights different dimensions for each. No study was found that separated positive and negative discrepancies, let alone developing different dimensions. The alcohol expectancy disconfirmation scale, which gave a total of four positive and four negative factors, shows that a distinction does exist between positive and negative outcome expectations.

A methodological contribution exists in the measurement of multidimensional outcome variables. This study has shown that through the refinement of existing scales usable and significant results were gained. The multidimensional outcome variables were in the form of the 38 item alcohol expectancy disconfirmation scale.

There are several key managerial contributions. The research model presents a more powerful tool to manage customer experiences and expectations. As all marketers are aware, customer experiences and expectations, usually grouped under satisfaction, have a huge effect on marketing related issues such as word-of-mouth, re-purchase intentions, and complaining behaviour, to name but a few (Gilly 1987, Grewal et al. 2003, Lee 2003, Richins 1983). The model shows that by being aware of the different experience expectations available to consumers, a business should always be aiming to increase their performance to meet or exceed those expectations, thus reducing negative disconfirmation.

This study highlights the need to downplay positive experiences and diminish negative experiences, for which social marketing can benefit. Social marketing campaigns, such as drink driving and quit smoking, are always searching for better ways in which to make their campaigns more successful. This study proves that if the positive experiences are made to look less appealing, and the negative experiences are diminished, the effect of the campaign may be increased. This could be further enhanced by focusing on the specific relationships between the dimensions for positive and negative disconfirmation and readiness to change.

This research has practical contributions for social policy, as it will lead to strategies which are more likely to result in a readiness to change socially undesirable consumption behaviours. Through having a better understanding of how consumers form their expectations and the ways in which to exceed these expectations through the experience, will allow policy makers to develop strategies with means to change the future behaviours of these consumers.

LIMITATIONS AND FUTURE RESEARCH

Although this study has extended the disconfirmation paradigm and highlighted the distinction between positive and negative consumption expectations, it is not without a number of limitations that must be noted. Firstly, a small sample size was used. A more robust and descriptive analysis could be made from a larger sample size.

Secondly, the fact that this study relies on the memory of a high risk drinkers past experience could potentially be a limitation. The study is based on student's last high risk drinking experience, which may provide some bias as to the experience. For example, a respondent that partakes in high risk drinking may have their memory of their last experience altered due to their peers providing new information about that experience. Perhaps future research could examine a longitudinal study to determine the before and after effects of high risk drinking (i.e. track behavioral changes).

This study was based on the results of a single University in Australia. Whilst the use of the student sample is justified, future research should examine a multi-University focus, or possibly entire population focus, in order to draw distinctions between groups. Further, other age group cohorts should be considered for future research.

The results are limited to high risk drinking. While this is an epidemic for teenagers (Gill 2002, Kropp et al. 2004), drug taking may be becoming more prevalent with adolescents (D'Angelo 1994, Fitchett & Smith 2002). Future research should validate\extend the findings to other sin products, such as drug taking, gambling etc.

Another limitation may be the measure of disconfirmation used. The technique of disconfirmation was a combination of Fromme, Stroot and Kaplan's (1993) work and Bhattacharya, Rao and Glynn's (1995) work. Further research could examine alternative measures of disconfirmation (expectation minus performance), in order to determine if significant differences occur between different measures of the same concept.

Supplementary studies may also wish to measure other behavioral intentions, such as word of mouth and/or peer pressure, to determine what, and if they have a bearing on

the alcohol consumption in the first place. An interesting study would examine whether repurchase intentions have the ability to change behavioural intentions.

Future research should integrate relevant addiction theories to help further explain high risk alcohol consumption. For example, McCutcheon, Lange and Houran (2002) used the absorption-addiction model to explain individual celebrity worship behaviour. This would enhance the definition and broaden the scope of the research area.

It would be of additional interest to investigate the salience placed on the various positive and negative consequences of binge drinking in future research. This could help in devising strategies of ways in which to reduce the widespread mass consumption of alcohol in high risk people.

APPENDIX

Alcohol Expectancy Disconfirmation Factor Analysis

Items		Loading							
		P1	N1	N2	P2	N3	N4	P3	P4
Sociable (Positive)	Talkative	.811							
	Talk to people	.704							
	Outgoing	.650							
Cognition (Negative)	Response speed		.841						
	Difficulty in thinking		.579						
	Clumsy		.569						
Disorderly (Negative)	Loud, boisterous, or noisy			.810					
	Dominant			.756					
	Dizzy			.735					
Sex (Positive)	Enjoyed sex				-.839				
	Lover				-.735				
	Act out my fantasies				-.612				
	Powerful				-.520				
Unsettled (Negative)	Moody					-.833			
	Shaky or jittery the next day					-.744			
Regret (Negative)	Guilty						.753		
	Problems						.568		
Fun (Positive)	Humorous							-.812	
	Sexy							-.803	
	Friendly							-.546	
Relaxed (Positive)	Calm								-.803
	Peaceful								-.621
	Creative								-.553
Eigenvalues		6.67	3.31	1.51	1.37	1.19	1.10	1.05	1.02
Cronbach's Alpha		0.83	0.60	0.65	0.68	0.54	0.51	0.73	0.70
KMO Measure of Sampling Adequacy		0.877							
Bartlett's Test of Sphericity Significance		0.000							

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