Price and Alcohol Content Effects on Purchase Behaviour: An Analysis of New Zealand and Australian Youth Drinking

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Attestation of Authorship

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.

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Nicola Louise Stephenson

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Abstract

The excessive consumption of alcohol by young people is a current and highly controversial issue in New Zealand. Such behaviour incurs a plethora of negative consequences on the consumers and society in general, and is costly, both fiscally and socially. This research was undertaken to investigate the influences on the alcohol consumption behaviour of young people. The results of a literature review suggested that the consumption of excessive levels of alcohol is an accepted social norm and that young people drink alcohol to reach a level of intoxication. Therefore, this research predicted that changes in the price of alcohol would not have an effect on the amount of alcohol purchased and consumed by youths. It was also predicted that young people would choose to consume beverages containing a higher level of alcohol, in order to achieve the desired inebriated state. An experiment was conducted to test these predictions. Tertiary students were surveyed using a hypothetical scenario to assess the effects of price and alcohol content on their consumption behaviour. This experiment took place in both New Zealand and Australia. The results indicated that changes in price did not significantly affect consumption behaviour, in either country, supporting the initial predictions. The results also indicated that changes in alcohol content did not affect the consumption behaviour of young people in Australia, but did affect this in New Zealand. Where the percentage of alcohol content was decreased, young people in New Zealand indicated that they would purchase more alcohol, and when the alcohol content in a beverage was increased, they would purchase less. This again supports the initial predictions. The results of this experiment suggest that social norms are stronger than the effects of price on the alcohol consumption behaviour of young people. They also support the notion that young people drink to reach a level of intoxication, and thus will drink more alcohol when the percentage of alcohol in beverages is reduced. The concluding discussion section in this document explains the significance of these findings, particularly for social marketers and government policy makers. This study suggests that the current policies in place to reduce consumption, such as taxation and movements towards a maximum allowable alcohol content in some beverages, have minimal effects.

Chapter 1: Introduction

1.1 Background to the Research

The amount of alcohol consumed by young people in New Zealand is an issue which is highly prevalent in the media and controversial (Alcohol Healthwatch, 2004; Irwin & Shrive, 2010; Wilkins, Casswell, Bhatta & Pledger, 2002). The idea to look into this issue came about from personal experience.   Whilst in Australia, observations about the excessive drinking patterns of young people led to an interest in how this would compare with the consumption behaviour of young people in New Zealand. Youth in Australia seemed to drink heavily and frequently, yet the price of alcohol was noticeably higher than in New Zealand. Some substitution from expensive RTDs (Ready-To-Drink beverages, containing spirits and non-alcoholic mixers) to cheaper 40 ounce (1.125 litre) bottles of spirits was also noticed. These 40 ounce bottles are relatively cheaper because of a heavy government focus on the price of RTDs due to their popularity with young consumers, and therefore higher prices.

Taxation is used by the New Zealand government to control consumption behaviour, but these observations led to an interest in investigating whether this is actually an effective consumption control method. This research empirically tested the effects of price and alcohol content on the alcohol consumption of young people.

This introductory chapter will begin by outlining the justification for this research and will then present the research question. This chapter will conclude with a brief overview of all of the chapters in this dissertation.

1.2 Research Justification

The topic chosen for this dissertation is one which is controversial and highly relevant to modern New Zealand society. The level of alcohol consumption by New Zealanders has been rising since 1998 (Alcohol Healthwatch, 2004). The excessive consumption of alcohol is known to have a plethora of negative consequences such as injury, violence, and risky sexual behaviour (Alcohol Healthwatch, 2004). The number of people binge

drinking in New Zealand on a regular basis is estimated to be up to 1.5 million, while hazardous drinking by young people is also increasing (Alcohol Healthwatch, 2004; Easton, 2002). The fiscal cost of alcohol consumption alone to the New Zealand economy is estimated to be between $1.4 billion to $4 billion per year and including social costs could reach as high as $16 billion (Alcohol Healthwatch, 2004; Easton, 2002).

An Alcohol and Public Health Research Unit publication (Wilkins, Casswell, Bhata & Pledger, 2002) identified that binge drinking is a problem highly prevalent amongst young people in New Zealand, with males aged 18 to 24 years of age showing the most concerning alcohol consumption levels (Wilkins et al., 2002). This age group also showed the highest binge drinking levels in the female population (Wilkins et al., 2002). Particularly dominant in the media are university students, given their age and reputation for heavy and problematic alcohol consumption. Excess drinking is more prevalent in university students than their peers who do not attend university (Kypri, Langley, McGee, Saunders & Williams, 2002). Thus, much of the literature and discussion surrounding the alcohol consumption habits of young people concerns those engaged in tertiary studies.

A 2008 study of New Zealand University students sampled 6 of the 8 New Zealand universities and identified highly problematic levels of alcohol consumption amongst those students (Kypri et al., 2008). The authors noted that the New Zealand Ministerial Committee on Drug Policy has identified the alcohol consumption levels and behaviour of New Zealand university students as a priority issue of concern. The study showed that 68% of participants scored a level 4 or above on the AUDIT-C subscale test (Alcohol Use Disorders Identification Test), a commonly used scale for the identification of problematic alcohol use (Kypri et al., 2008; Ministry of Health, 2009). The higher the score on this scale, the more problematic their drinking is considered to be. In general a score of 3 or more for women, or 4 or more for men is considered to indicate that the subject is at high risk of alcohol-related harm (Ministry of Health, 2009). In other words, 68% of students participating in this comprehensive study of New Zealand universities reported concerning levels of alcohol consumption (Kypri et al., 2008). Participants reported blackouts, hangovers and vomiting as common

negative consequences of excessive alcohol consumption, with aggression, arguments and unprotected sex also being recorded at alarmingly high levels (Kypri et al., 2008).

In Australia, research has shown similar issues with young peoples' alcohol consumption. Between 1994 and 2004, an estimated 2,643 young people in Australia aged between 15 years and 24 years died as a result of alcohol-related illness and injury (Chikritzhs & Pascal, 2004).

The excessive consumption of alcohol by youths is problematic in both Australia and New Zealand. This excess consumption continues to result in negative social and fiscal consequences for both countries. Empirical research into the influences on youth consumption behaviour would be highly advantageous in identifying potential areas of focus for reducing these negative consequences.

This section has discussed the justification for this research, and presented the influences on youth alcohol consumption as a valuable avenue for research. The New Zealand Government is currently considering introducing higher tax levels on alcohol as well as placing restrictions on the maximum percentage of alcohol allowed in some beverages, mainly RTDs (Irwin & Shrive, 2010). Therefore it was of interest to empirically investigate the effects of price and alcohol content on the consumption decisions of youths. The testing of the price variable aimed to establish whether young people would continue their current consumption behaviours even when the price of their beverages was altered, or whether these changes in price would lead to a change in consumption behaviour. The results of this will contribute to an understanding of the effectiveness of the current and proposed government policies, which heavily focus on price as a consumption behaviour control. The effects of different levels of alcohol content were also tested and it was predicted that given this excessive drinking culture, young people will purchase beverages with higher levels of alcohol in order to reach their desired level of intoxication. This will provide evidence as to the possible effectiveness of the proposed law changes that would restrict the levels of alcohol content allowed in specific beverages. The next section in this chapter, section 1.3 will present the research question, which has been formulated using these variables.

1.3 The Research Question and Hypotheses

This dissertation is an original research piece, conducted for a 60 point, six month Master of Business dissertation. It has empirically tested the effects of price and alcohol content[1] on the consumption behaviour of youths. As discussed in section 1.2, it was of interest to investigate whether changing the price of a beverage, or the level of alcohol contained in that beverage, would affect the consumption levels of young people.

The research question for this study has therefore been phrased as follows:
"What are the effects of changes in price and alcohol content on the levels of alcohol purchased by young people in Australia and New Zealand?"

An experiment was conducted to address this research question. Four hypotheses were formulated. These hypotheses were:

H1a: Price will have an effect on the expected amount of alcohol purchased by young people in New Zealand.

H1b: Price will have an effect on the expected amount of alcohol purchased by young people in Australia.

H2a: Alcohol content will have an effect on the expected amount of alcohol purchased by young people in New Zealand.

H2b: Alcohol content will have an effect on the expected amount of alcohol purchased by young people in Australia.

Two of these variables tested the influence of price on the expected amount of alcohol purchased and two tested the influence of alcohol content on consumption behaviour. The experiment was conducted in Australia and New Zealand and each variable was tested in both countries. RTDs were selected for testing as they are popular amongst young people, and are the focus of much media and government attention (Alcohol Healthwatch, 2004; Irvine & Shrive, 2010). 'Expected purchase', or number of bottles the respondent would purchase under the given conditions was tested. For the

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[1] 'Alcohol content': a measure of the amount of alcohol (ethanol) contained in a beverage. Expressed as a percentage of the total volume of the beverage.

purposes of this dissertation, the term 'expected purchase' is used interchangeably with 'expected consumption'.

This dissertation concludes that changing the price of alcoholic beverages does not influence the consumption behaviour of young people in New Zealand or Australia. Further, it concludes that changing the percentage of alcohol contained in alcoholic beverages does not have an effect on the alcohol consumption behaviour of young people in Australia, but does have an effect on this in New Zealand.

1.4 Outline of Dissertation Chapters

This section will briefly outline each of the five chapters of this dissertation. Chapter One has introduced the background to the research. Further, it has justified the need for this research and presented the research question and hypotheses.

Chapter Two presents the results of a review of literature, presenting a conceptual background for this research. It begins with an overview of the social drinking culture in New Zealand and then proceeds to a summary of the reviewed literature. The chapter concludes by discussing the research opportunity identified through this literature review.

The methods used for data collection and analysis are discussed in depth in Chapter Three. This chapter explains and justifies the methodology of this research. It covers the pre-testing procedures, survey formulation and distribution, and ethical considerations.

Chapter Four presents the findings of the experiment. It discusses the data coding and entry methods, checking procedures and statistical analysis techniques used. This chapter concludes by presenting the results of the experiment as they relate to each hypothesis.

The concluding chapter, Chapter Five discusses the managerial and theoretical implications of the results presented in Chapter Four. The limitations of this research are discussed and potential areas for future research are identified. The final section provides the overall conclusions of this dissertation.

Chapter 2: Literature Review

2.1 Introduction

As discussed in section 1.2, alcohol consumption by youths is becoming increasingly problematic in New Zealand. The negative consequences of heavy alcohol consumption by youths range from vomiting and memory loss, to car accidents, assault and death (Alcohol Healthwatch, 2004). A review was undertaken to investigate the academic literature surrounding alcohol consumption by young people. The reviewed literature discussed five main topic areas; influences on alcohol demand and consumption, government and public policy, the influence of price on consumption and purchase behaviour, alcohol demand and consumption trends, and social marketing. These topics will each be discussed in turn in the following sections.

Following this brief overview of the literature reviewed for this research, this chapter will discuss the social drinking culture in New Zealand. It will then examine social norms, and how these influence alcohol consumption behaviour. This chapter will conclude with a discussion of the research opportunity identified through the literature review, and the introduction of the research question which will guide this research.

2.2 Drinking Culture in New Zealand

This section will provide an overview of the drinking culture in New Zealand, to provide a basis for the following review of literature. Alcohol has become a part of New Zealand society and excessive consumption and drunkenness have become an accepted social norm (Alcohol Advisory Council of New Zealand, 2009). The Ministry of Health's 2007/2008 alcohol use survey indicated that eight in ten (85.2%) adults in New Zealand has consumed an alcoholic beverage in the preceding year (Ministry of Health, 2009). Studies have shown that the consumption of alcohol is generally an accepted behaviour in modern society (Alcohol Advisory Council of New Zealand, 2009). Drinking is, for the most part a social activity, done in the company of others (Fox & Marsh, 2000). Alcohol is the most commonly consumed recreational drug in

New Zealand and drinking levels have remained relatively stable in recent years, despite a high level of awareness surrounding excess alcohol consumption issues (Alcohol Advisory Council of New Zealand, 2009; Easton, 2002).

The motivations for, and influences on, alcohol consumption levels have been extensively studied over time. Researchers have suggested and analysed various possible influences on alcohol consumption levels, including, but by no means limited to, parental drinking, education, socio-economic status, media exposure and advertising (Casswell, Stewart & Connolly, 1991). These studies have been included in this literature review, in section 2.3. The following sections will discuss the reviewed literature in depth.

2.3 Overview of Literature

A total of 81 articles were reviewed for this research. Upon reading these articles, there were five main broad topic categories identified. Table 1 presents these categories and the articles identified as belonging to each. The articles were grouped according to their most dominant topic theme. Each of these categories and the articles within them will be discussed in the following paragraphs.

Table 1: Literature Review: Topic Categorisation

Topic category:	Article author(s) and years:
Influences on alcohol demand and consumption	Banister, E. N. & Piacentini, M. G. (2006); Banister, E. N. & Piacentini, M. G. (2008); Beccaria, F. & Sande, A. (2003); Beck, K. H. & Treiman, K. A. (1996); Bobo, J. K. & Husten, C. (2000); Burns, W. J., Hampson, S. E., Severson, H. H., & Slovic, P. (1993); Casswell, S., Pledger, M., & Pratap, S. (2002); Caudwell, B. D., & Marlatt, G. A. (1975); Coleman, L. & Cater, S. (2007); Cox, W. M. & Klinger, E. (1988); Dave, D. & Saffer, H. (2008); Fox, K. & Marsh, P. (2000); Gruenewald, P. J., Ponicki, W. R., Holder, H. D., & Romelsjo, A. (2006); Gustafsson, N. K. (2010); Haines, M. & Spear, S. H. (1996); Hassan, L. M. & Shiu, E. M. K. (2007); Hayward, K. & Hobbs, D. (2007); Kinard, B. K. & Webster, C. (2010); Kubacki, K., Siemieniako, D., & Skinner, H. (2009); Kuntsche, E., Rehm, J., & Gmel, G. (2004); Kypri, K. & Langley, J. D. (2003); Lee, Y. G. & Abdel-Ghany, M. (2004); Liu, X. & Kaplan, H. B. (1996); Measham, F. (2004); Nairn, K., Higgins, J., Thompson, B., Anderson, M., & Fu, N. (2006); Newbury-Birch, D., White, M., & Kamali, F. (2000); Norman, P., Bennett, P., & Lewis, H. (1998); Pavis, S., Cunningham-Burnley, S., & Amos, A. (1997); Piacentini, M. G. & Banister, E. N. (2006); Reis, J. & Riley, W. L. (2008); Sande, A. (2002); Schlulenberg, J., O'Malley, P. M., Bachman, J. G., Wadsworth, K. N., & Johnston, L. D. (1996); Treise, D., Wolburg, J. M., & Otnes, C. C. (1999); Weitzman, E. R., Nelson, T. F., & Weschler, H. (2003); Yen, S. T. & Jensen, H. H. (1996).
Influence and effectiveness of public policy on alcohol purchase and consumption	Black, P. A. & Mohamed, A. I. (2006); Carpenter, C. S., Kloska, D. D., O'Malley, P., & Johnston, L. (2007); Chaloupka, F. J. (1993); Chaloupka, F. J., Grossman, M., & Saffer, H. (1998); Chaloupka, F. J., Grossman, M., & Saffer, H. (2002), Chaloupka, F. J. & Wechsler, H. (1996); Chisholm, D., Rehm, J., Van Ommeren, M., & Monteiro, M. (2004); Christie, J., Fisher, D., Kozup, J. C., Smith, S., Burton, S., & Creyer, E. H. (2001); Coate, D. & Grossman, M. (1988); Cook, P. J. & Moore, M. J. (2002); Cook, P. J. & Tauchen, G. (1982); Dee, T. S. (1999); Duarte, R. & Molina, J. A. (2004); Farrell, S., Manning, W. G., & Finch, M. D. (2003); Grossman, M., Sindelar, J. L., Mullahy, J., & Anderson, R. (1993); Kenkel, D. S. (2005); Laixuthai, A. & Chaloupka, F. J. (1993); Markowitz, S., Kaestner, R., & Grossman, M. (2005); Meier, P. S., Purhouse, R., & Brennan, A. (2009); Measham, F. (2006); Mohr & Webb, 2005; Ornstein, S. I. & Hanssens, D. M. (1985); Pogue, T. F. & Sgontz, L. G. (1989); Room, R. (1992); Room, R. (2004); Rose, P., Smith, S. T., & Segrist, D. J. (2010); Smith, D. E. & Mitry, D. J. (2006); Stout, E. M., Sloan, F. A., Liang, L., & Davies, H. H. (2000); Wette, H., Zhang, J., Berg, R. J., & Casswell, S. (1993); Wutzke, S. E., Shiell, A., Gomel, M. K., & Conigrave, K. M. (2001);Zhang, J. & Casswell, S. (1999).
Alcohol demand, consumption trends and status.	Blaylock, J. R. & Blisard, W. N. (1993); Casswell, S., Stewart, J., Connolly, G., & Silva, P. (1991); D'Allesio, M., Baiocco, R., & Laghi, F. (2006); Gual, A. & Colom, J. (1997); Kypri, K., Langley, J. D., McGee, R., Saunders, J. B., & Williams, S. (2002); Kypri, K., Paschall, M. J., Langley, J., Baxter, J., Cashell-Smith, M., & Bordeau, B. (2008); Levy, D. & Sheflin, N. (1985); Measham, F. & Brain, K. (2005); Ritchie, C., Ritchie, F., & Ward, R. (2009); Smith, D. E. & Skalnik, J. R. (1995); Smith, D. E., Solgaard, H. S., & Beckmann, S. C. (1999); Webb, E., Ashton, C. H., Kelly, P., & Kamali, F. (1996).
Social marketing.	Brannon, L. A. & Pilling, V. K. (2005); Darian, J. C. (1993); Piacentini, M. G. & Banister, E. N. (2008); Wechsler, H., Lee, J. E., Kuo, M., Seibring, M., Nelson, T. F., & Lee, H. (2002).

The articles in the first category discussed the influences on alcohol demand and consumption. There were a large number of articles in this category. These researched and reported on different motivations for consumption decisions. Some of the discussed motivations were parental influences, the context within which the consumption was taking place, perceptions of peer consumption, the age at which the subject started consuming alcohol and the subjects' level of education (Beck & Treiman, 1996; Casswell, Pledger & Pratap, 2002; Haines & Spear, 1996). Casswell et al. (2002) investigated many different predictors of future drinking levels in a

longitudinal study of young people aged 18 to 26 years in New Zealand. This study found that such factors as ease of access to alcohol, a lack of education and the age at which young people started consuming alcohol could significantly impact upon consumption behaviour. A study in the United Kingdom investigated the motivations for alcohol consumption by youths using interviews and focus groups and found that the rationalisation of the behaviour and the perceived benefits of drinking excessively significantly influenced the amount young people would consume (Banister & Piacentini, 2006). Interestingly, this study found that the participants considered alcohol to be such an important aspect of their lives that they were happy to deal with the negative consequences of excessive consumption (Banister & Piacentini, 2006).

A highly prominent theme within these articles was the effects of social norms on consumption behaviour. A large number of the articles reviewed investigated these effects (Beccaria & Sande, 2003; Beck & Treiman, 1996; Fox & Marsh, 2000; Haines & Spear, 1996; Kubacki, Siemieniako & Skinner, 2009; Kypri & Langley, 2003; Neal, Quester & Hawkins, 2006; Piacentini & Banister, 2006; Sande, 2002; Treise, Wolburg & Otnes, 1999). The literature focussing on social norms and their effects on consumption behaviour will be further expanded upon in section 2.4, as this will provide the basis for the development of the research question and hypotheses for this paper.

Government and public policy options and effectiveness formed the basis for many of the articles reviewed. These papers looked at various public policy options and investigated the effects of these policies on consumption. Government and public policy studies included such policies as 'zero tolerance' for drunk driving offences, minimum legal ages, restricted sales policies and advertising limits or bans (Carpenter, Kloska, O'Malley, & Johnston, 2007; Chisholm, Rehm, Van Ommeren, & Monteiro, 2004; Measham, 2006). Minimum age laws were found to have a significant influence on the consumption behaviour of young people, with younger consumers drinking more alcohol where the minimum age laws were lower (Carpenter et al., 2007). Additional methods, such as a focus on healthy living and improvements in national education levels were also suggested within this category (Duarte & Molina, 2004).

Pricing policies were also the subject of many articles. The majority of these discussed the effectiveness of taxation as a control policy, but this category also included

discussion around other consumption control methods such as minimum pricing restrictions (Black & Mohamed, 2006; Chaloupka, 1993; Chaloupka, Grossman & Saffer, 1998; Cook & Tauchen, 1982; Smith & Mitry, 2006).

Most of these pricing policy articles focussed on the price elasticity of alcohol. In other words, the researchers investigated how sensitive consumers are to changes in the price of alcohol. Consumption of a good, in general, is expected to rise as price falls and vice versa (Chaloupka, Grossman, & Saffer, 2002). Research included in this literature review generally aligns with this theory, suggesting that increases in the price of alcohol will lead to decreases in purchase and consumption levels (Chaloupka, 1993; Chaloupka et al., 1998; Chaloupka et al., 2002; Chaloupka & Wechsler, 1996; Christie et al., 2001; Cook & Moore, 2002; Cook & Tauchen,1982; Grossman, Sindelar, Mullahy & Anderson, 1993; Kenkel, 2005; Levy & Sheflin, 1985; Ornstein & Hanssen, 1985; Pogue & Sontz,1989; Rose, Smith & Segrist, 2010; Smith & Mitry, 2006; Wette, Zhang, Berg & Casswell, 1993).

Cook and Tauchen (1982) found that increases in the price of alcohol would not only reduce consumption levels, but would also reduce the number of deaths caused by alcohol-induced liver disease. A 2010 study surveyed American undergraduates to look at the relationship between student frugality and alcohol consumption levels (Rose et al., 2010). The results showed that students who were more reluctant to spend money purchased less alcohol. The authors note that there is evidence indicating that consumers are sensitive to alcohol price and will alter their consumption according to price changes (Rose et al., 2010). Much of the literature reviewed for this paper discusses alcohol prices as being relatively elastic in nature, meaning that consumers are price sensitive.

There does exist, however, some discrepancy in the actual effects of price changes on consumption behaviour. Zhang and Casswell (1999) discuss substitution effects, whereby when the price of one type of alcohol increases, consumption of another type may increase. This study found that price elasticity's or sensitivities vary between spirits, beer and wine, and suggest spirits are more inelastic in nature. In other words, consumers are not as sensitive to the price of spirits as they are to the price of beer and wine, suggesting that their consumption levels will not be as affected by changes in price. Meier, Purshouse and Brennan (2009) suggested that pricing policies can

have very different effects on different groups of consumers. This indicates that the influence of price on consumption behaviour is not the same between social and consumer groups. Measham (2006) and Room (1992) also suggest that the effectiveness of government and public policies, including pricing policies, varies depending on the social context and culture to which they are being applied. Room (1992) states that policy makers must consider that the act of drinking to the point of inebriation has a cultural significance which is solidified in society. These studies suggest that price influences different consumers in differing ways. It is generally assumed, under economic theory that as the price of alcohol rises, consumption will decrease (Chaloupka et al., 2002). However, these studies suggest this may not always be the case.

The third topic category, alcohol demand and consumption trends was made up of articles which looked at the status of alcohol consumption in a particular geographic area, or within a specific group of people in society. Blaylock and Blisard (1993), for example, looked specifically at the consumption of alcohol by women, suggesting that location, race, age, income, pregnancy, health, and smoking behaviour are the most important determinants on the alcohol consumption decisions of women. Other studies looked at binge drinking behaviours in universities within Italy (D'Alessio, Baiocco & Laghi, 2006) and Great Britain (Measham & Brain, 2005). These articles were quite varied in nature, but all focussed on one specific area or social group. The changing nature of alcohol consumption in Europe to a more problematic behaviour was the topic of discussion for several articles (D'Alessio et al., 2006; Smith & Skalnik, 1995; Smith, Solgaard & Beckman, 1999; Webb, Ashton, Kelly & Kamali, 1996).

The articles in the final topic category investigated alcohol consumption behaviour and the influences of social marketing strategies. These articles examined ways to reduce problem drinking through the use of social marketing strategies. This group of papers found varying results, but the majority found difficulty in applying a general social marketing campaign to a young population, where consumers behaved quite differently under various circumstances (Brannon & Pilling, 2005; Darian, 1993).

2.4 Social Norms

A review of literature surrounding the topic of this dissertation, specifically the levels of alcohol consumption by young people, has revealed the frequent use of social norm theory to understand and analyse drinking behaviour. Many of the articles reviewed for this research referred to and examined the effects of social norms on alcohol consumption behaviour (Beccaria & Sande, 2003; Beck & Treiman, 1996; Fox & Marsh, 2000; Haines & Spear, 1996; Kubacki et al., 2009; Kypri & Langley, 2003; Neal et al., 2006; Piacentini & Banister, 2006; Sande, 2002; Treise et al., 1999). This was particularly prevalent in the topic category which looked at the motivations for alcohol consumption. Social norms can be defined as, "general expectations about behaviours that are deemed appropriate for all persons in a social context" (Neal et al., 2006, p. 652). Norms will influence a person's perception of appropriate and expected behaviour in the company of others (Neal et al., 2006).

Norms can influence alcohol consumption due to the social nature of drinking; they define the behavioural expectations (Beck & Treiman, 1996). Fox and Marsh (2000) suggest that drinking has always been a social behaviour and is influenced by self-imposed controls, or norms. Researchers have looked at the perception of social norms and how these influence drinking behaviour, particularly in young people (Haines & Spear, 1996; Kypri & Langley, 2003; Treise et al., 1999). Young people especially, model their drinking on that of their peers, which they consistently over-estimate (Beck & Treiman, 1996). Evidence has shown that the frequent over-estimation of social norms, where subjects believe their peers to be consuming more than they actually are, can increase the consumption levels of the subjects themselves (Haines & Spear, 1996; Kypri & Langley, 2003; Treise et al., 1999).

It is also important to look at social norms when analysing youth drinking behaviour due to the relationship which clearly exists between norms and ritual behaviour. For the purposes of this paper, rituals are defined, "A type of expressive, symbolic activity constructed of multiple behaviours that occur in a fixed, episodic sequence, and that tend to be repeated over time" (Rook, 1985, p. 252). They are scripted, in that there are certain accepted ways and methods of performing each ritual, and in general are repeatedly performed by cultures and societies (Rook, 1985). Both rituals and norms set guidelines for accepted behaviours (Kypri & Langley, 2003; Rook, 1985). Treise,

Wolburg and Otnes (1999) discuss the four typical components of rituals, and how these are applied to drinking behaviour. Drinking requires an artifact (the alcohol itself), a script (rules about who can and cannot drink legally, when and where the drinking will occur, agreements about transportation to and from the places where drinking occurs), a performance role (how to drink, how many drinks to consume, how to behave while drinking), and an audience (peers, bartenders, campus personnel).

Both norms and rituals provide behavioural guidelines and rules for consumption (Neal et al., 2006; Rook, 1985). A relationship between norms and rituals is evident through their definitions and the way they are utilised and discussed in academic literature. The definitions of both rituals and norms contain elements of each other. This relationship is important for the purposes of this research, due to the impact of social norms and rituals on consumption levels.

Many different types of rituals involving drinking are used in the everyday lives of New Zealanders. These include coming-of-age ceremonies, such as birthday parties at 18 or, more traditionally, 21 years of age, which are also discussed as 'rite of life' or 'rite of passage' rituals (Beccaria & Sande, 2003; Fox & Marsh, 2000). Many important life stages are celebrated with set life-cycle rituals, using alcohol, including weddings, birthdays, graduations and job achievements (Beccaria & Sande, 2003; Fox & Marsh, 2000). Looking specifically at weddings for example, these provide many occasions for consumption, which regularly lead to excess (Fox & Marsh, 2000). The engagement is often celebrated with an engagement party; the bride and groom frequently celebrate entering into the marriage through a 'hen' and 'stag' night; and then the wedding itself is traditionally followed by a 'reception', where toasts are made and alcohol is consumed in celebration (Fox & Marsh, 2000). Each stage of the marriage involves a consumption ritual (Fox & Marsh, 2000). Festive rituals include such occasions as New Year's Eve, where the coming of a new year is often celebrated through alcohol consumption (Beccaria & Sande, 2003). A majority of celebrations and events involve drinking.

A ritual type which is important to note and discuss, due to the problems associated with them, is drinking games. The use and frequency of these games vary greatly between cultures, but in New Zealand, it is particularly common for teens and young adults to participate in such activities. Beccaria and Sande (2003) suggest that

intoxication has a 'dualistic' effect on consumers, both as a chemical effect on the brain and as symbolic functions in society. People participate in these drinking games for a variety of suggested reasons, including for social acceptance, a release from the ties of daily life, and to help them transition to a new stage in their lives (Beccaria & Sande, 2003). Drinking games are widely accepted and are comprised of set 'rules' and expectations (Beccaria & Sande, 2003). Most studies included in this review which looked at the drinking behaviours of people enrolled in tertiary or college study, looked at drinking games as a major contributing factor to excessive alcohol consumption (Beccaria & Sande, 2003; Beck & Treiman,1996; Piacentini & Banister, 2006; Treise et al., 1999).

Many of these discussed rituals lead to the consumption of alcohol above and beyond recommended levels, contributing to the aforementioned fiscal costs and negative externalities. For the purposes of this study, due to space constraints, discussion around the different types of rituals has been brief and condensed, however it is clear that rituals play a large part in the drinking culture of New Zealand, and certainly contribute to the problems it continues to experience as a result of excess consumption. In this research, social norms are expected to affect the consumption of alcohol by youths in that the desire to get intoxicated will mean that price has little effect on consumption. Social norms and rituals will also affect the alcohol content variable studied in this research, in setting expectations for consumers when drinking in a social context. Social norms and rituals not only influence the amount people drink, but it is expected that they will influence the alcohol content levels which consumers choose to drink. Consumers will choose beverages which contain higher levels of alcohol in order to become inebriated more quickly.

2.5 Research Opportunity

This research examined the effects of changes in price and alcohol content on the expected alcohol consumption of youths, from a marketing perspective. The study will be undertaken in New Zealand and Australia. In the extensive literature review performed for this paper, no studies were found which fulfilled the aims of the research at hand. Two studies were identified which looked at price effects alone on

consumption within a New Zealand context, but these contained no reference to the possible influence of alcohol content on consumption, and were not written from a marketing perspective (Wette et al., 1993; Zhang & Casswell, 1999). Furthermore, no studies at all were located which looked specifically at the influences of alcohol content on consumption. There is no literature which provides evidence to indicate what effects increases in the level of alcohol content in a beverage will have on consumption. The lack of literature on this research topic, combined with the anecdotal evidence in section 1.1, supports the need for this study. This empirical examination of the influence of changes in price and alcohol content on youth alcohol consumption behaviour will contribute significantly to knowledge of the effectiveness of public policy and social marketing strategy.

This research will be valuable in a number of ways. Heavy drinking by youths is, as has been discussed in this paper, detrimental to both the consumers themselves and society in general through the plethora of negative consequences associated with this behaviour. Social norm theories have been discussed in terms of their influences on the two variables being researched, price and alcohol content. Identifying the influences of these variables on youth consumption could potentially assist in social marketing and government policy decisions, to curb problematic youth drinking and reduce the fiscal and social costs involved with it.

Chapter 3: Methodology

3.1 Introduction

This chapter will discuss and justify the methods used in conducting the experiment to investigate the four hypotheses. The research question and hypotheses, introduced in section 1.3, will first be presented and discussed. Following this, the pre-testing procedures used to formulate the final survey will be explained. The survey and experiment procedure will then be discussed, including the variable selection and identification, the sample size for the experiment and the treatment groups formulated to test the different hypotheses.

3.2 Research Questions and Hypotheses

This research aimed to establish whether price and alcohol content had an effect on the levels of alcohol consumption expected by youths. A literature review indicated that young people drink to get intoxicated, due to the perceived benefits of this state. The act of drinking to excess was suggested to be a generally accepted social norm in New Zealand society in this literature review. This indicates that price is likely to have minimal effects on consumption behaviour, as young people drink to get drunk and will pay to achieve this. This social norm also indicates that changes in alcohol content are likely to affect consumption behaviour, in that young people want to purchase beverages with more alcohol in them, to achieve their desired intoxicated state faster. In addition, proposed law changes by the New Zealand Government would mean an increase in the price of alcohol, and the implementation of maximum alcohol content limits on alcoholic beverages (Irwin & Shrive, 2010). For these reasons, price and alcohol content were selected as the variables for this research. The research question posed was:

"What are the effects of changes in price and alcohol content on the levels of alcohol purchased by young people in Australia and New Zealand?"

The hypotheses for the experiment were as follows:

H1a: Price will have an effect on the expected amount of alcohol purchased by young people in New Zealand.

H1b: Price will have an effect on the expected amount of alcohol purchased by young people in Australia.

H2a: Alcohol content will have an effect on the expected amount of alcohol purchased by young people in New Zealand.

H2b: Alcohol content will have an effect on the expected amount of alcohol purchased by young people in Australia.

The following sections will discuss the experiment methods used to test these hypotheses, and will justify the reasons for these decisions.

3.3 The Experiment

This section will discuss the experiment which was conducted to empirically assess the proposed relationship between the alcohol content and price variables, and the alcohol consumption levels of youths. The experimental design, pre-testing procedures, variable selection and sample size considerations will each be discussed in turn. This chapter will conclude by explaining the eight different treatments used to test the aforementioned hypotheses.

3.3.1 Design of Experiment

An experiment was conducted to test the four proposed hypotheses, as stated in section 3.2. Experiments are more useful than other research techniques, such as descriptive or exploratory research, because unlike these techniques, they are able to provide evidence towards causal relationships (Churchill & Iacobucci, 2002). A causal relationship cannot be proven, but an experiment can provide evidence of this relationship due to the control the researcher has in the experiment (Churchill & Iacobucci, 2002). In other words, they are able to provide evidence that a specified

condition, or treatment, produces an observed effect, as the experimenter can manipulate the conditions to achieve this (Churchill & Iacobucci, 2002). An experimental design is being used for this research for this reason, so that a causal relationship between the two variables, price and alcohol content, and the consumption levels of young people can be investigated.

The experiment in this dissertation uses a true experimental design, with surveys being randomly assigned to sample populations, containing different treatments to test the hypotheses. This randomisation is what makes a true experimental design, meaning the researcher has an opportunity to assign test groups a survey randomly, making these more reliable than pre-experimental designs (Churchill, 1999). Experimental designs are increasingly common in the business discipline, and are useful in assessing responses to given treatments (Hair et al., 2010).

Subjects were given surveys which set a scenario to consider.   A copy of the actual survey used is available in Appendix B of this document. The scenario asked the subjects to imagine that they were going to purchase 'Brand X', an RTD (Ready-To-Drink) beverage. RTDs were selected, as they are popular among young people, as discussed in section 1.1. These RTD bottles were set at 330 millilitres in volume through initial pre-testing (section 3.3.2 will discuss these procedures). Different versions of the survey contained the same scenario, but varying price and alcohol content levels in order to assess the effect of these on their expected consumption. There were eight different survey versions in total, each implementing a different treatment. These treatments will be discussed in detail in sections 3.3.2 and 3.3.4.

3.3.2 Pre-testing

Pre-testing was employed to formulate the treatments used in the surveys to be handed out. Semi-structured pre-test interviews were conducted. A copy of the questions asked in these interviews is available in Appendix A. These checks were conducted with seven subjects in each country who fit within the target population of youths aged 18 to 25 years. In these interviews, participants were asked questions to establish their expectations in regards to the price of RTDs, the alcohol content of an RTD and the volume of the RTD canister. For the two variables to be altered, price and

alcohol content, it was necessary also to establish the upper and lower expected limits to develop the surveys. In other words, what were the highest prices respondents would expect to pay for an RTD, and what were the lowest? What was the highest percentage of alcohol content respondents would expect to find in an RTD and what was the lowest? These contributed to setting the varying levels of both price and alcohol content in the surveys for the main experiment.

Participants in these pre-test interviews were given an information sheet (available in Appendix A) and time to read over this and ask any questions. They were then asked if they were happy to participate in the interview, and given a consent form to sign if they were.

The subjects were asked to state their expectations as to the volume of a typical RTD beverage in millilitres. These results were calculated, and it was found that consumers expect RTDs to be approximately 330 millilitres in size; this was the figure used in the final scenarios. They were then asked how much they would expect to pay for an RTD, and the highest and lowest prices they might expect to pay. In other words, if the respondent were to go into a liquor store to purchase RTDs, what would be the highest price they would reasonably expect to pay, and what would be the lowest. The expected price levels were averaged out and calculated per bottle. To establish alcohol content expectations, subjects were then asked to state what percentage of alcohol they would expect to find in a typical RTD beverage, and then the highest and lowest alcohol percentages they would reasonably expect to find. These results were combined and the averages calculated to establish an expectation for each variable for use in the main experiment.

The final surveys tested four different levels of each variable; high, mid-high, mid-low and low. One variable was altered, whilst the other was held steady to assess the effects of each variable individually. This section will now briefly discuss how the figures for the treatments were formulated from these pre-test procedures; a thorough explanation of these treatments is given in section 3.3.4. The Australian and New Zealand interview responses were calculated separately. The price respondents indicated that they would normally expect to pay per RTD, and the percentage alcohol respondents stated they would normally expect to find in an RTD, was averaged to identify 'base' levels for these variables. The base prices were found to be $4 in New

Zealand, and $5 in Australia, while the base alcohol level was 6%. These figures were used to calculate the four treatment levels for each variable, in each country, as used in the final surveys.

The upper and lower limits were then calculated through averaging the results of the interview responses related to each level. These responses formed the upper, or 'high' and lower, or 'low' figures for use in the final surveys. The 'mid-high' and 'mid-low' treatment levels were then calculated by finding a mid-point between the calculated base level of each variable, and the upper and lower limits as indicated by the interview responses. The final treatment levels for each variable were applied as shown below; in order each shows the low, mid-low, mid-high and then high figures of each variable, used to formulate the surveys:

Alcohol content New Zealand: 4%, 5%, 10%, 14%.
Alcohol content Australia: 4%, 5%, 7%, 8%.
Prices New Zealand (per RTD bottle): $3.00, $3.50, $4.50, $5.00.
Prices Australia (per RTD bottle): $3.90, $4.40, $5.20, $5.40.

In addition to the aforementioned pre-test interviews, two liquor outlets were visited to note the prices, alcohol content percentages and volumes of RTDs available for purchase. These results were also averaged and checked against the pre-test interview results.

These field observations also assisted in the formulation of other survey figures, including the outcome variable, expected consumption. The number of bottles available for purchase, or the pack variations, were observed and used in the final survey. In other words, these observations were used in how many bottles participants could select to purchase under the given scenario. These were numbers that were actually available for purchase. For example, a 3-pack is not a pack variation commonly found in liquor outlets, but a 4-pack of RTD bottles is.

The final scenario set for the surveys was worded as follows:

"Imagine you are going to a store to purchase alcohol for yourself. You are going to purchase Brand X, which is an RTD (Ready-To-Drink) alcoholic beverage containing spirits and a mixer (i.e. a soft drink). Each bottle of Brand X is 330 millilitres (mLs) in size.

Brand X is (x%) alcohol. How much of Brand X will you buy?"

The (x%) is the percentage of alcohol contained in the hypothetical beverage, which was set at a specified level, as discussed above. Participants were then given options for how many RTDs they would purchase, and asked to tick one. The price per RTD was given with these options. Price was set at a specified level, as has been discussed in this section. The price figures for the differing pack sizes was calculated by taking the price per RTD bottle and multiplying it by the number of bottles in each pack variation. For example, where price was set at $5, a 4-pack was set at $20, a 6-pack was set at $30 and so on. The actual surveys distributed are available in Appendix B for reference.

Another purchase option was also included for testing in the surveys. As discussed in section 1.1, anecdotal evidence suggests that young people may substitute 40 ounce bottles and mixers for RTDs where the 40 ounce bottles are relatively cheaper. This may also be because they contain higher alcohol contents, and allow the consumer to mix their own drink and therefore speed up the intoxication process. For these reasons, a 40 ounce bottle of spirits, with two mixers was included as an option for participants. The price of a 40 ounce bottle of spirits, plus mixers, was determined through these field observations. A 40 ounce bottle of a standard spirits brand was found to cost approximately $35.00 in New Zealand, and $40.00 in Australia. The price of the mixers was set at $7.00 for two mixers, in both countries. These prices were not altered between treatment groups. RTDs are a major focus of Government policy, particularly in increasing taxation, so the aim of this was to test what happens when the price or alcohol content levels are changed on the purchase of 40 ounce bottles.

3.3.3 Sample

This research was conducted in both New Zealand and Australia. It was decided to perform the research in both countries due to an interest in how the different tax levels, and therefore price levels, may impact upon the expected purchase levels of alcohol by youths. New Zealanders currently pay approximately $45 per litre of spirits in tax, for example, while Australians pay over $62 in tax per litre of spirits (Distilled Spirits Industry Council of Australia, 2006; The Distilled Spirits Association of

New Zealand, 2009). With the significant price differences between the two countries comes the opportunity to assess whether the different initial price expectations for alcohol will influence the effect price has on purchase intention. The base price determined by the pre-test interviews, was higher in Australia than in New Zealand, $5 per RTD bottle, compared with $4 in New Zealand, due to the aforementioned higher taxes on alcohol in Australia. It was of interest to investigate whether these higher expected prices would influence the intended alcohol purchase levels of young people.

The surveys were completed by subjects at Auckland University of Technology in New Zealand, and at Bond University in Australia. These universities were selected as a representative of the general youth population, as they were convenient for sampling and permission was granted in both locations. Classes of undergraduate consumer behaviour students were surveyed as these were compulsory marketing topics, thus decreasing any bias that more specialised students may have.   A full explanation of the method used for the completion of the surveys is available in section 3.3.5.

The statistical analysis of the final survey results was selected to be a Pearson Chi-square analysis, which compares categorical data. A full explanation of this process is provided in section 4.6. The sample size for a Chi-square is difficult to determine, generally an expected count of 1 to 5 per cell is considered optimal for analysis (Churchill & Iacobucci, 2002). This was difficult in this research, as it could not be predicted how many beverages that participants would purchase under each treatment, so the expected count of these cells could not be guaranteed. Following discussions with the supervisors of this dissertation, and their senior colleagues in the Business faculty, it was decided that this research would aim to get 150 completed, valid surveys in total for analysis.

3.3.4 Treatments

Eight different treatments were applied in this experiment, testing subject responses to differing proposed price and alcohol content levels. These treatment groups hold one variable stable, whilst altering the other to gain an idea of the effects of each variable individually. Table 2 describes and summarises these treatment groups. Table

3 provides exact details for these treatment levels, as administered in the final experiment.

Table 2: Treatment Groups: Explanation of Each Treatment

Treatment:	Description:
1	'Low' level. Subjects given scenario where alcohol content remains at the base level and price is reduced further than treatment 2, to the 'low' (lowest) level, determined through the pre-test procedures.
2	'Mid-low' level. Subjects given scenario where alcohol content remains at the base level and price is reduced to the 'mid-low' level (a price mid-way between the base level and the 'low' level in treatment 1), determined through the pre-test procedures.
3	'Mid-high' level. Subjects given scenario where alcohol content remains at the base level and price is raised to a 'mid-high' level (mid-way between the base level and 'high' level in treatment 4), determined through the pre-test procedures.
4	'High' level. Subjects given scenario where alcohol content remains at the base level and price is raised to the highest test level (higher than in treatment 3), determined through the pre-test procedures.
5	'Low' level. Subjects given scenario where price remains at the base level and alcohol content is reduced (further than treatment 6), to the 'low' (lowest) level, determined through the pre-test procedures.
6	'Mid-low' level. Subjects given scenario where price remains at the base level and alcohol is reduced to the 'mid-low level' (a figure mid-way between the base level and the lowest level in treatment 5), determined through the pre-test procedures.
7	'Mid-high' level. Subjects given scenario where price remains at the base level and alcohol content is raised to a 'mid-high' level (mid-way between the base level and 'high' level in treatment 8), determined through the pre-test procedures.
8	'High' level. Subjects given scenario where price remains at the base level and alcohol content is raised to the 'high', or highest, test level (higher than in treatment 7), determined through the pre-test procedures.

Table 3: Treatment groups: Exact figures

Treatment Group SPSS Code	Price Level (Price per RTD)			Alcohol Content Level (Percentage Alcohol Contained in RTD)		
	Price Level (Compared with Control)	New Zealand Price	Australian Price	Alcohol Content Level (Compared with Control)	New Zealand Alcohol Content	Australian Alcohol Content
'1'	Low	$3.00	$3.90	Base Level	6%	6%
'2'	Mid-Low	$3.50	$4.40	Base Level	6%	6%
'3'	Mid-High	$4.50	$5.20	Base Level	6%	6%
'4'	High	$5.00	$5.40	Base Level	6%	6%
'5'	Base Level	$4.00	$5.00	Low	4%	4%
'6'	Base Level	$4.00	$5.00	Mid-Low	5%	5%
'7'	Base Level	$4.00	$5.00	Mid-High	10%	7%
'8'	Base Level	$4.00	$5.00	High	14%	8%

These eight treatments tested the effects of changes in price or alcohol content on the purchase levels of respondents. To achieve this, these treatments kept one variable constant, whilst altering the other. Four survey versions set price at the control level whilst altering the alcohol content figures and the other four set the control alcohol content level and altered the prices. Each variable was set at a 'high', 'mid-high', 'mid-low' and 'low' level through these different versions. Treatments '1', '2', '3' and '4' held alcohol content constant whilst altering the price figures. Treatments '5', '6', '7' and '8' held price at the control level while changing the alcohol content figures. The figures for each treatment were set through pre-testing procedures, see section 3.3.2.

3.4 Method

The surveys were completed at Bond University in Australia, and Auckland University of Technology in New Zealand, in September, 2010. Permission was gained from both universities, and access was granted to undergraduate students.

Participants were contacted in class, through their lecturer. Participants were told prior to the date of collection that the surveys would be taking place in class. All participants were given information sheets before the survey was administered and time to read these. The information informed participants that they were not under any obligation to participate whatsoever, and that participation in this experiment

would not affect their course in any way, positive or negative. It also acknowledged that the information being collected, regarding alcohol consumption and purchase behaviour, could be seen as sensitive information to some participants, and if participants felt uncomfortable in participating, they were completely able to opt out simply by not filling in the survey.

The information sheet also identified the criteria for inclusion in the survey. Participants were eligible to complete the survey if they were alcohol consumers (abstainers were not requested to complete a survey as this study focussed on those who do consume alcohol) between 18 years and 25 years of age. Students who were employed in a bar or liquor outlet at the time of the survey were not asked to participate, to reduce the risk of any skew resulting from a more extensive knowledge of alcohol pricing systems. The information sheets described the purpose for the research, and how the surveying would take place. They expressed that the completion and returning of the survey in class would constitute permission to be included in this research. A copy of these information sheets is available in Appendix B of this document.

In the surveys, the treatments were applied through a set scenario, which asked respondents to consider how many bottles of 'Brand X' RTD, a standard RTD brand containing an alcoholic spirits and a mixer, they would buy at a specified price level, with a specified percentage of alcohol content. The purchase options were; 1 bottle, 4 pack, 6 pack, 8 pack, 10 pack, 12 pack, 15 pack, 18 pack and 24 pack. Participants could also choose to purchase a 40 ounce bottle of spirits with two mixers instead. The specific levels for each variable (price and alcohol content) were selected through pre-testing, see section 3.3.2 for an in depth explanation of how these figures were determined. Four levels, or figures, were determined for each variable.

On the day of administering the survey, these information sheets were read to all students, to ensure a thorough understanding of them, and an opportunity to ask any questions was given. The surveys were then randomly assigned to students. The surveys were collated in numerical order, from version one to version eight, in a pile, to ensure an even distribution of each version. Participants were given time to complete and return the surveys in class. Anonymity of their answers was assured, as participants were not requested to write their name on their survey or identify

themselves in any way other than basic demographic information. Once collected by the lecturer, the surveys were given to the researcher and it was not possible to know who completed which survey, or which students chose to participate. The surveys were collected and analyses; the next section of this document will detail the selected statistical analysis technique.

3.5 Statistical Analysis

The statistical technique chosen to analyse the collected survey results was a Chi-square test. Chi-square analyses are useful for comparing categorical data, and providing a robust analysis for relatively small sample sizes (Churchill & Iacobucci, 2002; Wild & Seber, 2000). Chi-square analyses test the 'observed' frequencies against the 'expected' frequencies, or what you would expect to observe in a sample representative of the target population (Churchill & Iacobucci, 2002). They are useful for assessing whether patterns identified in frequency data are likely to be just random or whether they may be for some more fundamental reason (Churchill & Iacobucci, 2002). This statistical analysis technique is ideal for this research, as the data collected is categorical. The final analysis will compare treatment group (categorised from treatment 1 to treatment 8) with expected purchase (1 bottle through to a 24 pack or 40 ounce plus mixers). A Pearson Chi-square test was used to test the four hypotheses. Chi-square analyses are useful for examining categorical data (Wild & Seber, 2000). The treatments focussed on each hypothesis, treatments one to four for Hypotheses 1a and 1b, and five to eight for Hypotheses 2a and 2b, were compared with the expected consumption levels indicated by each sample population under those treatment conditions. The results of these analyses will be discussed in section 4.6.

Chapter 4: Findings

4.1 Introduction

This chapter will discuss the results of the surveys that were administered in Australia and New Zealand to empirically test the four hypotheses of this experiment which were as follows:

H1a: Price will have an effect on the expected amount of alcohol purchased by young people in New Zealand.

H1b: Price will have an effect on the expected amount of alcohol purchased by young people in Australia.

H2a: Alcohol content will have an effect on the expected amount of alcohol purchased by young people in New Zealand.

H2b: Alcohol content will have an effect on the expected amount of alcohol purchased by young people in Australia.

It will begin by presenting the sample sizes and a profile of the respondents. It will then examine the descriptive statistics and characteristics of the data set. The chapter will conclude by addressing each hypothesis in turn, in relation to the results of the Chi-square analyses performed to test them.

The purpose of this chapter is to display the results of the experiment, discussed in Chapter 3. The next section of this paper, Chapter 5, will discuss the implications of these findings.

4.2 Survey Responses

4.2.1 Sample Size

The surveys were conducted at Auckland University of Technology in New Zealand, and at Bond University in Australia, in September 2010. They were completed within a two week period and collected for analysis. In total, 172 completed surveys were

collected. During the cleaning of the data set prior to analysis, 17 of these responses were removed. This was mainly due to many respondents not fulfilling the requirements for inclusion in the study, such as not being between 18 and 25 years of age. Ultimately, 74 useable surveys were collected in New Zealand and 81 were collected in Australia, with a total sample size of 155 responses included in the final statistical analyses. For the statistical analysis technique used to interpret the data, a Pearson Chi-square test, Churchill and Iacobucci (2002) recommend that the cells being analysed should have an expected count of no less than 5, and none should have a count less than 1. Discussions with the supervisors of this dissertation and senior academic colleagues led to 150 responses being set as the goal sample size. With 155 responses total, this research fulfilled this set sample size.

4.2.2 Profile of Respondents

This section will discuss the demographic profiles of the survey respondents in New Zealand and Australia. It will include a description of each population, Australian and New Zealand participants, and will also compare the respondents from each population. Respondents were asked to indicate their age, income range and gender. Chi-square analyses compared each population, Australia and New Zealand, with the expected purchase levels indicated within each sample. This information is only provided for the responses included in the final data analysis, so it is a profile of all valid responses. Table 4 shows the demographic information collected from respondents and the results of a Chi-square test comparing each demographic variable between the two sample populations.

A Pearson Chi-square test was also performed to assist to compare the two sample populations, Australia and New Zealand, in their expected purchase survey answers, to test for any statistically significant differences between the populations. These results will be discussed in section 4.3.

Table 4: Profile of Respondents

	Population:						Comparison:	
	New Zealand		Australia		Total			
	Count	% of total	Count	% of total	Count	% of total	Pearson Chi-square	
Gender							Value	Sig.
Male	27	36.5	36	44.4	63	40.6		
Female	47	63.5	45	55.6	92	59.4	1.015	.314
Total	74	100.0	81	100.0	155	100.0		
Age								
18	0	0	25	31.2	25	16.1		
19	18	24.3	19	22.6	37	23.9		
20	20	27.0	17	21.5	37	23.9		
21	17	23.0	4	6.5	21	13.5		
22	7	9.5	4	5.4	11	7.1	36.170	.000*
23	3	4.1	4	4.3	7	4.5		
24	5	6.8	7	7.5	12	7.7		
25	4	5.4	1	1.1	5	3.2		
Total	74	100.0	81	100.0	155	100.0		
Income								
$0 - $5,000	23	31.1	38	46.9	61	39.4		
$5,0001 - $10,000	20	27.0	24	29.6	44	28.4		
$10,001 - $15,000	13	17.6	7	8.6	20	12.9		
$15,001 - $20,000	8	10.8	2	2.5	10	6.5		
$20,001 - $25,000	4	5.4	0	0.0	4	2.6	20.879	.004*
$25,001 - $30,000	2	2.7	3	3.7	5	3.2		
$30,000 +	1	1.4	7	8.6	8	5.2		
Prefer not to say	3	4.1	0	0.0	3	1.9		
Total	74	100.0	81	100.0	155	100.0		

* $P < 0.05$

4.2.2.1 New Zealand Respondents

The above table provides an overview of the demographics of all survey participants. In total, there were 74 valid responses collected from New Zealand participants. Of these 74 responses, there were more female than male respondents, 47 females (63.5%) compared with 27 males (36.5%). The age of participants ranged from 19 to 25 years. There were no 18 year old participants from New Zealand. This could have been because the surveys were conducted in second year classes at the Auckland University of Technology. The mean, or average, age of respondents in New Zealand was 20.84 years, with a median of 20 years of age. The respondents were mostly at the younger end of the set 18 to 25 year age range. This was to be expected in surveying undergraduate classes. Almost three quarters (74.3%) of respondents were aged 19 to 21 years.

The annual income of respondents from New Zealand was mainly between $0 and $15,000 per year; 75.7% of participants indicated that they earned within this range. As with age, a lower income is to be expected with a student population, as most students are full-time at university. The number of people in each income range decreased as the income ranges got higher. Only one person stated that they earned above $30,000 per year. Three people declined to indicate their annual income.

4.2.2.2 Australian Respondents

There were 81 valid responses collected from Australian university students. As in New Zealand, there were more female participants than males, with 45 females (55.6%) and 36 males (44.4) responding. More females are enrolled in tertiary study in both Australia and New Zealand than males, so this result could be representative of this. Unlike New Zealand, however, 30.9% of Australian respondents were aged 18 years, the most in any age group. This is probably because the classes surveyed in Australia were first year tertiary classes, so students have often come straight from high school. There were also a relatively large number of 19 year old (23.5%) and 20 year old respondents (21%). The mean, or average, age of respondents from Australia was 19.85 years.

Most Australian participants earned an annual income of $10,000 or less, with 62 participants (76.5%) earning within this range. No participants earned between $20,001 and $25,000, this was the only income range from either country with no responses. Interestingly, there were seven participants from Australia (8.6%) who indicated an annual income of $30,000 or more.

4.2.2.3 Comparing New Zealand and Australian Respondents

A Pearson Chi-square test was performed for each of the demographic survey questions; age, income and gender. The responses from each country were compared, to identify any statistically significant differences between the respondents.

A Chi-square test comparing the gender responses between countries found no statistically significant differences (Chi-square value = 1.015, p = .314). However, statistically significant differences were identified between Australia and New Zealand in both the age (Chi-square value = 36.170, p = .000) and income (Chi-square = 20.879,

p = .004) responses. Within the age results, differences existed between the populations in that there were no 18 years old respondents from New Zealand, but this age group made up 31.2% of the Australian responses. This is possibly due to the difference in year level of the participants; in New Zealand, the classes surveyed were second year students, compared with the first year students surveyed in Australia. This may have contributed to the slightly older mean of the New Zealand participants, with their average age being 20.84 years, while the Australian respondent's average age was 19.85 years. The majority of respondents from New Zealand were aged between 19 and 21 (74.3%), while the majority of Australian participants were aged between 18 and 20 (75.3%).

Statistically significant differences were also identified in the income levels between Australian and New Zealand participants. It seems that the Australian respondents earned slightly higher incomes than the New Zealand participants. In Australia, 7 respondents (8.4%) earned over $30,000 per year, compared with just 1 New Zealand respondent (1.4%) in this category.   It is possible that this could be due to Bond University in Australia being a private university, whereas Auckland University of Technology is a public institution. There could be more students earning higher incomes in the Australian sample because it costs more to attend this university. Even given these differences, it is felt that the samples were similar enough to compare, and also matched the target group.

4.3 Expected Purchase Levels by Country

A Pearson Chi-square analysis was performed comparing the New Zealand data with the Australian data in terms of the expected purchase levels indicated by each population. The purpose of this was to test for significant differences between the countries in their responses. The Chi-square analysis showed no significant relationship (Chi-square value = 13.270, p = .103). This means that there is no difference between the populations in their responses to the survey question which tested the four hypotheses. Table 5 below shows the results of this analysis.

Table 5: Expected Purchase by Country.

		Expected Purchase											Chi-square	
		1 RTD	4 Pack	6 Pack	8 pack	10 Pack	12 Pack	15 Pack	18 Pack	24 Pack	40 Oz	Total	Value	Sig.
New Zealand	No.	2	12	21	8	4	5	3	0	0	19	74	13.270	.103
	%*	2.7	16.2	28.4	10.8	5.4	6.8	4.1	0.0	0.0	25.7	100		
Australia	No.	7	16	15	7	3	5	1	0	8	19	81		
	%*	8.6	19.8	18.5	8.6	3.7	6.2	1.2	0.0	0.0	23.5	100		
Total	No.	9	28	36	15	7	10	4	0	8	38	155		
	%	5.8	18.1	23.2	9.7	4.5	6.5	2.6	0.0	5.2	24.5	100		

*Percentage within population

4.4 Data Coding

The data collected was coded and entered into an SPSS data set for analysis. Table 6 shows the coding system used for entering the survey responses.   The majority of the data was categorical in nature, due to the research methods used. The price variable, for example, was coded as being a number from one to ten, to simplify the data analysis process and enable easy reading of the results. The treatment groups used were labelled from one to eight. These treatment groups are discussed in depth in section 3.3.4 of this document.

Table 6: Data Coding System

Variable (SPSS Variable Name)	SPSS Coding Instructions
Identification number (ID)	1' through to '177'
Country (NZOz)	1' = NZ, '2' = Australia
Alcohol Content (AlcContent)	4' = 4%, '5' = 5%, '6' = 6%, '7' = 7%
	'8' = 8%, '10' = 10%,'14' = 14%
Price (Price)	1' = $3, '2' = $3.50, '3' = $4, '4' = $4.50,
	5' = $5, '6' = AU$3.90, '7' = AU$4.40,
	8' = AU$5, '9' = AU$5.20, '10' = AU$5.40
Expected purchase (Purchase)	1' = 1 Bottle, '4' = 4 Pack, '6' = 6 Pack,
	8' = 8 Pack, '10' = 10 Pack, '12' = 12 Pack,
	15' = 15 Pack, '18' = 18 Pack, '24' = 24 Pack,
	'40' = 40oz Bottle of Spirits Plus Two Mixers
Gender (Sex)	Gender '1' = Males, '2'= Females
Age (Age)	'18' through to '25'
Income (Income)	'1' = $0 - $5000, '2' = $5001 - $10000,
	'3' = $10001 - $15000, '4' = $15001 - $20000,
	'5' = $20001 - $25000, '6' = $25001 - $30000,
	'7' = $30001 +, '8' = Did not respond.
Treatment Group (Treatment)	1 − 8*

*For an in depth explanation of the treatment groups, please refer to section 3.3.2.

4.5 Data Cleaning

The survey responses were entered into SPSS, and then the data set was checked for irregularities and outliers. The surveys were manually checked to ensure they had all been filled out in their entirety. No surveys had to be omitted for incomplete answers. Three participants did decline to indicate their income range, possibly due to the sensitive nature of this information. However these surveys were still included in the final analysis. When the responses had been entered, the original data set had 194 completed responses.

The data set was cleaned using the frequency and descriptive statistics produced using SPSS. The resulting output was examined for outliers, missing data and inconsistencies. This process revealed three missing data entries; these were all in the New Zealand sample, where participants had declined to answer the income question. This was rectified through creating a new 'did not respond' income category, category '8'. Some outliers were also found during the data cleaning process. Overall, 39 survey responses were removed as they did not meet the inclusion criteria for subjects. The majority of these were removed as the respondents were outside the 18 to 25 year old age bracket. Where a respondent fell outside of the designated age range, all of their

responses were removed so they were not included in the final analysis. Upon the completion or the data cleaning process, 155 completed valid surveys remained for analysis.

4.6 Testing of the Hypotheses

As discussed in Chapter 3, the hypotheses in this research were tested with surveys containing different scenarios for respondents to consider. Each survey version contained a different treatment, with differing price and alcohol content levels between versions. Four survey versions kept price at the average level (as determined by the pre-testing procedures) and altered alcohol content, and then four more versions kept alcohol content at the average level (as determined by the pre-testing procedures) and only altered price. The aim of this experiment was to assess what effects these variables could have on the expected alcohol purchase levels of youths. In other words, this experiment aimed to investigate whether changes in the price of, or alcohol content in, RTDs affect the number of bottles young people would buy. In addition, participants were given the option of selecting a 40 ounce bottle of spirits plus two mixers, to purchase.

In this section, the statistical analyses used to test these hypotheses will be introduced, before the four hypotheses are each discussed in turn. The findings of the experiment in relation to each relevant hypothesis will be presented. This section begins by discussing the effects of price on the expected alcohol purchase levels of young people (hypotheses 1a and 1b) and then progresses to the effects of alcohol content on purchase levels (hypotheses 2a and 2b). Ultimately, the discussion section, Chapter 5, will analyse the implications of these results.

4.6.1 Hypothesis 1: The Effects of Price on the Expected Alcohol Consumption of Young People

To test this hypothesis, the percentage alcohol contained in the hypothetical RTD bottles in the scenario were held constant at the average percentage as identified through the pre-testing procedures, 6% for both countries. The price of a bottle of

alcohol was changed in each scenario, testing four price levels overall. The levels were set as shown in Table 7 below. This table shows the different price levels for each treatment, the exact prices used in the scenarios, as well as the percentage change these prices represent from the average RTD price, as determined by pre-testing.

Table 7: Price Treatment Levels

Treatment:	Level*:	NZ Price:	% Change from Average*	Australian Price	% Change from Average*
1	Low	$3.00	- 25.0%	$3.90	- 22%
2	Mid-Low	$3.50	- 12.5%	$4.40	- 12%
3	Mid-High	$4.50	+ 12.5%	$5.20	+ 4%
4	High	$5.00	+ 25.0%	$5.40	+8%

*Compared to base amount as set by pre-tests, see section 3.3.2.

4.6.1.1 Hypothesis 1a: New Zealand

The first hypothesis for this research was set as follows:

H1a: Price will have an effect on the expected amount of alcohol purchased by young people in New Zealand.

The aim of this hypothesis was to investigate what effects the price of a beverage would have on the number of beverages young people in New Zealand would purchase. The four different treatments which tested price were treatments one to four. These treatments were compared, using a Chi-square analysis, with the number of bottles that New Zealand participants would purchase under the given conditions. The Chi-square result was insignificant (Chi-square value = 20.079, p = .328). This means that there is no statistically significant evidence to support this hypothesis. The experiment conducted failed to support the hypothesis that price would influence purchase in New Zealand. These results mean that even when price was increased by 25%, participants would not change their purchase behaviour. The number of 40 ounce bottles purchased did not seem to show an observable trend. This suggests that changes in price did not affect the number of 40 ounce bottles purchased. Table 8 is a tabular representation of the results of the experiment to test this hypothesis.

Table 8: Hypothesis 1a Results

Treatment Group:	1 Bottle		4 Pack		6 Pack		8 Pack		10 Pack	
	No.	%	No.	%	No.	%	No.	%	No.	%
1	0	0.0	1	10.0	5	50.0	2	20.0	1	10.0
2	1	10.0	2	20.0	3	30.0	0	0.0	0	0.0
3	0	0.0	1	11.1	1	11.1	2	22.2	0	0.0
4	0	0.0	2	18.2	2	18.2	1	9.1	1	9.1
Total	1	2.5	6	15.0	11	27.5	5	12.5	2	5.0

	12 Pack		15 Pack		18 Pack		24 Pack		40 Ounce#		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1	0	0.0	0	0.0	0	0.0	0	0.0	1	10.0	10	100.0
2	0	0.0	0	0.0	0	0.0	0	0.0	4	40.0	10	100.0
3	2	22.2	0	0.0	0	0.0	0	0.0	3	33.3	9	100.0
4	0	0.0	0	0.0	0	0.0	0	0.0	5	45.5	11	100.0
Total	2	5.0	0	0.0	0	0.0	0	0.0	13	32.5	40	100.0

#40 ounce bottle of spirits plus two bottles of mixer

°Results of Chi-square comparing treatment group with expected purchase

4.6.1.2 Hypothesis 1b: Australia

Hypothesis 1b looked at the effect of price on alcohol purchase in Australia and is as follows:

H1b: Price will have an effect on the expected amount of alcohol purchased by young people in Australia.

A Chi-square test examined the purchase levels compared with the four treatment groups. The results of the Chi-square analysis testing this hypothesis were not statistically significant (Chi-square value = 15.126, p = .653). This means that the experiment conducted did not produce results which supported the hypothesis that price has an effect on the alcohol purchase levels of young people in Australia. These results indicate that even with an 8% increase in the price per RTD bottle, or a 22% decrease in price compared with the average, Australian participants would still not change their consumption behaviour. As with the New Zealand sample, no obvious trends were identified in the purchase of 40 ounce bottles under these treatments. Table 9 displays the results of this analysis.

Table 9: Hypothesis 1b Results

Treatment Group:	Expected Purchase											
	1 Bottle		4 Pack		6 Pack		8 Pack		10 Pack			
	No.	%	No.	%	No.	%	No.	%	No.	%		
1	1	11.1	2	22.2	1	11.1	1	11.1	0	0.0		
2	1	10.0	2	20.0	5	50.0	1	10.0	0	0.0		
3	2	22.2	2	22.2	1	11.1	0	0.0	0	0.0		
4	2	20.0	2	20.0	1	10.0	1	10.0	0	0.0		
Total	6	15.8	8	21.1	8	21.1	3	7.9	0	0.0		
	12 Pack		15 Pack		18 Pack		24 Pack		40 Ounce#		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1	0	0.0	1	11.1	0	0.0	0	0.0	3	33.3	9	100.0
2	0	0.0	0	0.0	0	0.0	0	0.0	1	10.0	10	100.0
3	0	0.0	0	0.0	0	0.0	0	0.0	4	44.4	9	100.0
4	0	0.0	0	0.0	0	0.0	1	10.0	3	30.0	10	100.0
Total	0	0.0	1	2.6	0	0.0	1	2.6	11	28.9		100.0

#40 ounce bottle of spirits plus two bottles of mixer

°Results of Chi-square comparing treatment group with expected purchase

4.6.2 Hypothesis 2: The Effects of Alcohol Content on the Expected Alcohol Consumption of Young People

To test this hypothesis, the price of the hypothetical RTD bottles in the scenario were held constant at the average price identified through the pre-testing procedures, $4.00 for New Zealand and $5.00 for Australia. The alcohol percentage in each RTD bottle was changed in each of four scenarios. Four percentage levels were tested overall. The levels were set as shown in Table 10 below. This table shows the different alcohol content levels for each treatment, the exact alcohol percentages, as used in the scenarios, as well as the percentage change these represent from the average RTD alcohol content level, as determined by pre-testing.

Table 10: Alcohol Content Treatment Levels

Treatment:	Level*:	NZ Alcohol Content:	% Change from Average*	Australian Alcohol Content	% Change from Average*
5	Low	4%	- 33.3%	4%	- 33.3%
6	Mid-Low	5%	- 16.7%	5%	- 16.7%
7	Mid-High	10%	+ 66.7%	7%	+ 16.7%
8	High	14%	+ 133.3%	8%	+ 33.3%

*Compared to average amount as set by pre-tests, see Chapter 3

4.6.2.1 Hypothesis 2a: New Zealand

The second hypothesis related to the influence that the percentage of alcohol a beverage contained would have on how many bottles of these beverages young people would purchase. Hypothesis 2a concerned these effects in New Zealand:

H2a: Alcohol content will have an effect on the expected amount of alcohol purchased by young people in New Zealand.

Table 11 displays the results of the experiment testing this hypothesis. There were 34 responses to the four treatments which tested alcohol content in New Zealand; treatments five to eight. The results of a Pearson Chi-square test comparing the four treatment groups which tested price with the expected purchase levels of participants under these conditions were statistically significant (Chi-square value = 34.000, p = 0.036). The results of the survey indicate that when alcohol content was at higher levels, participants bought significantly less alcohol and vice versa. In total, participants who were given surveys which contained the treatment groups which set lower alcohol content levels, treatments 5 and 6, indicated that they would purchase 122 RTD bottles. This is significantly higher than the 85 bottles participants in the higher alcohol treatment levels, treatments 7 and 8, would purchase. No obvious trends were identified in the purchase of 40 ounce bottles between treatment groups. However, there is statistically significant evidence to suggest that alcohol content does indeed influence the alcohol purchase behaviour of young people in New Zealand.

Table 11: Hypothesis 2a Results

Treatment Group:	Expected Purchase										
	1 Bottle		4 Pack		6 Pack		8 Pack		10 Pack		
	No.	%	No.	%	No.	%	No.	%	No.	%	
5	0	0.0	2	22.2	2	22.2	0	0.0	2	22.2	
6	0	0.0	0	0.0	5	55.6	2	22.2	0	0.0	
7	1	11.1	0	0.0	2	22.2	1	11.1	0	0.0	
8	0	0.0	4	57.1	1	14.3	0	0.0	0	0.0	
Total	1	2.9	6	17.6	10	29.4	3	8.8	2	5.9	

	12 Pack		15 Pack		18 Pack		24 Pack		40 Ounce#		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
5	1	11.1	0	0.0	0	0.0	0	0.0	2	22.2	9	100.0
6	2	22.2	0	0.0	0	0.0	0	0.0	0	0.0	9	100.0
7	0	0.0	2	22.2	0	0.0	0	0.0	3	33.3	9	100.0
8	1	14.3	0	0.0	0	0.0	0	0.0	1	14.3	7	100.0
Total	3	8.8	3	8.8	0	0.0	0	0.0	6	17.6	34	100.0

#40 ounce bottle of spirits plus two bottles of mixer

°Results of Chi-square comparing treatment group with expected purchase

*p < 0.05

4.6.2.2 Hypothesis 2b: Australia

The fourth, and final, hypothesis aimed to investigate the effects of changes in alcohol content on the expected consumption behaviour of young people in Australia. This hypothesis was as follows:

H2b: Alcohol content will have an effect on the expected amount of alcohol purchased by young people in Australia.

A Pearson Chi-square was conducted comparing the treatment groups which altered alcohol content but kept price constant with the expected purchase numbers for these treatments. The results were not statistically significant (Chi-square value = 20.594, p = .484), so did not support the alternative hypothesis that alcohol content influences purchase amounts in Australia. This means that there were no statistically significant changes in the levels of expected purchase by young people even when the percentage alcohol contained in the bottle was changed by as much as 33.3%. There were no significant differences in the number of 40 ounce bottles purchased under these treatments. Table 12 shows the results of the experiment testing this hypothesis.

Table 12: Hypothesis 2b Results

Treatment Group:	Expected Purchase									
	1 Bottle		4 Pack		6 Pack		8 Pack		10 Pack	
	No.	%	No.	%	No.	%	No.	%	No.	%
5	1	10.0	1	10.0	1	10.0	1	10.0	0	0.0
6	0	0.0	2	20.0	2	20.0	0	0.0	1	10.0
7	0	0.0	2	16.7	4	33.3	1	8.3	1	8.3
8	0	0.0	3	27.3	0	0.0	2	18.2	1	9.1
Total	1	2.3	8	18.6	7	16.3	4	9.3	3	7.0

Treatment Group:	12 Pack		15 Pack		18 Pack		24 Pack		40 Ounce#		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
5	1	10.0	0	0.0	0	0.0	3	30.0	2	20.0	10	100.0
6	1	10.0	0	0.0	0	0.0	2	20.0	2	20.0	10	100.0
7	3	25.0	0	0.0	0	0.0	1	8.3	0	0.0	12	100.0
8	0	0.0	0	0.0	0	0.0	1	9.1	4	36.4	11	100.0
Total	5	11.6	0	0.0	0	0.0	7	16.3	8	18.6	43	100.0

#40 ounce bottle of spirits plus two bottles of mixer

°Results of Chi-square comparing treatment group with expected purchase

4.7 Summary of Findings

This section summarises the findings of the experiment conducted to test the four hypotheses proposed for this research, and the results of the data analysis of these results. Students from Auckland University of Technology in New Zealand, and Bond University in Australia were surveyed to test the influences of price and alcohol content on the alcohol purchase behaviour of youths. In total, 155 completed responses were included in the final data analysis; 74 from New Zealand and 81 from Australia.

A Pearson Chi-square analysis was used to analyse the collected data. Each hypothesis was tested using the expected purchase results from the relevant country, and the treatment group relevant to the variable being tested. In other words, the different treatment groups were compared with the number of beverages respondents indicated that they would expect to purchase under these conditions, within the relevant sample population (New Zealand or Australia). The results of these analyses are represented in Table 13 below.

Table 13: Results of Chi-square Analyses Testing Hypotheses

	Pearson Chi-square		Support for Hypothesis?
	Value	Sig.	
Hypothesis 1a	20.079	.328	No
Hypothesis 1b	15.126	.653	No
Hypothesis 2a	34.000	.036*	Yes
Hypothesis 2b	20.594	.484	No

*$p<0.05$

As has been discussed in the preceding sections, the analysis of the data relating to each hypothesis did not produce statistically significant results for three of the four hypotheses. Chi-square analyses did not support Hypothesis 1a (Chi-square value = 20.079, p = .328), Hypothesis 1b (Chi-square value = 15.126, p = .653) and Hypothesis 2b (Chi-square value = 20.594, p = .484). The implications of these findings will be discussed in Chapter 5.

Chapter 5: Discussion

5.1 Introduction

This research was conducted to investigate the influences of price and alcohol content on the alcohol purchase behaviour of youths. RTDs were chosen for investigation, as they are popular with young people, and have been the subject of much attention from the media, the public and government organisations, as discussed in Chapter 2. The review of literature in Chapter 2 lead to the suggestion that young people drink to get to an intoxicated state, and therefore changes to the price of alcohol, or limitations placed on the percentage of alcohol in a beverage, may have limited effects on their alcohol purchase and consumption behaviour . It has also been suggested that when these restrictions are placed on RTDs, young people may instead substitute a 40 ounce bottle of spirits and mixers, and combine their own drinks. This research has also discussed the drinking culture present in both New Zealand and Australia, and the suggestion that the drinking behaviour of young people is ingrained in culture, as a social norm.

This section will discuss the final conclusions of this dissertation. It will extend on the discussion in Chapter 4, which presented the findings of the experiment conducted to test the four hypotheses. This chapter will begin by discussing the findings and conclusions to be drawn from the statistical analyses, and addressing the research question of this dissertation. It will then discuss the implications of these findings, and what they mean for marketing theory, as well as for government and social policy. The limitations of this research will be detailed, as well as potential avenues for future research on this topic. The final section will discuss the overall conclusions of this paper as a whole.

5.2 Findings

There was no statistically significant support for price affecting consumption levels in New Zealand or Australia. The price of an RTD bottle was changed in the scenarios by

as much as 25% in New Zealand, and 22% in Australia. These changes still did not provoke a significant change in expected purchase in either country. This could mean that this experiment has not reached the price change thresholds where young consumers will change their consumption behaviour. Perhaps more significant price changes would provoke changes in consumption levels. However this could also mean that these consumers would not change their consumption behaviour even with much larger price changes. There were also no statistically significant results for Hypothesis 2b, which tested different levels of alcohol content compared to expected purchase. This means that there was no evidence to support the hypothesis that alcohol content affects the alcohol purchase levels of young people. Again, this could mean that the thresholds for a change in behaviour were not reached in the given scenarios, or that young people would purchase the beverages where the percentage of alcohol contained in the drink was changed even more than in this study.

The analysis for Hypothesis 2a, however, did produce statistically significant results to support this hypothesis (Chi-square value = 34.000, p = .036). This indicates the level of alcohol content did influence the expected purchase levels of RTDs by young people in New Zealand. Where alcohol content was high, participants purchased less alcohol, and where alcohol content was low, they purchased more. The changes in alcohol content, as determined by the pre-testing procedures were larger in the New Zealand scenarios than in the Australian scenarios. Thus it is possible that the thresholds for a change in behaviour were not reached in Australia.

The statistical analysis of this data involved performing Chi-square analyses to compare the treatment groups assigned to respondents with the number of RTD bottles they would expect to purchase under these conditions. These analyses did not provide statistically significant results for three out of the four hypotheses. The experiment only provided statistical support for Hypothesis 2a, which concerned the effect of changes in alcohol content on the alcohol purchase behaviour of young people in New Zealand. The implications of these results will be discussed in the following sections

5.3 Significance of Findings

Four hypotheses were created from the review of literature in Chapter 2, to empirically investigate these theories. Two variables, price and alcohol content, were tested in New Zealand and Australia to assess the effects of these variables on the expected purchase behaviour of youths aged 18 to 25 years. This section will discuss the findings of each hypothesis in turn, and the implications of these findings.

The first two hypotheses looked at the effects of price on the expected purchase levels of young people. Hypothesis 1a examined this relationship in New Zealand, and Hypothesis 1b looked at this in Australia. The hypotheses proposed that the price of alcohol would influence the amount of alcohol purchased. The results of the experiment to test these hypotheses did not support them in either New Zealand or Australia. This means that price had no statistically significant effect on how many beverages the respondents indicated they would purchase under the given conditions, in either country.

These results could mean that the prices used in the surveys to test the effects of this variable on consumption did not reach the threshold where consumers would alter their purchase behaviour. Perhaps more dramatic changes in price would lead to a statistically significant change in expected purchase. However, these results could also indicate that changes in price will have limited or no effect on the alcohol purchase behaviour of young people. The results of this experiment do align with the expectations set out as a result of the literature review in Chapter 2. It was predicted that changes in price would not significantly influence consumption behaviour, as the consumption of alcohol is ingrained in society as a social norm and is therefore less responsive to changes in price and alcohol content (Beccaria & Sande, 2003; Beck & Treiman, 1996; Fox & Marsh, 2000). Young people drink to get intoxicated, and these results could indicate that young people will continue with the same purchase behaviour when price is altered.

Hypotheses 2a and 2b looked at the influence different levels of alcohol content had on the number of beverages participants would expect to purchase. The hypotheses predicted that alcohol content would have an effect on this purchase behaviour in New Zealand, and in Australia. The results of the experiment found statistically

significant support for the influence of alcohol content on consumption in New Zealand, but no statistically significant support for this hypothesis in Australia. The levels of alcohol content test in New Zealand changed more dramatically, and rose to higher levels than those tested in Australia. It may be that the New Zealand tests did reach amounts which would provoke a change in consumption, but the Australian surveys did not. This means that it is possible that young people will purchase more alcohol at lower levels of alcohol content, as suggested, in both countries, but perhaps the changes in alcohol content in the Australian surveys did not reach the levels where young people would change their behaviour.

5.4 Research Question Conclusions

The research question investigated in this study was:

"What are the effects of changes in price and alcohol content on the levels of alcohol purchased by young people in Australia and New Zealand?"

There was no statistical evidence to support the hypothesis that price had an effect on the amount of alcohol purchased by young people in New Zealand or Australia. Therefore, to answer the research question, this research found that changes in price have no effect on the levels of alcohol consumed by young people in New Zealand and Australia. A review of literature led to the prediction that price would not affect consumption behaviour, as excessive consumption is a social norm and young people drink to become intoxicated, so will not change their behaviour due to changes in the price of alcoholic beverages (Beccaria & Sande, 2003; Beck & Treiman, 1996; Fox & Marsh, 2000).

There was also no support for the hypothesis which proposed that changes in the percentage of alcohol contained in a beverage would influence purchase behaviour in Australia. There was, however, statistically significant results supporting the hypothesis which suggested that alcohol content affected expected purchase in New Zealand. This research therefore suggests that changes in the levels of alcohol content do not affect the amount of alcohol purchased by young people in Australia. The experiment does suggest that changes in the percentage of alcohol do influence

purchase behaviour in New Zealand. A main conclusion of the literature review in Chapter 2 was the notion that drinking to excess is a social norm, inherent in culture. It was suggested that as young people drink to get drunk, they will purchase higher levels of alcohol content to achieve this. This indicated that if the level of alcohol contained in a beverage was lowered, young consumers would buy more of that beverage in order to reach the desired level of inebriation. The results of this experiment aligned with this, demonstrating that in New Zealand, participants purchased more alcohol when the alcohol content of the hypothesised beverage was lowered, and less when it was increased. The data collected from Australia did not support this, however it is possible that due to the smaller change in the alcohol content treatments in Australia, the levels at which a change would be made were not reached for that population.

These results provide empirical evidence that price does not have an effect on the consumption behaviour of young people in New Zealand and Australia. The results also indicate that alcohol content does influence purchase behaviour in New Zealand, but this could not be confirmed for the Australian youth population.

Overall, the results of this experiment align with the predictions drawn from the literature review, and suggest that social norms are stronger than the effects of price changes, and lead to young consumers drinking beverages with a higher alcohol content to achieve intoxication. The experiment conducted to test the four set hypotheses has successfully answered the research question. The next section, section 5.4, will discuss the managerial and academic influences of these conclusions.

5.5 Academic and Managerial Implications

This section will discuss the implications of the findings of this research. The results of this study have indicated that price does not affect the alcohol consumption behaviour of youths, but that alcohol content does affect this behaviour. It has suggested that social norms are stronger than price. It has also been concluded that as drinking excessively is a social norm, young people drink to get drunk, and will therefore purchase more alcohol if the percentage of alcohol in a beverage is decreased, and less if the percentage of alcohol in the beverage is increased. There are two main areas of

focus for these implications; marketing theory and government policy. These will be discussed in the following sections.

This study contributes to a more thorough understanding of the influences on alcohol consumption, and is particularly important to social marketing theory and public policy. It provides a valuable insight into the motivations for, and influences on, alcohol consumption by young people. The results suggest that changes in price have a minimal effect on consumption behaviour. This has crucial social marketing and public policy implications, as this study provides conceptual and empirical evidence that a change in the consumption behaviour of young people will only occur when there is a fundamental change in the drinking culture in New Zealand. This behaviour is ingrained in society as an accepted social norm. The results of this study indicate that potential avenues to achieve a change in social norms should be pursued by social marketers and public policy makers, if a change in problematic drinking behaviour is to be achieved. Organisations such as the Alcohol Advisory Council of New Zealand lobby the Government for changes in price and limits on the level of alcohol in beverages for sale, but these results indicate that these changes will be ineffective in achieving the desired reduction in consumption and consumption-related problems.

 A major finding of this research was the lack of support for price influencing the alcohol purchase behaviour of young people. The price of alcohol in particular is seen as a major tool for consumption control by government. The results of this study indicate that alternative control methods should be investigated. This research provides empirical evidence which suggests that price may be an ineffective control tool for youth alcohol consumption. The review of literature suggests that the excessive consumption of alcohol is very much a normal occurrence for young people. In order to change this behaviour, and to lessen the negative externalities resulting from excessive consumption, a major cultural change would be required. Government policies focussing on raising the price of alcohol or reducing the alcohol content of RTDs, which are currently the focus of legislation, will not change the way New Zealanders drink.

5.6 Limitations

The limitations of this research are due to time and scale restrictions. As this is a dissertation research study, a component for the completion of a Master of Business. The nature of a dissertation means that the research is limited to a relatively small scale study, with a limited time frame and limited funds. This meant that this study was limited to surveying two universities. The classes in these universities were relatively small. These factors meant that collecting enough completed surveys was difficult. Ultimately, the number of surveys collected was less than desired, particularly for a Chi-square analysis. An expected count of 5 per cell is generally considered sufficient for a Pearson Chi-square analysis (Churchill & Iacobucci, 2002). However the sample size reached was as planned, and it is felt that the sample population was a good representation of the target population. The results were supported by the outcome of the literature review.

5.7 Further research opportunities

This research was limited in scale due to time restraints, as outlined in section 5.6 above. To further our understanding of this topic, there are several potential research opportunities that will be discussed in this section.

A larger-scale investigation of this topic could potentially provide valuable information for government, academic and industry stakeholders. In future, it would be interesting to see the results of a similar study, with a larger sample size. Potentially the experiment could include more universities for sampling, or could survey young people from non-student populations as well. University students were used as the subjects in this research but future research could investigate a broader population.

A comparison between tertiary students and young people who weren't participating in tertiary studies to compare the two groups in the influence price and alcohol content had on their purchase behaviour could be a valuable avenue for future research. It would be interesting to examine the effects of student life on alcohol purchase decision-making, compared with non-students.

A third possible research opportunity could be for a study similar to this research project, but longitudinal in design. This could investigate, for example, the changing effects of price and alcohol content on purchase behaviour, particularly in relation to changing laws and regulations. The focus of this research could be on the changing influences of the variables on consumption or possibly the effects of government policy on the effects of these variables.

The topic of this research is a highly controversial and topical issue, which lends itself to a countless number of potential research opportunities.

5.8 Final conclusions

The literature review has indicated that the heavy consumption of alcohol is an accepted social norm in New Zealand society. This research suggests that changes in price do not affect the levels of alcohol purchased by young people in New Zealand and Australia. This research also suggests that changes in alcohol content do not affect the levels of alcohol purchased in Australia, but do affect this in New Zealand. A fundamental change in New Zealand's culture is needed to reduce excessive consumption by young people.

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Appendices

Appendix A: Pre-Testing Procedures

Pre-test Interview Information Sheets

Date Information Sheet Produced: **20 August 2010**

Project Title

Price and Alcohol Content Effects on Purchase Behaviour: An Analysis of New Zealand and Australian Youth Drinking

An Invitation to Participate

> You are invited to participate in an interview for a research project looking at the levels of alcohol purchased by young people in Australia and New Zealand, and how these may be affected by different prices and levels of alcohol content. I, Nicola Stephenson, am completing this research myself under the supervision of Dr Ann-Marie Kennedy at Auckland University of Technology. This research project will form part of my dissertation, the final requirement towards the completion of my Master of Business at AUT. The final resulting article may be edited for publication in an academic journal in the future. Your participation in this short interview would be very much appreciated. Please read this information sheet which details your involvement in this process. ***If you are outside the 18 years to 25 years age bracket, if you do not drink alcohol, or if you are currently employed in a bar, liquor store or other such alcohol-related job, you do not fulfil the criteria required for this interview.*** In these instances, we thank you very much for your time but do not request your participation in this research.

Purpose of this Research

> This research is looking specifically at the alcohol purchase levels of young people, aged 18 years to 25 years (at the time of completing the interview). I am particularly interested in how different price and alcohol content levels may, or may not influence your purchase decisions. For the purposes of this research, RTDs, or Ready-to-Drink beverages will be the focus of the questioning. RTDs in this research refer to alcoholic beverages in bottle or can form, which contain some kind of alcoholic spirits or wine with a 'mixer', usually a soft/fizzy drink. The information gathered through the use of this interview will contribute to establishing a reliable survey to be distributed to young people in Australia and New Zealand. Your answers are appreciated, as they will help to gain an understanding of current beliefs and expectations to do with purchasing alcohol.

Your Participation

> Your participation in this interview is completely voluntary and choosing not to participate will not disadvantage you in any way. You may withdraw your information at any time prior to the completion of all interviews. You will be advised of this time frame on the day of the interview. If you withdraw from participating in this research, you are assured that all information that has been collected from you such as transcripts and recordings will be destroyed. If you choose to participate, you are assured total confidentiality, all interviews will be transcribed by one person, the researcher. The recordings and transcripts will at no time be accessible to anyone other than the researcher, Nicola Stephenson, and the research supervisor, Ann-Marie Kennedy. It is important also to advise you that only aggregate, or overall, results from these interviews will be used in the final report.

How was I chosen to participate?

> This research is looking at both males and females, between the ages of 18 and 25 at the time of participation, who consume alcohol. You have been chosen to participate in this survey as you are likely to fulfil the criteria for inclusion. If you do fulfil these criteria, and consent to participate in this research, you will be selected to be interviewed. Your responses, if you choose to participate, will be aggregated and included in the final report.   A final summary and copy of the report will be made available to you for your information.

How will the interview work?

> This interview will take approximately 15 minutes to complete. During the interview, you will be asked some basic questions about your alcohol preferences. At no time are you expected to answer any question you are not completely comfortable answering. There will no consequences at all for you should you choose not to answer any question. The questions you will be asked are basic in nature, and simply aim to find out your thoughts on purchasing alcohol.

Following the interview, you will be asked to review the transcripts of the interview. This is to ensure that the researcher has fully understood what you have said.

How will my privacy be protected?

Confidentiality is assured to you following your interview. When transcribing these interviews, no identifying information will be revealed. The recordings will be safely stored at the University storage facilities, separate from these transcripts. The information gathered in all interviews will be collated and used together.

What are the costs of participating in this research?

This interview will take approximately 15 minutes to complete. There are no financial costs involved in your participation in this research at all. However you may feel uncomfortable sharing details of your drinking behaviour. This is addressed through keeping your responses anonymous within the research, so no one will know your answers.

What opportunity do I have to consider this invitation?

You have a week to consider your participation in this short interview. Please also review the consent form attached, so that you are totally aware of what you are agreeing to. If you choose to participate, please schedule a time to meet with the researcher, who will go through this information again with you to ensure your understanding.

How do I agree to participate in this research?

By notifying the researcher, and signing the attached consent form.

Will I receive feedback on the results of this research?

Yes, a copy of the report will be made available to all participants in the surveys. You may choose whether or not to receive a copy of this.

What do I do if I have concerns about this research?

Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor, Ann-Marie Kennedy, email: *ann-marie.kennedy@aut.ac.nz*, or phone: +64 9 921 9999 ext 5825

Concerns regarding the conduct of the research should be notified to the Executive Secretary, AUTEC, Madeline Banda, *madeline.banda@aut.ac.nz* , +64 9 921 9999 ext 8044.

Whom do I contact for further information about this research?

Researcher Contact Details:

If you wish to contact the researcher, **Nicola Stephenson**, her contact details are as follows:

Email: *ykm1509@aut.ac.nz*

Project Supervisor Contact Details:

If you wish to contact the project supervisor, **Ann-Marie Kennedy**, her details are as follow:

Email: *ann-marie.kennedy@aut.ac.nz*

Phone: +64 9 921 9999 ext 5825

Approved by the Auckland University of Technology Ethics Committee on *August 25, 2010*, AUTEC Reference number *10/147*.

Pre-test Interview Consent Forms

Project title: Price and Alcohol Content Effects on Purchase
Behaviour: An Analysis of New Zealand and Australian Youth Drinking

Project Supervisor: **Dr. Ann-Marie Kennedy**
Researcher: **Nicola Stephenson**

☐   I have read and understood the information provided about this research project in the Information Sheet dated 12 July 2010.

☐   I declare that I am at least 18 years of age, and am of legal drinking age within New Zealand at the time of completing this interview.

☐   I declare that I am at least 18 years of age, to a maximum of 25 years of age when completing this interview.

☐   I have had an opportunity to ask questions and to have them answered.

☐   I understand that notes will be taken during the interviews and that they will also be audio-taped and transcribed by the researcher, Nicola Stephenson.

☐   I understand that only overall, aggregate results of these interviews will be used in the final report, thus my own answers will not be available to anyone other than the Supervisor, Ann-Marie Kennedy, and the Researcher, Nicola Stephenson.

☐   I understand that I may withdraw myself or any information that I have provided for this project at any time prior to completion of data collection, without being disadvantaged in any way.

☐   If I withdraw, I understand that all relevant information including tapes and transcripts, or parts thereof, will be destroyed.

☐   I agree to take part in this research.

☐   I declare that I am not currently employed in the alcohol industry, in a liquor store, bar or other such workplace.

☐   I wish to receive a copy of the final report from the research (please tick one):

Yes○   No○

Participant's signature: ....…………………………………………………

Participant's name: ....…………………………………………………

Date:

Approved by the Auckland University of Technology Ethics Committee on 13 September 2010 AUTEC Reference number 10/147.

Pre-test Interview Questions

1. Do you purchase alcohol?

2. Do you consume alcohol?

3. What kinds of alcohol do you like to drink?

4. How many RTDs would you usually purchase for one drinking session ('n')?

5. How many RTDs would you usually consume in one drinking session?

6. What price would you usually expect to pay for 'n' [*the number of RTDs you would usually purchase for one drinking session - from your answer to question 4*] RTDs?

7. How much more than this price would you be expect to pay for 'n' RTDs, if the product remained exactly the same?

8. How much less than this price would you expect to pay for 'n' RTDs, if the product remained exactly the same?

9. What percentage of alcohol would you usually expect to find in a standard RTD?

10. If price were to remain the same, how much higher could the alcohol content/percentage go before you would stop purchasing an RTD? *(Please give a percentage number)*

11. If price were to remain the same, how much lower could the alcohol content/percentage go before you would stop purchasing an RTD*? (Please give a percentage number)*

12. What size would you usually expect an RTD to be? *(Please answer in millilitres if possible)*

13. Do you have any other comments to make about the issues discussed in this interview?

Appendix B: Surveys

Survey Information Sheets

Date Information Sheet Produced: **12 July 2010**

Project Title

Price and Alcohol Content Effects on Purchase Behaviour: An Analysis of New Zealand and Australian Youth Drinking

An Invitation to Participate

You are invited to participate in a research project looking at the levels of alcohol purchased by young people in Australia and New Zealand, and how these may be affected by different prices and levels of alcohol content. I, Nicola Stephenson, am completing this research myself under the supervision of Ann-Marie Kennedy at Auckland University of Technology. This research project will form part of my dissertation, the final requirement towards the completion of my Master of Business at AUT. The final resulting article may be edited for publication in an academic journal in the future. Your participation in this short survey would be very much appreciated. Please read this information sheet which details your involvement in this process. ***If you are outside the 18 years to 25 years age bracket, if you do not drink alcohol, or if you are currently employed in a bar, liquor store or other such alcohol-related job, you do not fulfil the criteria required for this interview.*** In these instances, we thank you very much for your time but do not request your participation in this research.

Purpose of this Research

This research is looking specifically at the alcohol consumption levels of young people, aged 18 years to 25 years (at the time of completing the survey). I am particularly interested in how different price and alcohol content levels may, or may not influence your consumption decisions. For the purposes of this research, RTDs, or Ready-to-Drink beverages will be the focus of the questioning. RTDs refer to alcoholic beverages in bottle or can form, which contain some kind of alcoholic spirits or wine with a 'mixer', usually a soft/fizzy drink. The information gathered through the use of this survey will allow a statistical analysis of data from a relevant section of the population, to contribute to knowledge in this are and help me to complete my final report.

Your Participation

Your participation in this research survey is completely voluntary and choosing not to participate will not disadvantage you in any way. You may withdraw your information at any time prior to the collection of the surveys. If you choose to participate, you are assured total confidentiality, all surveys will be collected together in a box, ensuring no survey can be linked to any one individual. Only overall statistics will be discussed in the final report, all data will be grouped and analysed together.

How was I chosen to participate?

This research is looking at both males and females, between the ages of 18 and 25 at the time of participation, who consume alcohol. You have been chosen to participate in this survey as you are likely to fulfil the criteria for inclusion and it is hoped that this research will be of interest to you in your current university studies. This research is being performed in your undergraduate university classes as it is likely many of you will fulfil the criteria set for this project and your responses will be relevant to our investigation. Should you choose to participate in the survey, and qualify to participate as discussed, then your responses will be included in the final analysis and report.   A summary and copy of the final report will be made available to you for your information.

How will the survey work?

You will be given some hypothetical scenarios and asked to quantify how much alcohol you would likely consume in these circumstances. These scenarios will be randomly assigned to you. Five different forms of the survey will be distributed in all. As this is totally random, the people around you will have different form of the survey. For this reason, it is requested that you do not discuss your survey answers with anyone, until after all surveys have been completed. This helps to give accurate results which are not affected by the answers of others. Some of you will be allocated a control group survey. These are similar to the other surveys, and just allow us to assess how reliable our final results are. The survey will not take long to complete, only

approximately 5 to 10 minutes. Please take time to read and answer the questions carefully. You will also be asked some basic demographic information about yourself. This is simply so we can get a complete view of the types of people involved in our research. This information will not identify you in anyway, and again, only total overall information will be used.

How will my privacy be protected?

Anonymity is assured to you, as following your completion of these surveys, the completed forms will all be collected together in one box. Once this has happened, there will be no way that any form could be linked with any one participant. We assure you total confidentiality in your answers. No personal identifying information will be asked of you. When we are finished collating all if the surveys, they will be stored securely on campus in a designated safe-store area.

What are the costs of participating in this research?

This survey will take approximately 5 to 10 minutes to complete. There are no financial costs involved in your participation in this research at all. You may feel uncomfortable answering questions about your behaviour related to alcohol, however we will ensure that your responses remain anonymous. Also, your course work and grading will not be affected in any way through your participation or lack of participation in this research. The researchers are completely independent of your Consumer Behaviour class. Your Consumer Behaviour lecturers will not have access to your responses at any stage.

What opportunity do I have to consider this invitation?

You have a week to consider your participation in this short survey. If you choose to participate, please attend your usual class at the time assigned to you,

How do I agree to participate in this research?

By completing this survey and returning it to the researcher, you are agreeing to participate.

Will I receive feedback on the results of this research?

Yes, a copy of the report will be made available to all participants in the surveys. The main results of the research project will also be presented to you in your lectures.

What do I do if I have concerns about this research?

Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor, Ann-Marie Kennedy, email: _ann-marie.kennedy@aut.ac.nz_, or phone: +64 9 921 9999 ext 5826

Concerns regarding the conduct of the research should be notified to the Executive Secretary, AUTEC, Madeline Banda, _madeline.banda@aut.ac.nz_ , +64 9 921 9999 ext 8044.

Whom do I contact for further information about this research?

Researcher Contact Details:

If you wish to contact the researcher, **Nicola Stephenson**, her contact details are as follows: Email: _ykm1509@aut.ac.nz_

Project Supervisor Contact Details:

If you wish to contact the project supervisor, **Ann-Marie Kennedy**, her details are as follow:

Email: _ann-marie.kennedy@aut.ac.nz_
Phone: +64 9 921 9999 ext 5825

Approved by the Auckland University of Technology Ethics Committee on 13 September 2010 AUTEC. Reference number 10/147.

Alcohol Purchase Behaviour Survey

Please carefully consider and answer the questions on <u>both</u> sides of this sheet. You may answer each question by placing a tick or cross in the circles ('O') provided.

Scenario:

Imagine you are going to a store to purchase alcohol for yourself. You are going to purchase Brand X, which is an RTD (Ready-To-Drink) alcoholic beverage containing spirits and a mixer (i.e. a soft drink). Each bottle of Brand X is 330 millilitres (mLs) in size.

Brand X is 6% alcohol.

How much of brand X will you buy? (Please tick one option only):

- o 1 bottle at $3
- o 4 pack at $9
- o 6 pack at $10.50
- o 8 pack at $14.30
- o 10 pack at $17.30
- o 12 pack at $18.80

- o 15 pack at $21
- o 18 pack at $24
- o 24 pack at $30
- o Instead: 40oz bottle of the spirits that would be contained in the RTD (1.15 Litres at $35) and 2 bottle of mixer at $7 = Total $42

PLEASE TURN OVER

Finally, please answer a couple of questions about yourself, to help us understand who has participated in our survey.

1. What is your gender?

   o Male   o   Female

2. How old are you?

   _____

3. Please indicate your annual income:

   o $0 - $5,000

   o $5,001 - $10,000

   o $10,001 - $15,000

   o $15,001 - $20,000

   o $20,001 - $25,000

   o $25,001 - $30,000

   o $30,001 +

Alcohol Purchase Behaviour Survey

Please carefully consider and answer the questions on <u>both</u> sides of this sheet. You may answer each question by placing a tick or cross in the circles ('O') provided.

Scenario:

Imagine you are going to a store to purchase alcohol for yourself. You are going to purchase Brand X, which is an RTD (Ready-To-Drink) alcoholic beverage containing spirits and a mixer (i.e. a soft drink). Each bottle of Brand X is 330 millilitres (mLs) in size.

Brand X is 6% alcohol.

How much of brand X will you buy? (Please tick one option only):

- o 1 bottle at $3.50
- o 4 pack at $10.50
- o 6 pack at $12.30
- o 8 pack at $16.70
- o 10 pack at $20.20
- o 12 pack at $21.90

- o 15 pack at $24.50
- o 18 pack at $28
- o 24 pack at $35
- o Instead: 40oz bottle of the spirits that would be contained in the RTD (1.15 Litres at $35) and 2 bottle of mixer at $7 = Total $42

PLEASE TURN OVER

Finally, please answer a couple of questions about yourself, to help us understand who has participated in our survey.

1. What is your gender?

    o   Male   o   Female

2. How old are you?

    _____

3. Please indicate your annual income:

    o $0 - $5,000

    o $5,001 - $10,000

    o $10,001 - $15,000

    o $15,001 - $20,000

    o $20,001 - $25,000

    o $25,001 - $30,000

    o $30,001 +

Alcohol Purchase Behaviour Survey

Please carefully consider and answer the questions on <u>both</u> sides of this sheet. You may answer each question by placing a tick or cross in the circles ('O') provided.

Scenario:

Imagine you are going to a store to purchase alcohol for yourself. You are going to purchase Brand X, which is an RTD (Ready-To-Drink) alcoholic beverage containing spirits and a mixer (i.e. a soft drink). Each bottle of Brand X is 330 millilitres (mLs) in size.

Brand X is 6% alcohol.

How much of brand X will you buy? (Please tick one option only):

- o 1 bottle at $4.50
- o 4 pack at $13.50
- o 6 pack at $15.80
- o 8 pack at $21.40
- o 10 pack at $25.90
- o 12 pack at $28.20

- o 15 pack at $31.50
- o 18 pack at $36
- o 24 pack at $45
- o Instead: 40oz bottle of the spirits that would be contained in the RTD (1.15 Litres at $35) and 2 bottle of mixer at $7 = Total $42

PLEASE TURN OVER

Finally, please answer a couple of questions about yourself, to help us understand who has participated in our survey.

1. What is your gender?

   o Male   o   Female

2. How old are you?

   _____

3. Please indicate your annual income:

   o $0 - $5,000

   o $5,001 - $10,000

   o $10,001 - $15,000

   o $15,001 - $20,000

   o $20,001 - $25,000

   o $25,001 - $30,000

   o $30,001 +

Alcohol Purchase Behaviour Survey

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Please carefully consider and answer the questions on <u>both</u> sides of this sheet. You may answer each question by placing a tick or cross in the circles ('O') provided.

Scenario:

Imagine you are going to a store to purchase alcohol for yourself. You are going to purchase Brand X, which is an RTD (Ready-To-Drink) alcoholic beverage containing spirits and a mixer (i.e. a soft drink). Each bottle of Brand X is 330 millilitres (mLs) in size.

Brand X is 6% alcohol.

How much of brand X will you buy? (Please tick one option only):

o   1 bottle at $5

o   4 pack at $15

o   6 pack at $17.50

o   8 pack at $23.80

o   10 pack at $28.80

o   12 pack at $31.20

o   15 pack at $35

o   18 pack at $40

o   24 pack at $50

o   Instead: 40oz bottle of the spirits that would be contained in the RTD (1.15 Litres at $35) and 2 bottle of mixer at $7 = Total $42

PLEASE TURN OVER

Finally, please answer a couple of questions about yourself, to help us understand who has participated in our survey.

1. What is your gender?

   o Male   o   Female

2. How old are you?

   _____

3. Please indicate your annual income:

   o $0 - $5,000

   o $5,001 - $10,000

   o $10,001 - $15,000

   o $15,001 - $20,000

   o $20,001 - $25,000

   o $25,001 - $30,000

   o $30,001 +

Alcohol Purchase Behaviour Survey

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Please carefully consider and answer the questions on <u>both</u> sides of this sheet. You may answer each question by placing a tick or cross in the circles ('O') provided.

Scenario:

Imagine you are going to a store to purchase alcohol for yourself. You are going to purchase Brand X, which is an RTD (Ready-To-Drink) alcoholic beverage containing spirits and a mixer (i.e. a soft drink). Each bottle of Brand X is 330 millilitres (mLs) in size.

Brand X is 4% alcohol.

How much of brand X will you buy? (Please tick one option only):

o   1 bottle at $4

o   4 pack at $12

o   6 pack at $14

o   8 pack at $19

o   10 pack at $23

o   12 pack at $25

o   15 pack at $28

o   18 pack at $32

o   24 pack at $40

o   Instead: 40oz bottle of the spirits that would be contained in the RTD (1.15 Litres at $35) and 2 bottle of mixer at $7 = Total $42

PLEASE TURN OVER

Finally, please answer a couple of questions about yourself, to help us understand who has participated in our survey.

1. What is your gender?

   o Male   o   Female

2. How old are you?

   _____

3. Please indicate your annual income:

   o $0 - $5,000

   o $5,001 - $10,000

   o $10,001 - $15,000

   o $15,001 - $20,000

   o $20,001 - $25,000

   o $25,001 - $30,000

   o $30,001 +

Alcohol Purchase Behaviour Survey

Please carefully consider and answer the questions on <u>both</u> sides of this sheet. You may answer each question by placing a tick or cross in the circles ('O') provided.

Scenario:

Imagine you are going to a store to purchase alcohol for yourself. You are going to purchase Brand X, which is an RTD (Ready-To-Drink) alcoholic beverage containing spirits and a mixer (i.e. a soft drink). Each bottle of Brand X is 330 millilitres (mLs) in size.

Brand X is 5% alcohol.

How much of brand X will you buy? (Please tick one option only):

- o 1 bottle at $4

- o 4 pack at $12

- o 6 pack at $14

- o 8 pack at $19

- o 10 pack at $23

- o 12 pack at $25

- o 15 pack at $28

- o 18 pack at $32

- o 24 pack at $40

- o Instead: 40oz bottle of the spirits that would be contained in the RTD (1.15 Litres at $35) and 2 bottle of mixer at $7 = Total $42

PLEASE TURN OVER

Finally, please answer a couple of questions about yourself, to help us understand who has participated in our survey.

1. What is your gender?

   o Male   o   Female

2. How old are you?

   _____

3. Please indicate your annual income:

   o $0 - $5,000

   o $5,001 - $10,000

   o $10,001 - $15,000

   o $15,001 - $20,000

   o $20,001 - $25,000

   o $25,001 - $30,000

   o $30,001 +

Alcohol Purchase Behaviour Survey

Please carefully consider and answer the questions on <u>both</u> sides of this sheet. You may answer each question by placing a tick or cross in the circles ('O') provided.

Scenario:

Imagine you are going to a store to purchase alcohol for yourself. You are going to purchase Brand X, which is an RTD (Ready-To-Drink) alcoholic beverage containing spirits and a mixer (i.e. a soft drink). Each bottle of Brand X is 330 millilitres (mLs) in size.

Brand X is 10% alcohol.

How much of brand X will you buy? (Please tick one option only):

- o 1 bottle at $4
- o 4 pack at $12
- o 6 pack at $14
- o 8 pack at $19
- o 10 pack at $23
- o 12 pack at $25

- o 15 pack at $28
- o 18 pack at $32
- o 24 pack at $40
- o Instead: 40oz bottle of the spirits that would be contained in the RTD (1.15 Litres at $35) and 2 bottle of mixer at $7 = Total $42

PLEASE TURN OVER

Finally, please answer a couple of questions about yourself, to help us understand who has participated in our survey.

1. What is your gender?

    o Male   o   Female

2. How old are you?

    _____

3. Please indicate your annual income:

    o $0 - $5,000

    o $5,001 - $10,000

    o $10,001 - $15,000

    o $15,001 - $20,000

    o $20,001 - $25,000

    o $25,001 - $30,000

    o $30,001 +

Alcohol Purchase Behaviour Survey

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Please carefully consider and answer the questions on <u>both</u> sides of this sheet. You may answer each question by placing a tick or cross in the circles ('O') provided.

Scenario:

Imagine you are going to a store to purchase alcohol for yourself. You are going to purchase Brand X, which is an RTD (Ready-To-Drink) alcoholic beverage containing spirits and a mixer (i.e. a soft drink). Each bottle of Brand X is 330 millilitres (mLs) in size.

Brand X is 14% alcohol.

How much of brand X will you buy? (Please tick one option only):

- o 1 bottle at $4

- o 4 pack at $12

- o 6 pack at $14 **PLEASE TURN OVER**

- o 8 pack at $19

- o 10 pack at $23   o 15 pack at $28

- o 12 pack at $25   o 18 pack at $32

     o 24 pack at $40

     o Instead: 40oz bottle of the spirits that would be contained in the

RTD (1.15 Litres at $35) and 2
bottle of mixer at $7 = Total $42

Finally, please answer a couple of questions about yourself, to help us understand who has participated in our survey.

1. What is your gender?

   o Male   o   Female

2. How old are you?

   _____

3. Please indicate your annual income:

   o $0 - $5,000

   o $5,001 - $10,000

   o $10,001 - $15,000

   o $15,001 - $20,000

   o $20,001 - $25,000

   o $25,001 - $30,000

   o $30,001 +

Alcohol Purchase Behaviour Survey

Please carefully consider and answer the questions on <u>both</u> sides of this sheet. You may answer each question by placing a tick or cross in the circles ('O') provided.

Scenario:

Imagine you are going to a store to purchase alcohol for yourself. You are going to purchase Brand X, which is an RTD (Ready-To-Drink) alcoholic beverage containing spirits and a mixer (i.e. a soft drink). Each bottle of Brand X is 330 millilitres (mLs) in size.

Brand X is 6% alcohol.

How much of brand X will you buy? (Please tick one option only):

- o   1 bottle at $3.90
- o   4 pack at $12.40
- o   6 pack at $17.10
- o   8 pack at $21.80
- o   10 pack at $27.20
- o   12 pack at $32.60

- o   15 pack at $38.90
- o   18 pack at $45.00
- o   24 pack at $60.60
- o   Instead: 40oz bottle of the spirits that would be contained in the RTD (1.15 Litres at $40) and 2 bottle of mixer at $7 = Total $47

PLEASE TURN OVER

Finally, please answer a couple of questions about yourself, to help us understand who has participated in our survey.

1. What is your gender?

o   Male   o   Female

2. How old are you?

_____

3. Please indicate your annual income:

o $0 - $5,000

o $5,001 - $10,000

o $10,001 - $15,000

o $15,001 - $20,000

o $20,001 - $25,000

o $25,001 - $30,000

o $30,001 +

Alcohol Purchase Behaviour Survey

Please carefully consider and answer the questions on <u>both</u> sides of this sheet. You may answer each question by placing a tick or cross in the circles ('O') provided.

Scenario:

Imagine you are going to a store to purchase alcohol for yourself. You are going to purchase Brand X, which is an RTD (Ready-To-Drink) alcoholic beverage containing spirits and a mixer (i.e. a soft drink). Each bottle of Brand X is 330 millilitres (mLs) in size.

Brand X is 6% alcohol.

How much of brand X will you buy? (Please tick one option only):

- o 1 bottle at $4.40
- o 4 pack at $14.20
- o 6 pack at $19.50
- o 8 pack at $24.90
- o 10 pack at $31.10
- o 12 pack at $37.30

- o 15 pack at $44.40
- o 18 pack at $51.50
- o 24 pack at $69.20
- o Instead: 40oz bottle of the spirits that would be contained in the RTD (1.15 Litres at $40) and 2 bottle of mixer at $7 = Total $47

PLEASE TURN OVER

Finally, please answer a couple of questions about yourself, to help us understand who has participated in our survey.

1. What is your gender?

o Male   o   Female

2. How old are you?

_____

3. Please indicate your annual income:

o $0 - $5,000

o $5,001 - $10,000

o $10,001 - $15,000

o $15,001 - $20,000

o $20,001 - $25,000

o $25,001 - $30,000

o $30,001 +

Alcohol Purchase Behaviour Survey

Please carefully consider and answer the questions on <u>both</u> sides of this sheet. You may answer each question by placing a tick or cross in the circles ('O') provided.

Scenario:

Imagine you are going to a store to purchase alcohol for yourself. You are going to purchase Brand X, which is an RTD (Ready-To-Drink) alcoholic beverage containing spirits and a mixer (i.e. a soft drink). Each bottle of Brand X is 330 millilitres (mLs) in size.

Brand X is 6% alcohol.

How much of brand X will you buy? (Please tick one option only):

- o 1 bottle at $5.20
- o 4 pack at $16.50
- o 6 pack at $22.70
- o 8 pack at $28.90
- o 10 pack at $36.20
- o 12 pack at $43.40

- o 15 pack at $51.70
- o 18 pack at $60.00
- o 24 pack at $80.70
- o Instead: 40oz bottle of the spirits that would be contained in the RTD (1.15 Litres at $40) and 2 bottle of mixer at $7 = Total $47

PLEASE TURN OVER

Finally, please answer a couple of questions about yourself, to help us understand who has participated in our survey.

1. What is your gender?

o   Male   o   Female

2. How old are you?

_____

3. Please indicate your annual income:

o $0 - $5,000

o $5,001 - $10,000

o $10,001 - $15,000

o $15,001 - $20,000

o $20,001 - $25,000

o $25,001 - $30,000

o $30,001 +

Alcohol Purchase Behaviour Survey

Please carefully consider and answer the questions on <u>both</u> sides of this sheet. You may answer each question by placing a tick or cross in the circles ('O') provided.

Scenario:

Imagine you are going to a store to purchase alcohol for yourself. You are going to purchase Brand X, which is an RTD (Ready-To-Drink) alcoholic beverage containing spirits and a mixer (i.e. a soft drink). Each bottle of Brand X is 330 millilitres (mLs) in size.

Brand X is 6% alcohol.

How much of brand X will you buy? (Please tick one option only):

- o 1 bottle at $5.40
- o 4 pack at $17.10
- o 6 pack at $23.50
- o 8 pack at $29.90
- o 10 pack at $37.40
- o 12 pack at $44.80

- o 15 pack at $53.40
- o 18 pack at $61.90
- o 24 pack at $83.20
- o Instead: 40oz bottle of the spirits that would be contained in the RTD (1.15 Litres at $40) and 2 bottle of mixer at $7 = Total $47

PLEASE TURN OVER

Finally, please answer a couple of questions about yourself, to help us understand who has participated in our survey.

1. What is your gender?

o Male   o   Female

2. How old are you?

_____

3. Please indicate your annual income:

o $0 - $5,000

o $5,001 - $10,000

o $10,001 - $15,000

o $15,001 - $20,000

o $20,001 - $25,000

o $25,001 - $30,000

o $30,001 +

Alcohol Purchase Behaviour Survey

Please carefully consider and answer the questions on <u>both</u> sides of this sheet. You may answer each question by placing a tick or cross in the circles ('O') provided.

Scenario:

Imagine you are going to a store to purchase alcohol for yourself. You are going to purchase Brand X, which is an RTD (Ready-To-Drink) alcoholic beverage containing spirits and a mixer (i.e. a soft drink). Each bottle of Brand X is 330 millilitres (mLs) in size.

Brand X is 4% alcohol.

How much of brand X will you buy? (Please tick one option only):

- o 1 bottle at $5
- o 4 pack at $16
- o 6 pack at $22
- o 8 pack at $28
- o 10 pack at $35
- o 12 pack at $42

- o 15 pack at $50
- o 18 pack at $58
- o 24 pack at $78
- o Instead: 40oz bottle of the spirits that would be contained in the RTD (1.15 Litres at $40) and 2 bottle of mixer at $7 = Total $47

PLEASE TURN OVER

Finally, please answer a couple of questions about yourself, to help us understand who has participated in our survey.

1. What is your gender?

o Male   o   Female

2. How old are you?

_____

3. Please indicate your annual income:

o $0 - $5,000

o $5,001 - $10,000

o $10,001 - $15,000

o $15,001 - $20,000

o $20,001 - $25,000

o $25,001 - $30,000

o $30,001 +

Alcohol Purchase Behaviour Survey

Please carefully consider and answer the questions on <u>both</u> sides of this sheet. You may answer each question by placing a tick or cross in the circles ('O') provided.

Scenario:

Imagine you are going to a store to purchase alcohol for yourself. You are going to purchase Brand X, which is an RTD (Ready-To-Drink) alcoholic beverage containing spirits and a mixer (i.e. a soft drink). Each bottle of Brand X is 330 millilitres (mLs) in size.

Brand X is 5% alcohol.

How much of brand X will you buy? (Please tick one option only):

- o 1 bottle at $5
- o 4 pack at $16
- o 6 pack at $22
- o 8 pack at $28
- o 10 pack at $35
- o 12 pack at $42

- o 15 pack at $50
- o 18 pack at $58
- o 24 pack at $78
- o Instead: 40oz bottle of the spirits that would be contained in the RTD (1.15 Litres at $40) and 2 bottle of mixer at $7 = Total $47

PLEASE TURN OVER

Finally, please answer a couple of questions about yourself, to help us understand who has participated in our survey.

1. What is your gender?

o   Male   o   Female

2. How old are you?

_____

3. Please indicate your annual income:

o $0 - $5,000

o $5,001 - $10,000

o $10,001 - $15,000

o $15,001 - $20,000

o $20,001 - $25,000

o $25,001 - $30,000

o $30,001 +

Alcohol Purchase Behaviour Survey

Please carefully consider and answer the questions on <u>both</u> sides of this sheet. You may answer each question by placing a tick or cross in the circles ('O') provided.

Scenario:

Imagine you are going to a store to purchase alcohol for yourself. You are going to purchase Brand X, which is an RTD (Ready-To-Drink) alcoholic beverage containing spirits and a mixer (i.e. a soft drink). Each bottle of Brand X is 330 millilitres (mLs) in size.

Brand X is 7% alcohol.

How much of brand X will you buy? (Please tick one option only):

- o 1 bottle at $5
- o 4 pack at $16
- o 6 pack at $22
- o 8 pack at $28
- o 10 pack at $35
- o 12 pack at $42

- o 15 pack at $50
- o 18 pack at $58
- o 24 pack at $78
- o Instead: 40oz bottle of the spirits that would be contained in the RTD (1.15 Litres at $40) and 2 bottle of mixer at $7 = Total $47

PLEASE TURN OVER

Finally, please answer a couple of questions about yourself, to help us understand who has participated in our survey.

1. What is your gender?

o Male   o   Female

2. How old are you?

_____

3. Please indicate your annual income:

o $0 - $5,000

o $5,001 - $10,000

o $10,001 - $15,000

o $15,001 - $20,000

o $20,001 - $25,000

o $25,001 - $30,000

o $30,001 +

Alcohol Purchase Behaviour Survey

Please carefully consider and answer the questions on <u>both</u> sides of this sheet. You may answer each question by placing a tick or cross in the circles ('O') provided.

Scenario:

Imagine you are going to a store to purchase alcohol for yourself. You are going to purchase Brand X, which is an RTD (Ready-To-Drink) alcoholic beverage containing spirits and a mixer (i.e. a soft drink). Each bottle of Brand X is 330 millilitres (mLs) in size.

Brand X is 8% alcohol.

How much of brand X will you buy? (Please tick one option only):

o   1 bottle at $5

o   4 pack at $16

o   6 pack at $22

o   8 pack at $28

o   10 pack at $35

o   12 pack at $42

PLEASE TURN OVER

o   15 pack at $50

o   18 pack at $58

o   24 pack at $78

o   Instead: 40oz bottle of the spirits that would be contained in the RTD (1.15 Litres at $40) and 2 bottle of mixer at $7 = Total $47

Finally, please answer a couple of questions about yourself, to help us understand who has participated in our survey.

1. What is your gender?

    o   Male   o   Female

2. How old are you?

_____

3. Please indicate your annual income:

    o $0 - $5,000

    o $5,001 - $10,000

    o $10,001 - $15,000

    o $15,001 - $20,000

    o $20,001 - $25,000

    o $25,001 - $30,000

    o $30,001 +

Approval for Part One: Pretesting

M E M O R A N D U M

Auckland University of Technology Ethics Committee (AUTEC)

To:	Ann-Marie Kennedy
From:	**Charles Grinter** Ethics Coordinator
Date:	25 August 2010
Subject:	Ethics Application Number 10/147 **Price and alcohol content effects on purchase behaviour: an analysis of New Zealand and Australian youth drinking.**

Tena koe Ann-Marie

Thank you for providing written evidence as requested. I am pleased to advise that it satisfies the points raised by the Auckland University of Technology Ethics Committee (AUTEC) at their meeting on 12 July 2010 and that I have approved your ethics application. This approval is for the semi-structured interview part of the research only. Full information about the survey stage needs to be approved by AUTEC before data collection for that stage commences. This delegated approval is made in accordance with section 5.3.2.3 of AUTEC's *Applying for Ethics Approval: Guidelines and Procedures* and is subject to endorsement at AUTEC's meeting on 13 September 2010.

Your ethics application is approved for a period of three years until 25 August 2013.

I advise that as part of the ethics approval process, you are required to submit the following to AUTEC:

- A brief annual progress report using form EA2, which is available online through http://www.aut.ac.nz/research/research-ethics/ethics. When necessary this form may also be used to request an extension of the approval at least one month prior to its expiry on 25 August 2013;

- A brief report on the status of the project using form EA3, which is available online through http://www.aut.ac.nz/research/research-ethics/ethics. This report is to be submitted either when the approval expires on 25 August 2013 or on completion of the project, whichever comes sooner;

It is a condition of approval that AUTEC is notified of any adverse events or if the research does not commence. AUTEC approval needs to be sought for any alteration to the research, including any alteration of or addition to any documents that are provided to participants. You are reminded that, as applicant, you are responsible for ensuring that research undertaken under this approval occurs within the parameters outlined in the approved application.

Please note that AUTEC grants ethical approval only. If you require management approval from an institution or organisation for your research, then you will need to make the arrangements necessary to obtain this. Also, if your research is undertaken within a jurisdiction outside New Zealand, you will need to make the arrangements necessary to meet the legal and ethical requirements that apply within that jurisdiction.

When communicating with us about this application, we ask that you use the application number and study title to enable us to provide you with prompt service. Should you have any further enquiries regarding this matter, you are welcome to contact me, by email at ethics@aut.ac.nz or by telephone on 921 9999 at extension 8860.

On behalf of the AUTEC and myself, I wish you success with your research and look forward to reading about it in your reports.

On behalf of Madeline Banda, Executive Secretary
Auckland University of Technology Ethics Committee

Cc: Nicola Louise Stephenson ykm1509@aut.ac.nz

M E M O R A N D U M

Auckland University of Technology Ethics Committee (AUTEC)

To: Ann-Marie Kennedy
From: **Madeline Banda** Executive Secretary, AUTEC
Date: 13 September 2010
Subject: Ethics Application Number 10/147 **Price and alcohol content effects on purchase behaviour: an analysis of New Zealand and Australian youth drinking.**

Dear Ann-Marie

I am pleased to advise that I have approved the written surveys for stage two of your ethics application. This delegated approval is made in accordance with section 5.3.2 of AUTEC's *Applying for Ethics Approval: Guidelines and Procedures* and is subject to endorsement at AUTEC's meeting on 11 October 2010.

Your ethics application is approved for a period of three years until 25 August 2013.

I remind you that as part of the ethics approval process, you are required to submit the following to AUTEC:

- A brief annual progress report using form EA2, which is available online through http://www.aut.ac.nz/research/research-ethics/ethics. When necessary this form may also be used to request an extension of the approval at least one month prior to its expiry on 25 August 2013;

- A brief report on the status of the project using form EA3, which is available online through http://www.aut.ac.nz/research/research-ethics/ethics. This report is to be submitted either when the approval expires on 25 August 2013 or on completion of the project, whichever comes sooner;

It is a condition of approval that AUTEC is notified of any adverse events or if the research does not commence. AUTEC approval needs to be sought for any alteration to the research, including any alteration of or addition to any documents that are provided to participants. You are reminded that, as applicant, you are responsible for ensuring that research undertaken under this approval occurs within the parameters outlined in the approved application.

Please note that AUTEC grants ethical approval only. If you require management approval from an institution or organisation for your research, then you will need to make the arrangements necessary to obtain this. Also, if your research is undertaken within a jurisdiction outside New Zealand, you will need to make the arrangements necessary to meet the legal and ethical requirements that apply within that jurisdiction.

When communicating with us about this application, we ask that you use the application number and study title to enable us to provide you with prompt service. Should you have any further enquiries regarding this matter, you are welcome to contact Charles Grinter, Ethics Coordinator, by email at ethics@aut.ac.nz or by telephone on 921 9999 at extension 8860.

On behalf of the AUTEC and myself, I wish you success with your research and look forward to reading about it in your reports.

Yours sincerely

Madeline Banda
Executive Secretary
Auckland University of Technology Ethics Committee

Cc: Nicola Louise Stephenson ykm1509@aut.ac.nz