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The Effect of Binge-drinking on an Individual's Mood over a Thirty-Day Period.

A thesis

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Abstract

An issue of great importance within New Zealand society is the high level of binge drinking. The effects of alcohol on consumers' health are of great concern. Physical, psychological, social, economic and behavioural aspects have been researched over the years by multiple disciplines. The effects of binge-drinking and the 'hangover' effects on mood levels were investigated in this research project. Fifty participants (25 males and 25 females) who regularly participated in binge drinking were selected to partake. All participants completed questionnaires which included demographic information, attitudes towards drinking and drinking behaviours. This was followed by completing the Alcohol Use Questionnaire (AUQ) and the Alcohol Use Disorders Identification Test (AUDIT). All participants were required to complete a 30 day mood rating scale. This was designed as a five-point rating scale system. These rating scales looked at, anxiety, depression, emotion, physiological and provided an overall rating. This also included recording the number of standard drinks consumed the previous evening, types of alcohol consumed, and the number of hours slept. Ten randomly selected participants were interviewed. The results collected were significant and supported the predictions that there is a relationship between the number of standard drinks consumed and increased levels of anxiety and depression, however the correlations were rather weak. The findings also supported the predictions that there is a link between the numbers of standard drinks consumed and decreased levels of physical mood, emotional mood and overall daily mood. The effect of alcohol in regards to increasing aggressive behaviour was evident in the male group, however not in the female group.

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CHAPTER 1. LITERATURE REVIEW

Introduction

This paper will look at the physiological and psychological effects of alcohol on the consumer. It will incorporate findings from multiple studies, which will provide a compilation of significant areas of interest which have been shown to be radically affected by binge-drinking. These sources will provide detailed findings pinpointing specific psychological and physiological effects such as headaches, depressive symptoms, sleep deprivation and aggressive behaviour. The research will ultimately focus on the effect of alcohol on an individual's mood and, in particular, its potential depressive symptoms. A critical discussion will be provided; this will include limitations and possible gaps within the research. In addition to this, future research suggestions will be provided.

The first section will provide background information in regards to alcohol consumption in general. This will define binge-drinking. The second section will examine the physiological effects of alcohol consumption and will incorporate a meta-analysis of research and conclusions relevant to the topic of interest. The third section, which will be the main section, will look at research and findings surrounding excessive alcohol consumption, and the effect it has on patients cognitively and behaviourally. This will be directly linked to alcohol's effect on participants' moods. The final section will summarize all of the main points raised throughout the paper.

Background

Humans have been consumers of alcohol, and have presumably experienced hangovers, since the first mead was brewed from fermented honey around 8000 BC (Meyer and Quenzer, 2005). In general, alcohol consumption has become a big part of social domains all around the world. Alcohol abuse and its effects on societies all over the world are

becoming greater and more severe and health related problems are dramatically rising throughout the world (World Health Organization, 2009).

Excessive alcohol consumption is a common problem within New Zealand society, especially amongst individuals aged between 18 and 25 years. Binge drinking is defined by the Alcohol Advisory Council of New Zealand (ALAC) as “consuming more than six standard drinks for males and/or consuming more than four standard drinks for females.” It is commonly known, and well researched that excessive alcohol consumption has a negative effect on consumers, both physiologically and psychologically (Kessler et al., 1996; Regier et al., 1990; Schuckit, 1988). Cognitive, emotional, physical and behavioural areas are dramatically and often negatively affected due to excessive drinking. These areas are often broken down into smaller parts to enable more accurate research to be completed. For example multiple studies have been completed in regards to excessive drinking, depression and/or binge drinking and memory. However, limited research has been completed on excessive drinking and mood levels in the general population compared to alcoholics (Parker et al., 1987). The following paragraph will dissect research and findings in relation to the physiological effects of alcohol consumption.

Physiological effects of alcohol:

Several physiological changes occur during, and outlast, acute alcohol intoxication. This phenomenon is commonly known as the alcohol “hangover”. The hangover is the unpleasant sensation that appears when the blood ethanol level reaches 0 and lasts several hours afterward (Swift & Davidson, 1998; Wiese et al., 2000). Swift & Davidson (1998) supports this notion, stating that, “a hangover begins within several hours after the cessation of drinking, when a person's blood alcohol concentration (BAC) is falling. Symptoms usually peak about the time BAC is zero and may continue for up to 24 hours thereafter” (Pg.55).

Often social drinkers complain of various uncomfortable conditions due to a hangover on the day following drinking, and Harburg et al., reported that 75% of those who drank alcohol experienced a hangover at one time or another in their lives (Harburg et al., 1993). Hangover symptoms are largely divided into physical and psychological symptoms. The physical symptoms include headache, fatigue, sensitivity to stimulation, diarrhoea, decreased appetite, nausea, and tremor; psychological symptoms include dizziness, decreased work productivity and cognitive function, depression, anxiety, and agitation (Swift & Davidson, 1998; Wiese et al., 2000; Harburg et al., 1981).

Swift & Davidson (1998) agree with the findings above, stating that physical symptoms of a hangover include fatigue, headache, increased sensitivity to light and sound, redness of the eyes, muscle aches, and thirst. Signs of increased sympathetic nervous system activity can accompany a hangover, including increased systolic blood pressure, rapid heartbeat (i.e., tachycardia), tremor, and sweating. Mental symptoms include dizziness; a sense of the room spinning (i.e., vertigo); and possible cognitive and mood disturbances, especially depression, anxiety, and irritability. Symptoms and severity are often dependent on amounts of alcohol consumed and on individual genetic makeup. Some physiological effects which tend to occur due to excessive drinking are thought to be, dehydration, electrolyte imbalance, gastrointestinal disturbances, low blood sugar and disruption of sleep and other biological rhythms (Swift & Davidson, 1998).

Dehydration/Electrolyte imbalance is caused by the body's increase in urinary output. Sweating, vomiting, and diarrhoea also commonly occur during a hangover, and these conditions can result in additional fluid loss and electrolyte imbalances. Symptoms of mild to moderate dehydration include thirst, weakness, and dryness of mucous membranes, dizziness, and light-headedness (Eisenhofer et al. 1985). It would be presumed that these physical effects will directly affect mood levels and sense of well-being.

Gastrointestinal disturbances refer to irritability related to the stomach and intestines which causes inflammation of the stomach lining (Lieber, 1995). Lieber (1995) states that binge-drinking can cause an accumulation of fat compounds in the liver cells. This is referred to as 'fatty liver.' High levels of alcohol consumption also increase the production of gastric acid as well as pancreatic and intestinal secretions. Any or all of these factors can result in the upper abdominal pain, nausea, and vomiting experienced during a hangover (Lieber, 1995).

Low blood sugar occurs due to alterations in the metabolic state of the liver and other organs occur in response to the presence of alcohol in the body (National Institute on Alcohol Abuse and Alcoholism, 1994). Due to glucose being the primary energy source of the brain, hypoglycaemia can contribute to hangover symptoms such as fatigue, weakness, and mood disturbances (Swift & Davidson, 1998).

Swift & Davidson (1998) state that disruption of sleep and other biological rhythms are affected as alcohol is a sedative, and should promote sleep; however, fatigue experienced during a hangover results from alcohol's disruptive effects on sleep. Furthermore it can compete with sleep time at night. Most importantly, alcohol disrupts the normal sleep pattern, decreasing the time spent in the dreaming state (i.e., rapid eye movement [REM] sleep) and increasing the time spent in deep (i.e., slow-wave) sleep (Gauvin et al. 1997). In addition, alcohol relaxes the throat muscles, resulting in increased snoring and, possibly, periodic cessation of breathing (i.e., sleep apnoea) (Gauvin et al. 1997). Excessive drinking tends to disrupt biological rhythms. Biological rhythms such as body temperature tend to abnormally rise and drop throughout a drinking period (Gauvin et al. 1997). This continues to occur well after a drinking session has been completed. Another biological problem caused by intoxication is the circadian secretion of the night-time growth hormone. The overall effect of this disruption causes a "jet lag" type effect (Gauvin et al. 1997).

Wiese et al. (2000), Verster et al., 2003 and Calder (1997), supported Swift & Davidson (1998) findings above. Their findings included increased levels of acetaldehyde, hormonal alterations due to deregulated cytokine pathways and the inhibition of the availability of glucose via a process mediated by insulin (Wiese et al. (2000). Calder (1997) listed additional effects which are dehydration, metabolic acidosis, disturbed prostaglandin synthesis, increased cardiac output and vasodilatation. Further potential mechanisms include sleep deprivation and insufficient eating, as mentioned by Swift & Davidson (1998) and Verster et al., (2003). Calder (1997) suggests that the complex organic molecules known as congeners may have an important role in producing hangover effects. Congeners tend to be present in greater concentrations in darker drinks (e.g. whisky) compared with clear drinks (e.g. vodka).

Findings by Chrisholm et al. (2004) support the findings mentioned above. Furthermore, Chrisholm and colleagues report that alcohol is a leading cause of mortality and disability worldwide and that according to the World Health Organization, alcohol is one of the five most significant risk factors for diseases, with more than 60 percent of alcohol-related diseases being chronic conditions, including cancer, cirrhosis of the liver, diabetes, and cardiovascular disease. This statement is backed up by Swift & Davidson (1998) and Wiese et al. (2000). Both studies conclude that when blood ethanol levels reached zero, acute symptoms and liver disease was often present in chronic alcohol abusers (Swift & Davidson, 1998; Wiese et al., 2000).

So, in summary the physiological effects of alcohol consumption are extensive. Organs such as the liver are negatively affected. Biological rhythms/sleeping disturbances, dehydration, blood sugar level imbalances, body temperature fluctuates, gastrointestinal disturbances, nausea, and headaches are some of the most common physiological changes which occur during/after intoxication. It is anticipated that these physical effects would have

a negative impact on the consumer's mood levels. The following paragraph will look at research on the effects alcohol has on mood from a cognitive and behavioural viewpoint. Comparisons between multiple research findings and conclusions will be carried out.

Psychological Effects of Alcohol:

Over the years researchers have moved away from the looking at physiological effects, and have become more interested in the psychological aspects. However, a variety of methodologies have led to mixed findings. Some studies have found that low dosages of alcohol are associated with increases in positive effects such as happiness and elation (Ekman et al., 1963; Goldberg, 1966; Hartocollis, 1962; Jones, 1973; Kastl, 1969; Smith, Parker, & Noble, 1975; Tamerin & Mendelson, 1969). Other studies (Mayfield, 1968; Mayfield & Allen, 1967; Williams, 1966) have yielded data that more closely coincide with the popular tension reduction hypothesis of alcohol consumption (Conger, 1956), namely, that anxiety and depression are reduced following alcohol ingestion. Yet, at higher dosages, alcohol has been found to increase negative effects such as headaches and anxiety; rather than promoting tension reduction and elation (Tamerin, Weiner, & Mendelson, 1970; Warren & Raynes, 1972; Williams, 1966). Research completed by Steffen, Nathan, and Taylor (1974) supported the early findings by, McNamee, Mello, & Mendelson (1968); Mendelson, LaDou, & Solomon (1964); Nathan & O'Brien (1971), stating that consumption of alcohol by alcoholics was associated with increased mood disturbances (this was contradictory to the tension reduction hypothesis). Thus, although subjects were becoming physiologically relaxed, subjectively they were becoming less comfortable. Steffen et al. (1974) concluded that the findings directly indicated that the physiological and pharmacological effects of alcohol may be different from its subjective or cognitive effects. This was based on self-reported anxiety throughout the tasks as well as increases in heart rate and skin conductance. Nathan & Lisman (1976) concurred with this statement, concluding that studies at alcohol laboratories

in which alcoholics had access to alcohol over long periods of time consistently show marked disturbances in mood (including increased anxiety) as a function of alcohol intake (Nathan & Lisman, 1976). This theory is supported by studies completed by Kessler et al. (1996), Regier et al. (1990), and Schuckit (1988) which looked at alcoholics, depressive symptoms and mood. These findings demonstrate that excessive drinking does have a negative impact on mood and sense of wellbeing.

As mentioned above, early studies showed a relationship between excessive drinking and depression. In 1987 a public health survey completed by 1367 men and woman showed some interesting findings (Parker et al., 1987). The participants were randomly selected for the experiment. Parker et al., (1987) used surveys and one-on-one interviews in a month long study with non-alcoholic participants. The interview questions were a mixture of open- and closed-ended questions. These methods were used to help distinguish the effects excessive drinking had on their levels of depression and mood. The research participants completed a symptom checklist known as the Symptom Distress Checklist. Throughout the month participants were also consistently asked how frequently they had experienced any of an 11 point depression symptom list. This list consisted of items such as; felt a lack of enthusiasm for doing anything, had a poor appetite, felt lonely, felt bored, lost sexual interest, had trouble sleeping, cried easily, felt blue, felt low in energy, felt hopeless about the future and had thoughts about ending their lives. Each reported symptom was scored from 0 ("never") to 3 ("very often") so that the index ranges from 0 (least depressed) to 33 (most depressed) (Parker et al., 1987). The findings concluded that depression symptoms increase with higher levels of alcohol consumption in both men and woman. However the findings also showed that standard deviations of depression scores did not drastically increase at higher levels of alcohol consumption. The linear correlation showed that for every ounce of pure alcohol the depression score increased by approximately 0.4 on the depression scale. Their findings also concluded that the frequency of drinking occasions did not have a significant impact on

depression in either sex. External influences were taken into consideration for this study. The researcher controlled variables such as personal history, parents drinking patterns, employment situations and so forth. Despite this, statistical analyses in regards to these areas were not shown in the research.

A study completed by Curran et al., (1997) in regards to mood levels, alcohol consumption, and methamphetamine came to similar conclusions as those mentioned above. The study looked at both mood levels after consuming alcohol and methamphetamine independently. Twenty-four participants were involved ranging from 20 – 27 years of age. Both forms of drugs showed that mood levels decreased over a seven day period. In regards to alcohol, the lowest point in mood was not the first day of consumption. Rather day two showed the lowest mood levels. In regards to methamphetamine, day five showed the lowest mood. Alcohol showed less significant impairment compared to methamphetamine. Despite this, alcohol still showed significant changes in mood levels. The main limitation in this study was that only 12 participants were used in each subject group.

Raimo and Schuckit (1998) completed a meta-study looking at the complex relationship between alcohol dependence, mood disorders and depression. Their research concentrated on alcoholics rather than non-alcoholics. Also their focus was broader. The study did, however, support the research findings above. Schuckit (1995) states that, alcohol is a typical depressant drug and that intoxication can be accompanied by temporary, but sometimes severe depressive symptoms. The meta-study also found that as many as 80 percent of alcoholics complain of depressive symptoms at some stage in their lives. The research concluded that of the 80 percent, over 30 percent had major depressive episodes lasting for over two weeks (Kessler et al., 1996; Regier et al., 1990; Schuckit, 1986). One limitation of this research is that it mainly focused on alcoholics and not on a non-alcohol population. Comparing these two populations could be very beneficial in future research.

Townshend and Duka (2005) yielded very similar findings to the first two articles discussed. The study looked at binge drinking and compared mood states and cognitive functioning between binge and non-binge drinkers. They sampled 245 social drinkers and derived their scores from the Alcohol Use Questionnaire (AUQ). This method was used to gather their sample of 100 young, healthy volunteers (50 male and 50 female), moderate to heavy social drinkers between the ages of 18 and 30. Any participants with a previous history of alcohol dependence or a history of mental illness and so forth were not considered. The research was based around personality characteristics, expectations of the effects of alcohol and current mood evaluations; however, it also looked at cognitive performance. This was tested with a Matching to Sample Visual Search task (MTS) and a Spatial Working Memory task (SWM), both from the Cambridge Neuropsychological Test Automated Battery (CANTAB) battery, and a Vigilance task from the Gordon Diagnostic System. Multiple questionnaires were administered. In regards to alcohol and drug use, the following were administered: Alcohol Use Questionnaire (AUQ), Binge Drinking Score, Alcohol Expectancy Questionnaire (AEQ), the Structured Interview Questionnaire Revised (SIQ-R) and a Drug Use Questionnaire. In regards to mood measures a Profile of Mood States (POMS; McNair et al., 1971) was administered. Focusing on the effects on mood, the findings concluded that there was a significant difference in mood levels between non-binge drinkers and binge drinkers. The profiling of mood states showed that the binge drinkers scored significantly lower on positive mood ratings. The research also concluded that there was no relationship between current positive mood and time of last drink. This suggests that their low current mood was not due to withdrawal from alcohol in the binge drinkers.

Similar to the research conducted by Douglas et al., (1987) and Raimo and Schuckit (1998) there were no comparisons made between alcoholics and non-alcoholics. This could be an interesting area to investigate in future research. Additionally, this study did not focus on mood and alcohol consumption and only provided limited information in regards to this

area. Possibly a daily self-rating system could have been included in the study. Comparing participants who had an alcohol history against participants who did not could also be studied in the future. Finally, increasing the size of the sample group would also have increased the reliability of the findings.

Research relating to mood disturbances as a result of alcohol consumption completed by Howland, Rhsenow, Greece, Littlefield, Almeida, Heeren, Winter, Bliss, Hunt and Hermos (2009) supports the aforementioned research in this area completed by Raimo and Schuckit (1998). Howland et al., (2009) researched binge drinking students' next day mood state. The design consisted of a placebo-controlled crossover design with randomly assigned conditions. One hundred and ninety six college students over the age of 21 were recruited. Similar to the research completed by Townsend and Duka (2005) the Profile of Mood States brief form (POMS) was used to measure mood. Interestingly, a hangover scale was also used. The Acute Hangover Scale (AHS) was used to determine the participants' hangover severity. Howland et.al. (2009) concluded that "the day after beverage administration, the mean total mood disturbance was significantly worse under alcohol condition compared to the placebo condition in both morning and afternoon." This conclusion supports the findings discussed above. One major limitation in this research is that only the POMS was administered in regards to mood. In addition to this there were no interviews or additional questionnaires incorporated in the research. The research was only completed over one drinking session. Increasing the number of drinking sessions would have gathered more information. This would be beneficial as participants might respond differently in different drinking sessions. In regards to mood rating, no external effects were incorporated, such as fatigue/lack of sleep, hunger and so forth. Widening the age range of the population sample could also increase data and provide insight into age comparisons in regards to alcohol consumption and mood.

A study in 2009 researched post-consumption and mood effects. The study by Merrill et al., (2009) included 158 students aged between 21 and 24. Self-report measures and the Timeline Follow Back interview (Sobell & Sobell, 1992) were administered. Questionnaires were also widely used to gauge mood levels. The findings concluded that alcohol consumption did lower mood levels. One limitation in the study completed above is that the population age sample is rather narrow. Increasing the age range of the sample would allow the study to be more representative of the population. Doing follow-up mood tests over a longer period of time could improve reliability in regards to mood levels.

In summary, the research overwhelmingly concluded that alcohol consumption did have an effect on depressive symptoms and mood levels. Sense of well-being decreased, depressive symptoms increased, and mood levels decreased and energy levels diminished.

Behavioural Effects:

Alcohol consumption and, in particular, aggression is another area of great interest. It is apparent that individuals may well behave more aggressively whilst under the influence of alcohol. Correlational evidence offers some support for conventional wisdom. For instance, numerous studies have found a strong relation between alcohol intoxication and homicide.

Baron's (1977) definition of aggression is: "Aggression is any form of behaviour directed toward the goal of harming or injuring another living being who is motivated to avoid such treatment" (p. 7). Buss (1961) has proposed that aggressive acts can be classified by using combinations of three categories: *physical-verbal*, *active-passive*, and *direct-indirect*. The studies in the review used three types of aggression measures: verbal-active-direct, verbal-active-indirect, and physical-active-direct. Passive acts of aggression (e.g., sit-in demonstration, refusing to speak to another person) and indirect acts of physical aggression (e.g., setting a booby trap for another person) have not been used in experimental studies of alcohol and aggression.

In an early book, MacDonald (1961) reviewed 10 studies and found that the proportion of murderers who had been drinking before their crimes ranged from .19 to .83, with a median of .54. More recent studies have reported similar findings among both adult (Holcomb & Anderson, 1983) and juvenile (Sorrells, 1977) assailants. In addition, alcohol intoxication has been linked to other types of aggression, such as assault (Myers, 1982), wife abuse (Gayford, 1975), and rape (Johnson, Gibson, & Linden, 1978).

Taylor and Leonard (1983) reviewed 10 experimental studies which looked at alcohol and crime/aggression. The authors deduced that a strong positive relation exists between alcohol dose and physical aggression. In the earliest article, Steele and Southwick (1985) investigated the effects of alcohol on social behaviour in general. Of the 35 articles used in the meta-analysis, 14 examined the relation between alcohol and aggression. Steele and Southwick concluded that alcohol can increase aggression by reducing inhibitions. In conclusion, the results of the review indicate that alcohol does indeed facilitate aggressive behaviour.

The topic of aggression and alcohol is an interesting area of study within psychology. The combination of physical and psychological effects caused by alcohol tends to strongly correlate with aggressive behaviour as mentioned above. Concentrating on aggression and the links between aggressive behaviour, negative feelings and low mood levels would be of interest. This would help explore and compare the negative cognitive effects associated with drinking (low mood and anxiety) and the behavioural consequences such as aggressive behaviour (due to these negative feelings of anger caused by low mood and anxiety).

Conclusion

In conclusion, evidence indicates that excessive drinking/binge drinking does have a significant effect on consumers' physiologically and psychologically. Physiological effects of alcohol include organ damage/failure, biological rhythms/sleeping disturbances, dehydration,

blood sugar level imbalances, and body temperature fluctuates, gastrointestinal disturbances, nausea, and headaches. These tend to have a direct relation to psychological effects such as depression and decreased mood levels. Research conducted suggests that the psychological effects caused by alcohol may be significant and can be very damaging to ones sense of well-being. Increased depressive symptoms and decreased mood levels tend to have a direct relationship to binge drinking. All of the studies in regards to this topic yielded similar results. The research reviewed, indicates that drinking alcohol did lower mood levels and increase depressive symptoms within the studied populations. Aggression and alcohol was also discussed and findings in this area tend to strongly suggest that there is a relationship between alcohol consumption and increased aggressive behaviour. Aggressive behaviour is often a direct result of negative emotions such as low mood and heightened anxiety. Thus, suggesting that alcohol and its effects on mood levels might have a direct relationship in regards to increased aggression whilst intoxicated.

Gaps and limitations are however evident in the research that has been discussed. Limitations found were high dropout rates, limited mood rating scales used, short trial periods and small sample sizes. Increasing validity could be achieved through increased sample size, comparing and including information regarding family history, ethnicity, and education.

Definitions

Binge-drinking Defined - Binge drinking is defined by the Alcohol Advisory Council of New Zealand (ALAC) as “consuming more than six standard drinks for males and/or consuming more than four standard drinks for females.”

Hangover Defined - Swift & Davidson (1998) defines as hangover as “characterized by the constellation of unpleasant physical and mental symptoms that occur after a bout of heavy alcohol drinking. Physical symptoms of a hangover include fatigue, headache, increased

sensitivity to light and sound, redness of the eyes, muscle aches, and thirst. Signs of increased sympathetic nervous system activity can accompany a hangover, including increased systolic blood pressure, rapid heartbeat (i.e., tachycardia), tremor, and sweating. Mental symptoms include dizziness; a sense of the room spinning (i.e., vertigo); and possible cognitive and mood disturbances, especially depression, anxiety, and irritability. The particular set of symptoms experienced and their intensity may vary from person to person and from occasion to occasion. In addition, hangover characteristics may depend on the type of alcoholic beverage consumed and the amount a person drinks. Typically, a hangover begins within several hours after the cessation of drinking, when a person's blood alcohol concentration (BAC) is falling. Symptoms usually peak about the time BAC is zero and may continue for up to 24 hours thereafter".

Alcohol Dependence Defined – Alcohol Dependence is defined by the DSM-IV (1994) as “a maladaptive pattern of alcohol use, leading to clinically significant impairment or distress, as manifested by three or more of the following seven criteria, occurring at any time in the same 12-month period.

1. Tolerance, as defined by either of the following:

- a) A need for markedly increased amounts of alcohol to achieve intoxication or desired effect.
- b) Markedly diminished effect with continued use of the same amount of alcohol.

2. Withdrawal, as defined by either of the following:

- a) The characteristic withdrawal syndrome for alcohol (refer to DSM-IV for further details).
- b) Alcohol is taken to relieve or avoid withdrawal symptoms.

3. Alcohol is often taken in larger amounts or over a longer period than was intended.

4. There is a persistent desire or there are unsuccessful efforts to cut down or control alcohol use.
5. A great deal of time is spent in activities necessary to obtain alcohol, use alcohol or recover from its effects.
6. Important social, occupational, or recreational activities are given up or reduced because of alcohol use.
7. Alcohol use is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by the alcohol (e.g., continued drinking despite recognition that an ulcer was made worse by alcohol consumption).”

Statement of Hypotheses

It is predicted that mood levels will significantly decrease following a binge drinking session. It is expected that mood levels will decrease considerably throughout the first 24 hours after a binge drinking session has ended, and will gradually increase again, until the next binge drinking session. It is also predicted that alcohol abuse will have a positive correlation with levels of aggression.

CHAPTER 2. METHOD

Methodology

This study aimed to assess the effects that binge drinking has on consumers. It specifically looked at the relationship between excessive drinking and whether there were any effects on lowering levels of mood. The study used questionnaires, a month-long mood rating scale and interviews, to obtain qualitative and quantitative data.

Participants

The study involved one sample group consisting of 50 subjects. This included 25 males and 25 females. The age of the participants ranged from 18-27 years. All participants regularly engaged in “binge drinking” as defined by the Alcohol Advisory Council of New Zealand (ALAC).

Materials

Initial Background Questionnaire

The initial background questionnaire was completed by each of the participants. This was divided into two general sections. It consisted of background information such as, ethnicity, family background, occupation, age, sex and religious beliefs. It also included questions in regards to attitude towards alcohol and drinking in general. This initial questionnaire was to be completed before the, Alcohol Use Questionnaire (AUD), Alcohol Use Disorders Identification Test (AUDIT) and the daily mood rating scales were delivered. Each participant was provided with a booklet which included all relevant information in regards to the study, and which also included the questionnaires. Each subjects and booklet was coded with a letter (M or F) and allocated a number between 1 and 25 (eg. M1 – male 1, F1 – female 1) as identifiers for the researcher and for statistical purposes. The researcher

gathered contact details for each of the participants to allow interview times to be created. No names were attached to the questionnaires and confidentiality was assured.

Alcohol Use Questionnaire (AUQ)

The Alcohol Use Questionnaire was administered second. The Alcohol Use Questionnaire (AUQ) was used as a simple gauge of drinking habits and to determine whether there was any cause for concern in regards to drinking behaviours. The Alcohol Use Questionnaire (AUQ) scores illustrate and identify alcohol abuse risks. The results were categorised by five score ranges;

20 to 25 points: Your responses are consistent with symptoms associated with alcohol dependence. You should consult with a health care professional as soon as possible.

12 to 19 points: Your responses are consistent with others who report problems with alcohol. Please consider contacting your health care professional.

6 to 11 points: You have some of the risk factors that are consistent with alcohol abuse and/or dependence. Examine the items for which you scored points and determine if the issue is an isolated incident or recurring problem. Please consider contacting your health care professional.

1 to 5 points: You may have one or two risk factors associated with alcohol abuse. You should examine the items for which you scored points and assess how alcohol affects you. Consulting with your health care professional could be beneficial.

0 points: Your score indicates that presently you have none of the common symptoms associated with alcohol abuse or dependence.

Alcohol Use Disorders Identification Test (AUDIT)/Canterbury Alcoholism Screening Test (CAST)

The Alcohol Use Disorders Identification Test (AUDIT) was developed by the World Health Organization (WHO) as a simple method of screening for excessive drinking and to assist in brief assessment (Barbor et al., 1994). This provided quantitative and qualitative data for analysis. The scores were used to identify risk levels and provide four ranks of intervention. The zones of interventions were as follow:

Score 0 – 7: Zone I Alcohol Education

Score 8 – 15: Zone II Simple Advice

Score 16 – 19: Zone III Simple Advice plus Brief Counselling and Continued Monitoring

Score 20 – 40: Zone IV Referral to Specialist for Diagnostic Evaluation and Treatment

Daily Mood Rating Scale

The 30-day, daily mood rating scale was completed by each subject, at a specifically set time each day. The daily mood rating scale forms consisted of questions relating to alcohol consumption the previous day, followed by a mood rating scale for the present day. These questions referred to the number of standard drinks consumed the previous day; number of hours slept, and types of alcohol consumed. The rating scales were constructed by using a simple mood rating scale system. Studying the literature review allowed areas of significance to be highlighted for further research regarding the effects of alcohol consumption on consumers, physiologically and psychologically. Hence, the rating scales were created to measure anxiety, depression, emotional and physical well-being, and also provided an overall rating. The areas selected were carefully chosen to provide a multidimensional overview of the individuals' psychological and physiological well-being. The mood rating scales looked at the subjects' present mood levels, and as mentioned before

was developed by using a simple 5 point scale rating system. Each daily rating scale contained an area for the participants to comment on possible external or internal explanations for the ratings they provided.

Interview Schedule

Ten randomly selected individual interviews provided more detailed qualitative data for analysis. The interviews covered areas related to binge drinking such as mood disturbances, attitudes towards consuming alcohol and behaviours resulting from intoxication. The interviews also included personal and background information similar to the initial background questionnaires. The influence that hangovers have on the subjects' mood and sense of wellbeing was discussed. The interview included closed-ended and open-ended questions. Each interview lasted approximately 60 minutes. The participants were informed of their ethical rights and were assured total confidentiality. No names were attached to the interview notes or recordings and confidentiality was guaranteed. All interviewees were provided with an information sheet to sign acknowledging their rights (Appendix E). They were assured that there were no right or wrong answers, and that all answers would be kept confidential. This included the fact that all tapes and recordings will be destroyed after use. The method of analysis utilised was Thematic Discourse Analysis. The rationale for using this method is that it successfully identifies and analyses reporting patterns (themes) within qualitative data (Braun & Clarke, 2006). It has the ability to organise and describe data in detail and systematically interprets various aspects of the research topic (Boyatzis, 1998). The interviews were recorded, then transcribed and followed by a coding process. The coding process was completed by the researcher once all interviews were done. By collaborating and grouping words and phrases which were linked, themes and patterns found across all interviews and these were selected to be analysed and discussed in depth.

Procedure

The first step in preparing this study was completing an in-depth literature review. This focussed on investigating multiple research methodologies, dissecting their findings and limitations within various research projects. This was followed by preparing an organised and structured proposal describing in detail the research aims and objectives of this particular research project. The proposal included background information on the topic of interest, hypotheses and a brief method section. After gaining the approval from the supervisor and the ethics committee, the designing of participant recruitment notices, questionnaires, interview schedules and notices were completed.

Firstly posters were placed around Waikato University (See Appendix F). The aim of these was to attract participants to join the research project. These notices included all relevant information about the study, including the duration of the study and what it necessitated. It included restrictions and categories which participants had to match, which enabled them to be considered (See Appendix A). The designing of questionnaires was the next step. When designing the initial background questionnaire the aim was to construct an instrument that would effectively provide information in regards to demographics, alcohol use, and participants' attitudes towards alcohol and binge drinking (See Appendix B). The Alcohol Use Questionnaire (AUQ) and the Alcohol Use Disorders Identification Test (AUDIT) were also included and administered (See Appendix C). These two questionnaires were attached to the Background Questionnaire document and provided the researcher with a better measure on each participant's drinking patterns and their attitudes towards drinking. These were included to provide more qualitative and quantitative data for research purposes. Participants were reassured of confidentiality and anonymity.

Once all the questionnaires and tests were developed, the daily mood rating scale was designed for a 30-day period (See Appendix D). Each daily scale provided information on the

previous day's alcohol consumption and their current mood levels for various psychological and physical areas of interest. It also provided qualitative information by each subject explaining the reason for their mood rating scores. This document reassured participants of confidentiality and anonymity.

Interviews were also completed. The interview schedule was designed to serve as a general guideline when conducting the individual interviews (See Appendix E). Ten randomly selected participants were involved in a 60 minute one-on-one interview. This focussed on attitudes and behaviour in relation to alcohol consumption. Interviews were administered as it was effective in accumulating qualitative data in regards to binge drinking and the impact it has on mood. Once again participants were reassured of confidentiality, anonymity, and although they were able to be identified by the interviewer their personal information would not be revealed anywhere within the thesis or research documents.

Due to the fact that human participants were used, The Psychology Research and Ethics Committee reviewed all materials mentioned above before being administered, and ethical approval was granted. These resources had to correspond with the 'Code of Ethics of the New Zealand Psychology Society Inc.' in order to be run. Strict considerations were put in place to allow ethical and safe practice.

Once research approval was obtained from the proper authority, the gathering of data and statistics was the next step. Notices were distributed throughout the University of Waikato Campus. Participants were provided with a form which included all the necessary information about the project (See Appendix A). Participants were informed about the research project and the purpose of the study in total. However, specific details and hypotheses were not mentioned and discussed, allowing and sustaining research reliability.

The initial step was for each participant to complete the background questionnaire. This was followed by the Alcohol Use Questionnaire (AUQ) and the Alcohol Use Disorder

Identification Test (AUDIT). Participants were informed of their right to withdraw from the study at any stage. These questionnaires were completed one after another, and were collected by the researcher directly after completion.

The introduction and use of the daily mood level rating scale were applied next. Each participant was provided with a daily rating scale which involved both qualitative and quantitative feedback. This had to be maintained over a 30-day period. Each participant was reminded daily via txt-message to complete the rating scale, and was encouraged to complete it at the same time each day. Throughout this 30-day period interviews were introduced. Individual interviews provided qualitative data. Participants were given consent forms to complete, in regards to the interviews. This informed participants about their rights to withdraw at any time (See Appendix E).

Once all data was collected and after the 30-day period elapsed, statistical analysis was carried out.

Data Analysis

All quantitative and qualitative data regarding the questionnaires, interviews and mood rating scales were analysed. Data was analysed and compared by using both Excel and SPSS Computer Software Programmes. All questionnaire and attitudinal responses were presented in table form. Graphs were used to illustrate comparative data more sufficiently.

Alcohol Questionnaires were utilised to make comparisons between the two Gender groups and their drinking patterns. Pearson's Correlation graphs were utilised in displaying statistical data. This was demonstrated as a scatter-plot graph. A line of best fit was inserted to determine whether a relationship was evident between the two variables being studied (R-square values). The number of standard drinks consumed the previous day was graphed against the following days overall mood rating. This provided a gauge of whether higher

number of standard drinks consumed led to a lower mood rating following the binge and vice-versa.

The daily mood ratings were graphed over the 30 day period. This provided a measure of how many days a low mood level might be maintained after alcohol consumption. This will show whether more standard drinks consumed tend to maintain a lower mood rating over a longer period of time. This will be completed as a graph.

The average number of drinks for each individual per month and the average mood level ratings per month was completed. This will demonstrate whether consuming more standard drinks over a 30 day period has an effect on maintaining a lower overall mood rating.

Qualitative information such as interviews was analysed with the method of Thematic Discourse Analysis. Transcribing the recorded interviews and coding each individually was followed by finding similar themes and patterns across all of them as a whole. The reason for using this method was the fact it is based around categorising the qualitative data which allows the researcher to review the data systematically. This strategy helped the researcher to move analysis from a broad reading of data towards discovering distinct patterns and developing themes (Boyatzis, 1998). As mentioned above themes were discovered by coding the words and phrases which were related or showed simple patterns. These were then grouped into more specific areas or themes which were evident across the majority of the interviewees.

CHAPTER 3. RESULTS

Background Questionnaires

Statistical Analysis

Fifty participants were selected for the research project. An even number of males and females took part in the study (males n=25, females n=25). The average age of the participants was 22.02. The oldest participant was 27 years of age and the youngest was 18. The average age of the male group was 22.8 years, with the youngest male being 18 years of age, and the oldest male was 27 years of age. The female sample group had an average age of 21.16. The youngest female to take part was 19 years of age, and the oldest was 25 years of age. The sample group consisted of 39 'students' (males n=16, females n=23), and 11 'other' occupations (males n=9, females n=2) that included teachers, retail workers, and builders. Thirty-six participants were of 'NZ/European/Pakeha' decent (male n=14, female n=22), one participant was of 'Pacific Island' decent (male n=1, female n=0), one participant associated with 'Other' (male n=1, female n=0), and 12 selected 'Maori' as their ethnic group (male n=9, female n=3). The religious makeup of the group was also recorded. Seven participants indicated they were of the Catholic/Christian faith (males n=6, females n=1) and 43 participants were not associated with any religion (males n=19, females = 24).

Table 3.1 shows whether family history of alcoholism/dependence or alcohol related disease were evident in the sample group. Nine participants (almost 1 in every 5) did have a family history of alcoholism/dependence or alcohol related disease (males n=6, females n=3).

Table 3.1:

This table shows whether there is a family history of alcoholism/dependence or alcohol related disease of the participants in the research. This table provides Male Numbers compared to Female Number, and the Combined Totals.

	Males		Females		Combined Totals		
	Number	Percentage	Number	Percentage	Number	Percentage	
Yes	6	24	Yes	3	12	9	18
No	19	76	No	22	88	41	82
Total	25	100	Total	25	100	50	100

Table 3.2 indicates the number of participants that believed their parents regularly engaged in binge drinking. This statistic was overwhelmingly high. Twenty-eight participants indicated that their parents regularly engaged in binge drinking (males n=14, females n=14), with only 22 indicating that their parents do not regularly engage in binge drinking (males n=11, females n=11).

Table 3.2:

This table indicates if participants' parents regularly engage in binge drinking. This table provides Male Numbers compared to Female Number, and the Combined Totals.

	Males		Females		Combined Totals		
	Number	Percentage	Number	Percentage	Number	Percentage	
Yes	14	56	Yes	14	56	28	56
No	11	44	No	11	44	22	44
Total	25	100	Total	25	100	50	100

Table 3.3 presents the average number of binge-drinking sessions participants would engage in during a normal week. Eight participants engaged in one drinking session per week (males n=3, females n=5), and 42 participants engaged in two binge drinking sessions per

week (males n=22, females n=20). The results between the sexes were similar. No participants indicated engaging in 3 or more drinking sessions per week.

Table 3.3:

Comparing the average number of binge-drinking session's participants would engage in during a normal week. This table provides Male Numbers compared to Female Number, and the Combined Totals.

	Males		Females		Combined Totals		
	Number	Percentage	Number	Percentage	Number	Percentage	
One (1) drinking session per week	3	12	One (1) drinking session per week	5	20	8	16
Two (2) drinking sessions per week	22	88	Two (2) drinking sessions per week	20	80	42	84
Three (3) drinking sessions per week	0	0	Three (3) drinking sessions per week	0	0	0	0
Four (4+) or MORE drinking sessions per week	0	0	Four (4+) or MORE drinking sessions per week	0	0	0	0
Total	25	100	Total	25	100	50	100

Table 3.4 presents the average number of standard drinks consumed in a typical drinking session. The results showed that only one participant regularly consumed three or less drinks on average. Two participants indicated that they consumed 4-6 drinks in a typical drinking session. Five participants consumed 7-9 drinks in a typical drinking session and 19 people consumed between 10-12 drinks in a session. Twelve participants consumed on average 13-15 drinks per session, and eleven consumed 15 or more drinks in a typical drinking session. Only one male (4% of the male sample) consumed three or less drinks in a typical drinking session compared to seven females (28% of the female sample). Only two

males (8% of the male sample) consumed 10-12 drinks compared to 17 females (68% of the female sample). The most dramatic statistic was that 22 males (88% of the male sample) consumed 13 or more standards compared to only 1 female (4% of the female sample). Both sexes had almost half of their sample group double or triple the number of standard drink limit as defined by ALAC as binge drinking.

Table 3.4:

Comparing the average number of standard drinks consumed in a typical drinking session.

This table provides Male Numbers compared to Female Number, and the Combined Totals.

	Males		Females			Combined Totals	
	Number	Percentage	Number	Percentage	Number	Percentage	
3 or under	1	4	3 or under	0	0	1	2
4-6	0	0	4-6	2	8	2	4
7-9	0	0	7-9	5	20	5	10
10-12	2	8	10-12	17	68	19	38
13-15	11	44	13-15	1	4	12	24
15+	11	44	15+	0	0	11	22
Total	25	100	Total	25	100	50	100

Table 3.5 presents the number of times participants had passed out during the last year due to excessive alcohol consumption. Nineteen participants (males n= 12, females n=7) never passed out due to excessive drinking during the last year. Ten participants (males n= 3, females n=7) passed out once during the last year, 11 participants (males n= 6, females n=5) passed out twice, six participants (males n= 4, females n=2) passed out three times, and four participants (males n= 0, females n=4) passed out four times during the past year. None of the participants indicated that they had passed out five or more times during the last year. The female group indicated a higher rate of passing out due to excessive drinking compared to the male group.

Table 3.5:

Comparing the number of times participants have passed out during the last year due to consuming excessive amount of alcohol. This table provides Male Numbers compared to Female Number, and the Combined Totals.

	Males					Females		Combined Totals	
	Number	Percentage		Number	Percentage	Number	Percentage	Number	Percentage
Never	12	32	Never	7	28	19	38		
Once	3	12	Once	7	28	10	20		
Twice	6	24	Twice	5	20	11	22		
Three Times	4	16	Three Times	2	8	6	12		
Four Times	0	16	Four Times	4	16	4	8		
Five Time or More	0	0	Five Time or More	0	0	0	0		
Total	25	100	Total	25	100	50	100		

Table 3.6 presents the number of occasions participants vomited due to excessive drinking in the past year. Combined results showed that seven participants (males n=6, females n=1) indicated never vomiting during the past year, two indicated (male n=1, female n=1) vomiting once, and nine subjects (males n=6, females n=3) vomited twice. Seven participants (males n=2, females n=5) vomited three times, five participants (males n=3, females n=2) vomited four times and 20 individuals (males n=7, females n=13) vomited five or more times during the last year.

Table 3.6:

Comparing the number of occasions participants have vomited due to excessive drinking during the past year. This table provides Male Numbers compared to Female Number, and the Combined Totals.

	Males		Females		Combined Totals		
	Number	Percentage	Number	Percentage	Number	Percentage	
Never	6	24	Never	1	4	7	14
Once	1	4	Once	1	4	2	4
Twice	6	24	Twice	3	12	9	18
Three Times	2	8	Three Times	5	20	7	14
Four Times	3	12	Four Times	2	8	5	10
Five Time or More	7	28	Five Time or More	13	52	20	40
Total	25	100		50	100	50	100

Table 3.7 compares the effect of alcohol on perceived aggression levels. No participants indicated that they felt “much less aggressive”. Four participants (males n= 1, females n=3) indicated that they did “feel less aggressive”, and 17 participants (males n= 4, females n=13) suggested they felt “no difference in their level of aggression”. Twenty- three participants (males n= 14, females n=9) did however indicate that they “felt more aggressive” with six people (males n= 6, females n=0) “feeling much more aggressive”. The male sample group indicated much higher levels of perceived aggression due to being intoxicated. Twenty males, compared to only six females indicated feeling a higher aggressions level due to being under the influence of alcohol. On the other hand a higher number of females (n=16) felt no difference in levels of aggression, or felt less aggressive compares to the male group (n=5).

Table 3.7:

Comparing the effects of alcohol on perceived aggression levels. This table provides Male Numbers compared to Female Number, and the Combined Totals.

	Males		Females		Combined Totals		
	Number	Percentage	Number	Percentage	Number	Percentage	
1 = Feel Much Less Aggressive	0	0	1 = Feel Much Less Aggressive	0	0	0	0
2 = Feel Less Aggressive	1	4	2 = Feel Less Aggressive	3	12	4	8
3 = No Difference in my Level of Aggression	4	16	3 = No Difference in my Level of Aggression	13	52	17	34
4 = Feel More Aggressive	14	56	4 = Feel More Aggressive	9	36	23	46
5 = Feel Much More Aggressive	6	24	5 = Feel Much More Aggressive	0	0	6	12
Total	25	100		50	100	50	100

Table 3.8 presents the number of times participants have become violent in the last year due to excessive drinking. This table shows a strong correlation with table 3.7, which shows the levels of aggression perceived during intoxication. Table 3.8 showed that 25 participants (males n=5, females n=20) never became violent during the last year whilst intoxicated. Seven participants (males n=4, females n=3) became violent once and seven indicated (males n=7, females n=0) becoming violent twice. The table also indicates that five people (males n=4, females n=1) became violent three times during the last year. Three males became violent four times during the year. Three participants (males n=2, females n=1) indicated becoming violent five or more times during the last year. The most significant statistic was that the male sample showed more aggressive incidents' compared to the female

group. Eighty percent of the female participants never became violent compared to only 20 percent of male sample.

Table 3.8:

Comparing the number of times participants have become violent during the last year due to excessive drinking. This table provides Male Numbers compared to Female Number, and the Combined Totals.

	Males		Females		Combined Totals		
	Number	Percentage	Number	Percentage	Number	Percentage	
Never	5	20	Never	20	80	25	50
Once	4	16	Once	3	12	7	14
Twice	7	28	Twice	0	0	7	14
Three Times	4	16	Three Times	1	4	5	10
Four Times	3	12	Four Times	0	0	3	6
Five Time or More	2	8	Five Time or More	1	4	3	6
Total	25	100	Total	25	100	50	100

Table 3.9 shows whether participants have been arrested due to being intoxicated/or due to behaviour which occurred as a result of being intoxicated. Only seven indicated being arrested and forty-three had not been arrested in regards to alcohol and negative behaviours associated with drinking. Six out of the seven were male and only one female indicated being arrested.

Table 3.9:

Comparing whether participants have been arrested due to being intoxicated/or due to behaviour which occurred as a result of being intoxicated. This table provides Male Numbers compared to Female Number, and the Combined Totals.

	Males		Females			Combined Totals	
	Number	Percentage	Number	Percentage	Number	Percentage	
Yes	6	24	Yes	1	4	7	14
No	19	76	No	24	96	43	86
Total	25	100	Total	25	100	50	100

AUQ Questionnaires

Statistical Analysis

Table 3.10 shows the Alcohol Use Questionnaire scores (AUQ). Males scored on average 13.2 on the AUQ compared to the female sample which scored an average 9.2. The male group received the lowest score (0), as well as the highest (20). The lowest score obtained from the female group was 1 and the highest in this group was 19. Figure 1.1 demonstrates that there is a small difference between the male and female group scores. The combined sample scored an average of 11.2 on the questionnaire scales.

Table 3.10:

Comparing the Alcohol Use Questionnaire (AUQ) totals. It shows the minimum, maximum and average scores obtained. This table provides Male Numbers compared to Female Number, and the Combined Totals.

Average	Males		Average	Females		Average	Combined Totals	
	Minimum	Maximum		Minimum	Maximum		Minimum	Maximum
13.2	0	20	9.2	1	19	11.2	0	20

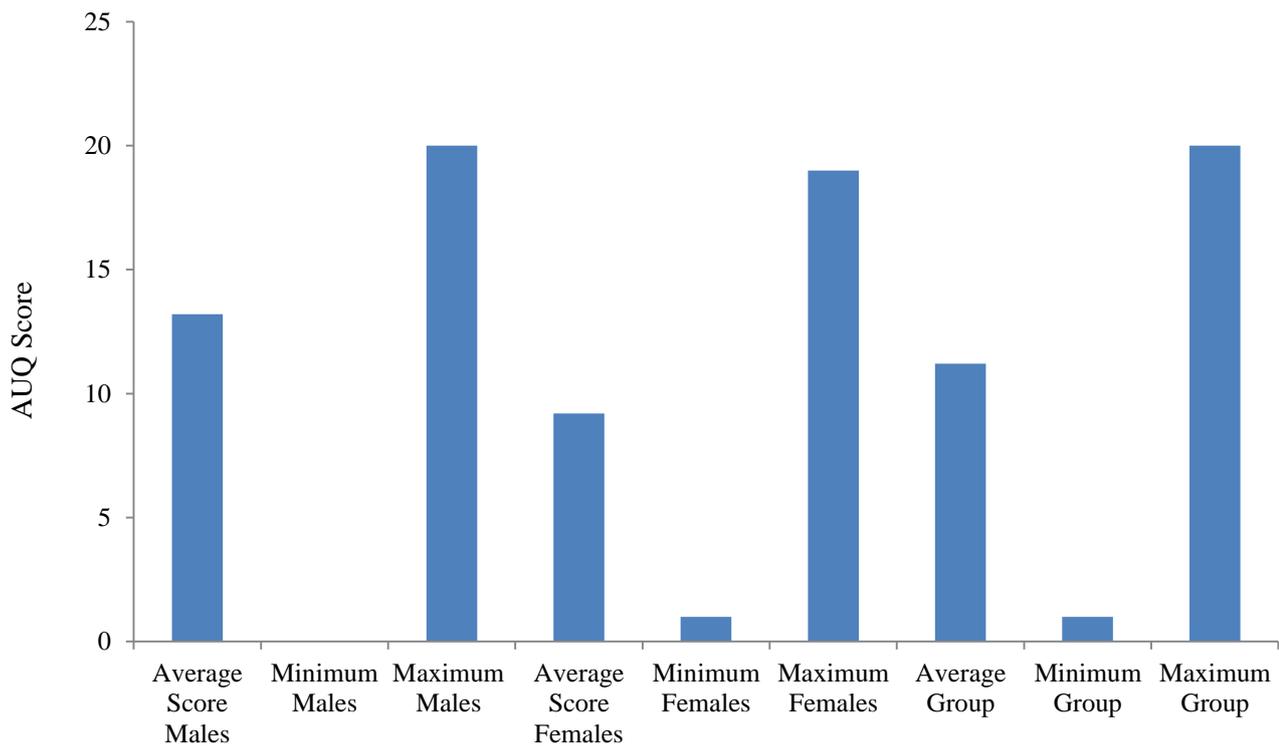


Figure 1.1: Maximum, minimum and average AUQ scores for the male sample, female sample and combined sample.

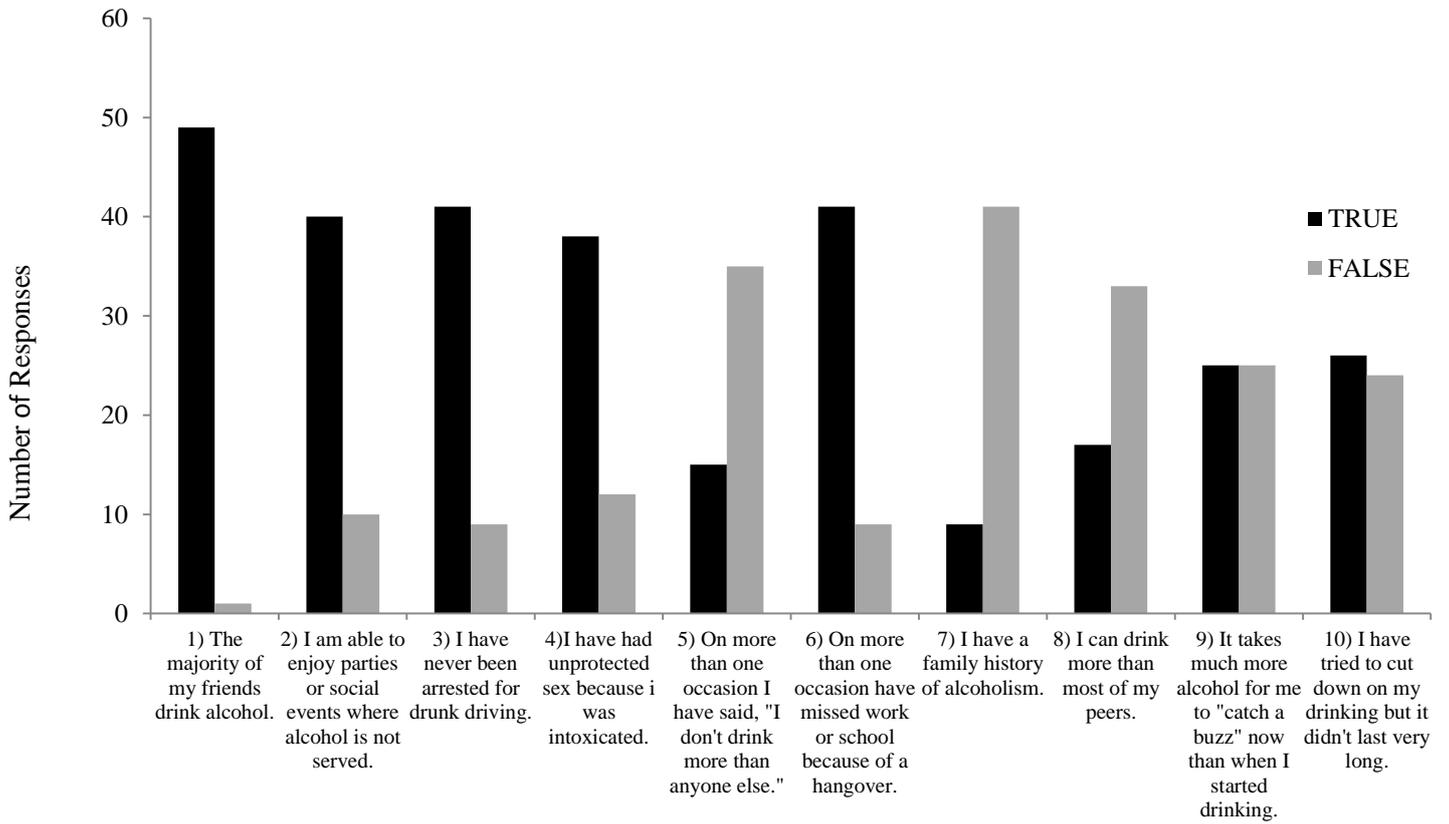
Table 3.11 provides a breakdown of total scores and categories. Two participants scored 20 to 25 points (males $n=2$, females $n=0$). Twenty-four participants scored 12 to 19 points (males $n=16$, females $n=8$). Nineteen participants scored 6 to 11 points (males $n=6$, females $n=13$). Four participants scored 1 to 5 points (males $n=0$, females $n=4$), and one participant scored 0 points (males $n=1$, females $n=0$).

Table 3.11:

Comparing the Alcohol Use Questionnaire (AUQ) totals. It shows score distribution of total scores into the five scoring categories. This table provides Male Numbers compared to Female Number, and the Combined Totals.

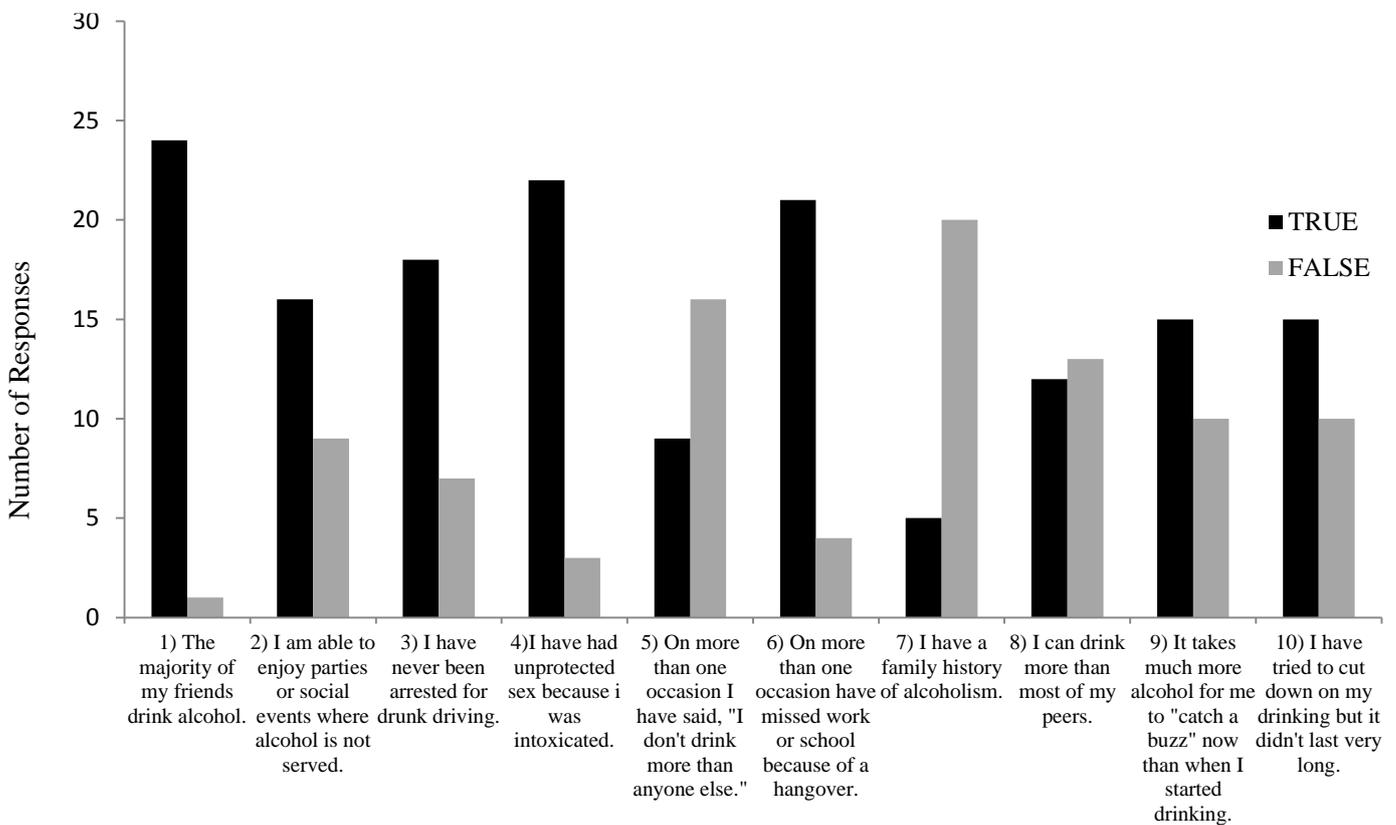
	Males			Females		Combined Totals	
	Number	Percentage		Number	Percentage	Number	Percentage
20-25	2	8	20-25	0	0	2	4
12-19	16	64	12-19	8	32	24	48
6-11	6	24	6-11	13	52	19	38
1-5	0	0	1-5	4	16	4	8
0	1	4	0	0	0	1	2
Total	25	100	Total	25	100	50	100

Figure 1.2 presents group comparison responses to AUQ questionnaires. Figure 1.3 and Figure 1.4 separated the male and female responses. In regards to the AUQ, 49 participants indicated that the majority of their friends consumed alcohol regularly (male n =24, female n=25). Forty participants agreed that they were able to enjoy parties and social events where alcohol is not served (male n =16, female n=24). The majority (41) of participants have never been arrested (male n =18, female n=23). A large number (38) did have unprotected sex due to being intoxicated (male n =22, female n=16). Only 15 subjects answered 'true' to the statement that they have "on more than one occasion said that they don't drink more than anyone else" (male n =9, female n=6). Forty-one subjects had missed work or school due to having a hangover (male n =21, female n=20). Almost one fifth of participants (9) did have a family history of alcoholism (male n =5, female n=4). Seventeen participants suggested that they consumed more alcohol than most of their peers (male n =12, female n=5). Twenty-five participants believed that it takes much more alcohol to "catch a buzz" now than when they started drinking (male n =15, female n=10). Twenty-six participants have tried to cut down on their drinking, which did not last long (male n =15, female n=11).



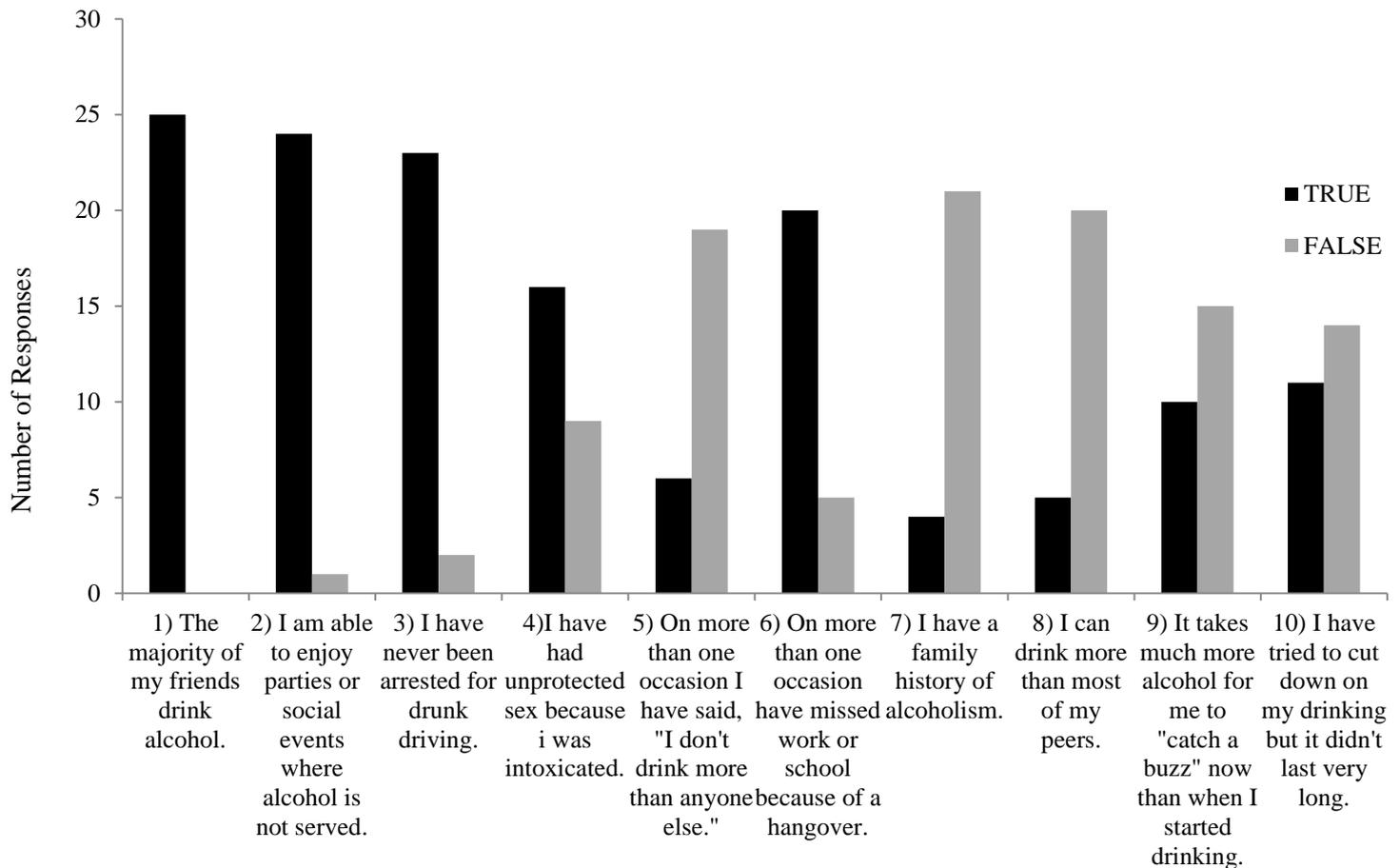
Alcohol Use Questionnaire Questions

Figure 1.2: A Group Comparison of True and False Responses to questions found in the Alcohol Use Questionnaire.



Alcohol Use Questionnaire Questions

Figure 1.3: A Male Only Comparison of True and False Responses to questions found in the Alcohol Use Questionnaire.



Alcohol Use Questionnaire Questions

Figure 1.4: A Female Only Comparison of True and False Responses to questions found in the Alcohol Use Questionnaire.

AUDIT Questionnaires

Statistical Analysis

Table 3.12 shows that the male group scored an average of 17.76 on the Alcohol Use Disorders Identification Test (AUDIT). The maximum score for the male group was 29 and the minimum 7. The female sample group scored an average of 13.8 with a maximum score of 2, and a minimum score of 5. The combined group averaged 15.78. The lowest score was recorded by a female (n=5), and the highest score by a male (n=29).

Table 3.12:

Comparing the Alcohol Use Disorders Identification Test (AUDIT) totals. It shows the minimum, maximum and average scores obtained. This table provides Male Numbers compared to Female Number, and the Combined Totals.

Males			Females			Combined Totals		
Average	Minimum	Maximum	Average	Minimum	Maximum	Average	Minimum	Maximum
17.76	7	29	13.8	5	21	15.78	5	29

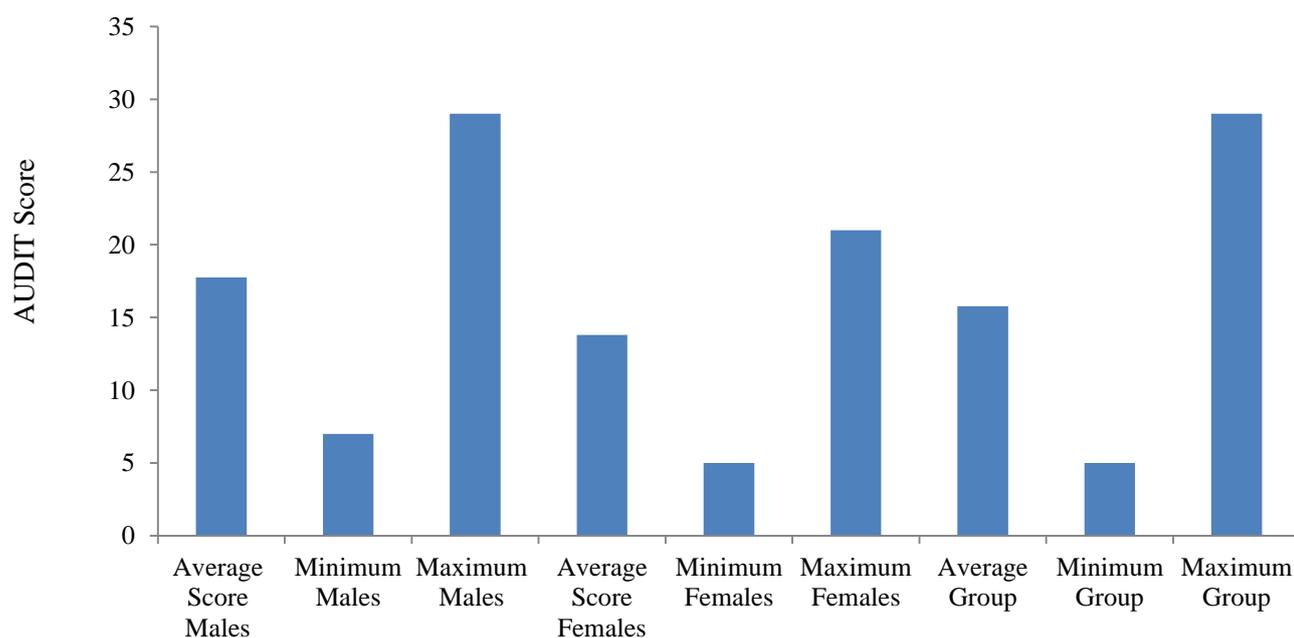


Figure 1.5: Maximum, minimum and average AUDIT scores for the male sample, female sample and combined sample.

Table 3.13 illustrates that nine participants scored 20-40, Zone 4 (males n=7, females n=2). Nineteen participants scored within 16-19, Zone 3 (males n=12, females n=7). Eighteen participants scores 8-15, Zone 2 (males n=5, females n=13), and four people scored seven or below, Zone 1 (males n=1, females n=3).

Table 3.13:

Comparing the Alcohol Use Disorders Identification Test (AUDIT) totals. It shows the distribution of scores in regards to the four different zones. This table provides Male Numbers compared to Female Number, and the Combined Totals.

	Males			Females		Combined Totals	
	Number	Percentage		Number	Percentage	Number	Percentage
Zone 4 20-40	7	28	Zone 4 20-40	2	8	9	18
Zone 3 16-19	12	48	Zone 3 16-19	7	28	19	38
Zone 2 8-15	5	20	Zone 2 8-15	13	52	18	36
Zone 1 0-7	1	4	Zone 1 0-7	3	12	4	8
Total	25	100	Total	25	100	50	100

Mood Scales

Statistical Analysis

Figure 1.6 demonstrates the number of hours asleep and the number of standard drinks consumed. The graph has a Pearson's correlation coefficient of 0.490 ($p < .001$) with an R-squared value of 0.2399. The line of best fit shows a relationship between the number of standard drinks consumed and number of hours asleep.

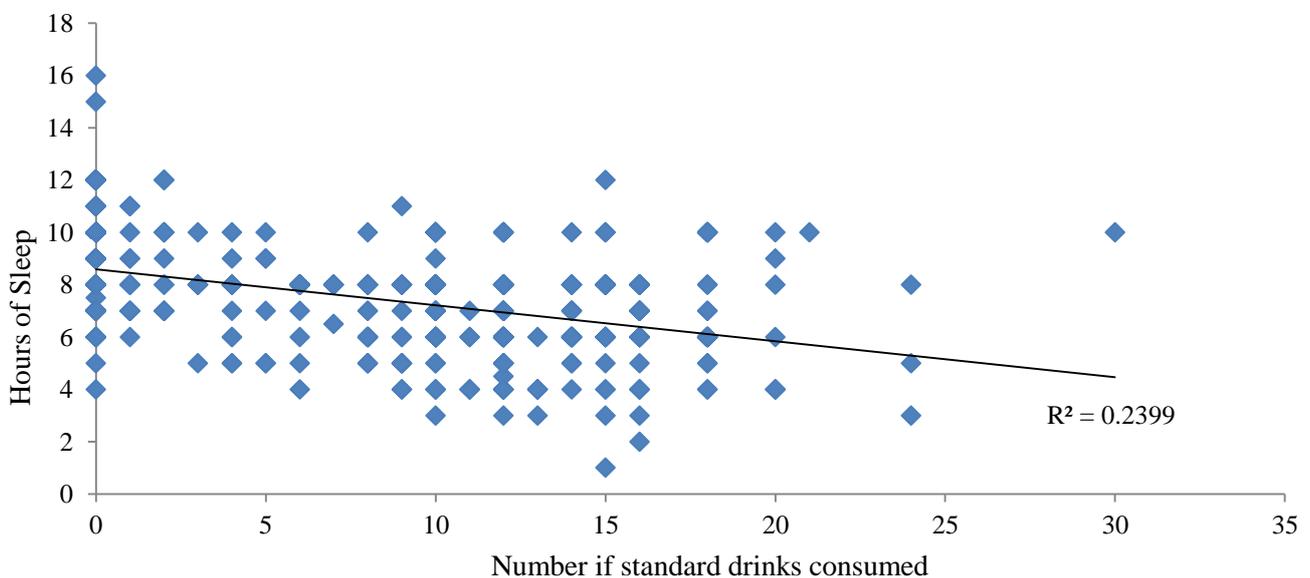


Figure 1.6: A Comparison of the Number of Standard Drinks Consumed and Hours of Sleep

Figure 1.7 demonstrates the levels of anxiety and the number of standard drinks consumed. The graph has a Pearson's correlation coefficient of 0.361 ($p < .001$) with an R-squared value of 0.1301. The line of best fit shows a weak relationship between the number of standard drinks consumed and the levels of anxiety.

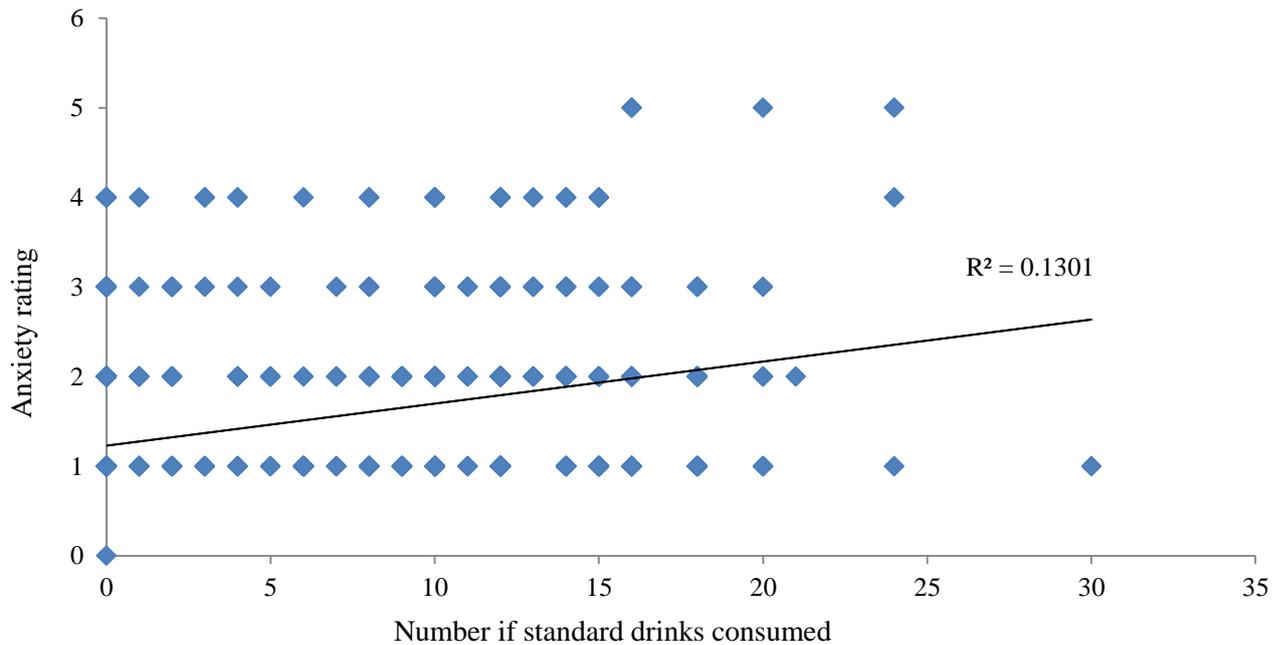


Figure 1.7: A Comparison of the Number of Standard Drinks Consumed and Anxiety Rating

Figure 1.8 demonstrates the increased level of depression perceived and the number of standard drinks consumed. The graph has a Pearson's correlation coefficient of 0.565 ($p < .001$) with an R-squared value of 0.3197. The line of best fit shows a relationship between the number of standard drinks consumed and the increased level of depression perceived.

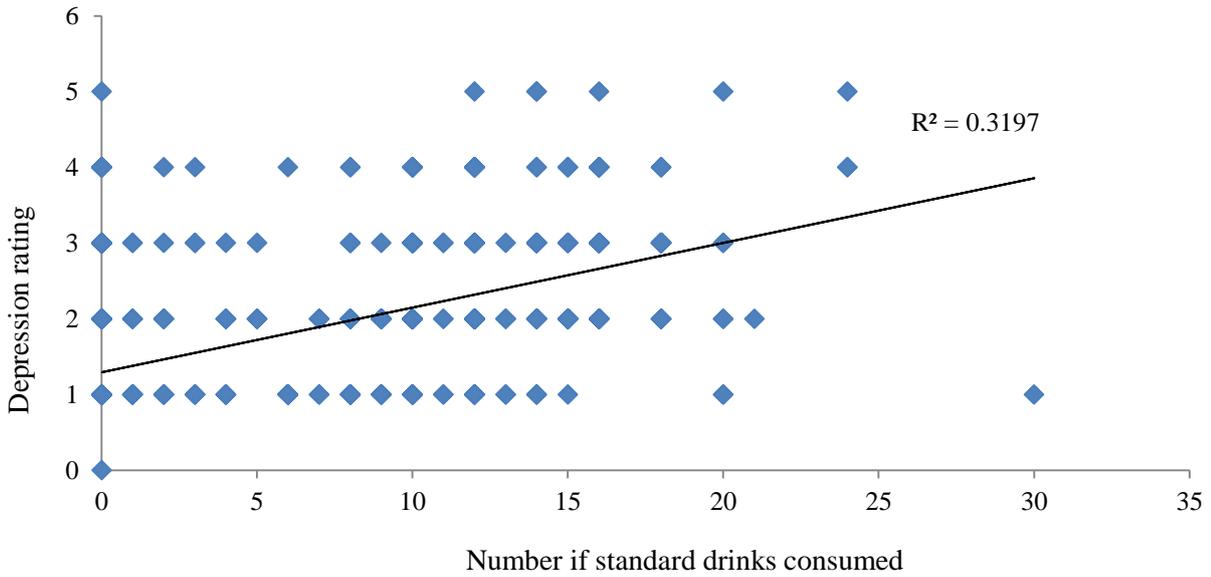


Figure 1.8: A Comparison of the Number of Standard Drinks Consumed and Depression Rating

Figure 1.9 demonstrates the physical mood rating and the number of standard drinks consumed. The graph has a Pearson’s correlation coefficient of 0.597 ($p < .001$) with an R-squared value of 0.3568. The line of best fit shows a relationship between the number of standard drinks consumed and physical mood ratings.

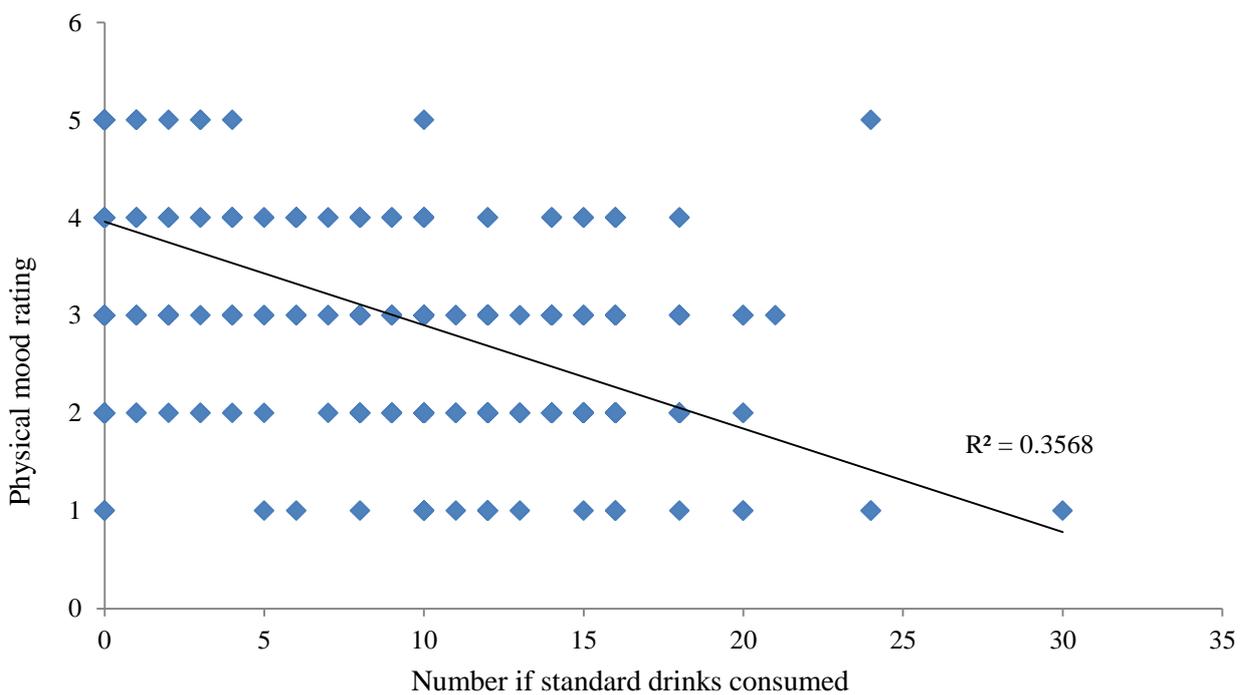


Figure 1.9: A Comparison of the Number of Standard Drinks Consumed and Physical Mood Rating

Figure 1.10 demonstrates emotional mood rating and the number of standard drinks consumed. The graph has a Pearson's correlation coefficient of 0.604 ($p < .001$) with an R-squared value of 0.3642. The line of best fit shows a relationship between the number of standard drinks consumed and the perceived emotional mood rating.

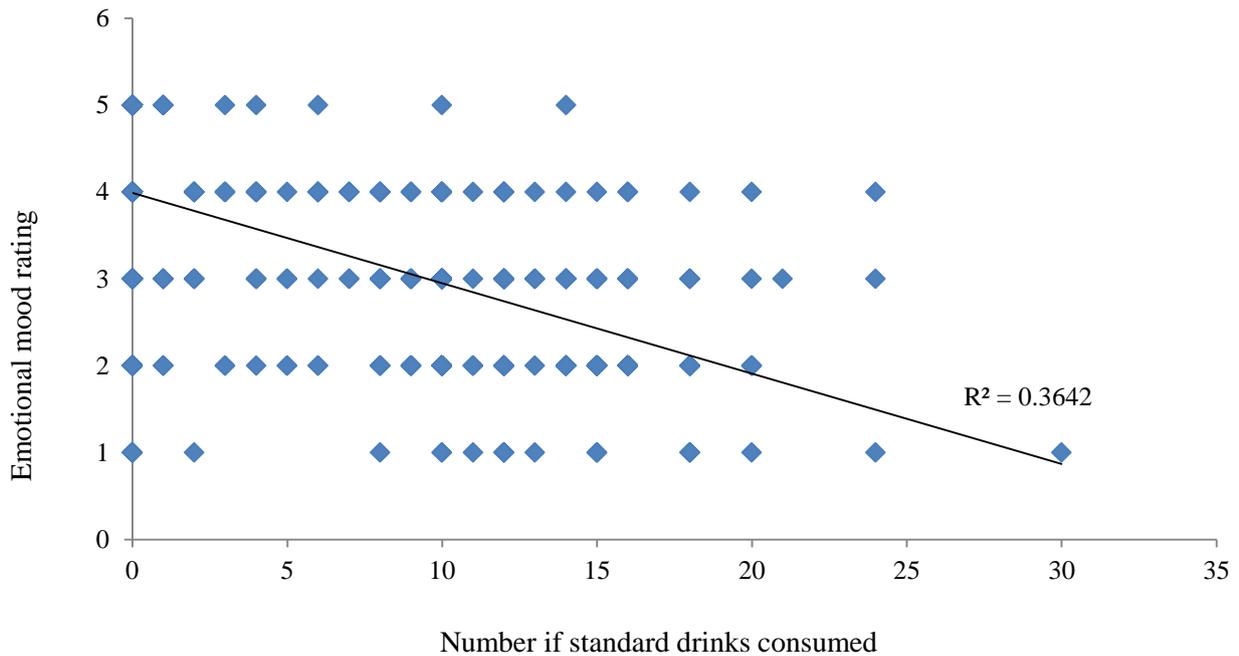


Figure 1.10: A Comparison of the Number of Standard Drinks Consumed and Emotional Mood Rating

Figure 1.11 demonstrates the overall mood rating and the number of standard drinks consumed. The graph has a Pearson's correlation coefficient of 0.640 ($p < .001$) with an R-squared value of 0.4098. The line of best fit shows a relationship between the number of standard drinks consumed and the overall mood rating.

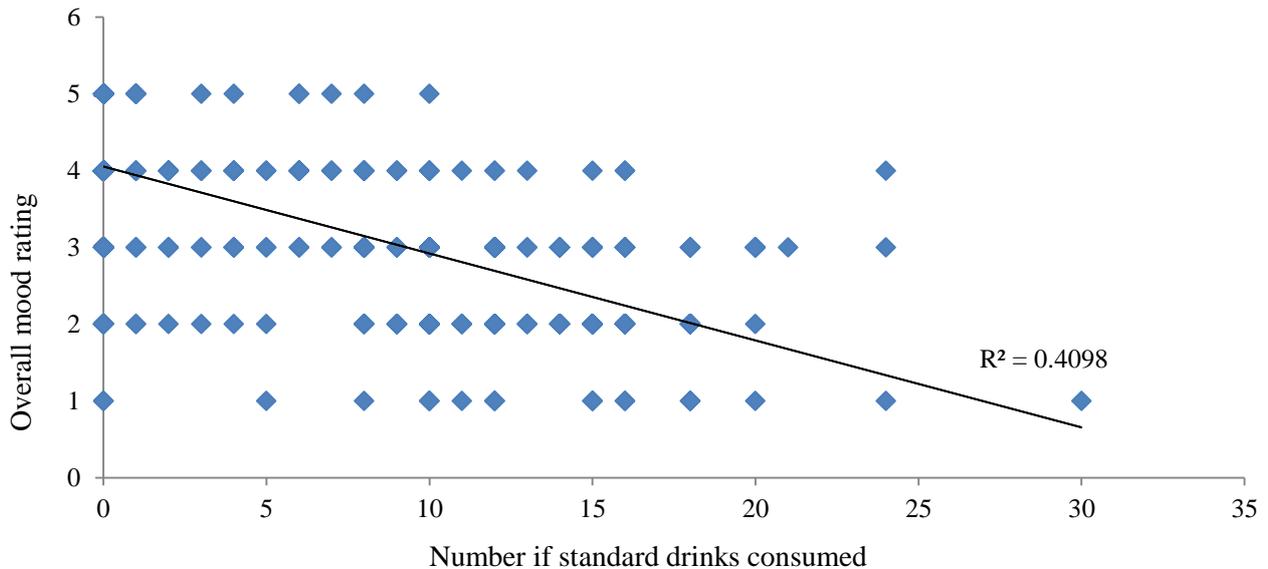


Figure 1.11: A Comparison of the Number of Standard Drinks Consumed and Overall Mood Rating

Individual Interviews

Data Collection and Documentation

1:1 Interview Process –Structured Interviewing

As previously stated, the data was collected by means of structured 1:1 interviews. The questions included both open and closed-ended questions. Ten randomly selected participants took part in answering questions in relation to binge drinking such as mood disturbances, attitudes towards consuming alcohol and behaviours resulting from intoxication. The interview also included personal and background information.

As mentioned earlier Thematic Discourse Analysis was the method used for data examination. Once data has been collected, the interviews were transcribed, followed by systematically coding and identifying key patterns or issues raised. The use of audio recordings was implemented as this would allow for greater accuracy when transcribing the interviews to allow relevant themes to be discovered. The themes and patterns were matched across all interviews.

Despite the interviews being structured the information gathered was extensive. The structured questions did allow for some topics to be studied in more depth and provided a clear overview of the main areas of interest. The interviews were rather short in duration due to the structured layout. Regardless of this, all questions were answered successfully, and were of high quality and relevance.

Findings

This section is concerned with the exploration and collaboration of the experiences of both male and female participants in relation to binge drinking. It contrasts and compares key areas of concern in relation to behavioural, psychological, physiological and gender specific elements in connection with excessive drinking. This section will focus on three key themes which were highlighted throughout the interview; physiological effects experienced by consumers, alcohol and mood disturbance and gender-bias in aggression and sexualised experiences.

Theme One: Physiological effects experiences by participants

The majority of the participants interviewed stated that they had regularly experienced headaches and sleep deprivation as a result of increased alcohol consumption. These symptoms were evident in both the male and female sample groups. Many of the participants had often experienced at least one, if not both of these symptoms due to their excessive drinking.

I feel sick and sometimes have headaches...don't really want to do much...you feel yuck and tired. I don't think anyone likes have a hangover or a headache after drinking. (M1)

It seems to give me a mean headache the next day...I am just more tired and usually just don't do too much. (M3).

I don't sleep well. (M5)

I have the worst headaches and really can't eat...I just stay in bed most of the day.

(F1)

Little bit dull I suppose. Just really tired and low on energy (F3)

...wine seems to give me chronic headaches... Um I'm just tired and lazy really. (F4)

Have hangovers and seem to just be really tired. (F5)

The qualitative data gathered showed that the number of hours slept were much fewer after a binge drinking session compared to other nights when alcohol was not a factor in the evening. This lack of sleep was highlighted by almost all interviewees as their fatigue levels and lack of motivation was greatly affected. In addition to this physiological effect, headaches were also a very common experience discussed. Headaches were experienced by the majority of the consumers. The interviews clearly highlighted two physiological effects (sleep deprivation and headaches) experiences by the participants.

Theme Two: Alcohol and mood disturbance

The interview transcripts clearly demonstrate the negative effects caused by excessive alcohol consumption. The majority of the interviewees regularly experiences mood changes and depressive symptoms. This was evident in both male and females sample groups.

...Isn't alcohol a depressant?...I suppose sad...Um probably decrease (mood) coz you feel yuck and tired and maybe sick. I don't really want to do much. (M1)

...you just sometimes get in a bit of a negative mood... i just feel a bit down...I'm a bit down and have no energy to do anything. Decreased (mood) I suppose (M2)

I have had some depressing mornings though. I suppose waking up and just having regrets of feeling sorry for yourself. Just sometimes wishing you didn't go out and get

too wasted. Pretty much just unmotivated and having regrets...I'd say decreases your mood. (M3)

Feel a little bit depressed haha...I have become emotional though because i was too pissed before. ...makes people become emotional drunk's...Some of my friends have become emotional. Decreases (mood) (M4)

Decreases (mood). Alcohol is a depressant... At times feel down about the things you may have done. Sometimes for no reason at all...I Feel down at times (M5)

Decreases (mood). You feel like shit. (F1)

I suppose a little down. I feel like doing nothing and I am unmotivated...just want to do nothing. I'd say it lowers your mood levels, and seems to make you feel a bit down (F2).

Alcohol doesn't seem to make me happier...Little bit dull i suppose. Just really tired and low on energy. Sort of on a down buzz. At the time it will increase mood, but the next day you feel terrible and a bit down (F3)

Usually wish I didn't drink that much...Definitely decreases your mood. You usually feel sorry for yourself. (F4)

Almost every participant interviewed had experienced this effect. They openly discussed how being hung-over affected their sense of psychological well-being. Males and females equally experienced low energy, low motivation, emotional highs and low, and other depressive symptoms associated with drinking. It was well understood by the participants that alcohol is a depressant. Not one person felt better or had increased mood levels on the day following a binge drinking session.

Theme Three: Alcohol and Gender Differences

All the male participants had experienced physical aggression due to intoxication. The qualitative information gathered through interviewing suggests that aggressive behaviour is a very common theme amongst male binge drinkers. It demonstrates that fighting or showing aggression is not rare whilst intoxicated, which cause additional issues that impact negatively on the society. Comparatively the female group were anti-violence and almost never became violent. Only one female remembered becoming aggressive whilst intoxicated.

(Alcohol) Causes fight...Um, nah I have never really been in a fight as such, my friends have and I have tried stopping some, but never actually been in a fight. (M1)

Yea a few times. Um, just a few i suppose. Just sometimes my friends and i get in a bit of a push around or something in town. Nothing major though. (Negative effects of alcohol)...fights...you can become aggressive. (M2)

Yeah every now and then, just over stupid stuff...getting too drunk and dudes starting trouble in town or my mates starting things. Not really my fault i just get caught up in it...(Alcohol) increases crime and hospital visits...increased domestic violence (M3).

Yeah have had a few fights before...guys in town being idiots or cheeky – too pissed... [Increases] fights and crime (M4).

(Ever been in a fight due to intoxication). Yes...Misunderstanding (M5).

[When asked about ever becoming physically aggressive] No never...and I hope not (F1)

[When asked about ever becoming physically aggressive] No way. I would never get involved in a fight (F2).

[When asked about ever becoming physically aggressive] Not from memory (F3).

Never really, maybe once when some guy touched me inappropriately (F4).

[When asked about ever becoming physically aggressive] No not at all (F5).

Interestingly, aggressive behaviour was rare in the female sample group. The females had a very negative attitude towards fighting. Almost all the female respondents had never or very seldom became aggressive. The males were open about their aggressive behaviours and almost proud of this. Contradictory the females were not and regarded this behaviour very negatively. Interestingly the female interviewees had experienced more sexualised acts and related alcohol to unwanted/unplanned sexualised behaviours and consequences. The topic of unwanted pregnancies, promiscuous behaviour and sexual abuse was highlighted. Sexualised behaviour was highlighted with the majority of participants engaging in having unprotected sex. None of the male participants discussed this topic at all.

(Negatives consequences due to drinking) unwanted pregnancies (F1)

...some guy inappropriately touched me in town... (Negatives consequences due to drinking) unwanted teen pregnancies (F4)

In summary the interviews showed that alcohol did increase aggressive behaviour in the male sample; however this was not obvious in the female group. Almost all the males had experienced physical aggression due to intoxication, compared to very few in the female sample. The male participants viewed aggression in a more positive light. Interestingly the female sample highlighted sexualised behaviours as a topic of concern. This included sexual risk taking, sexual assault and aggression from males towards females whilst intoxicated. They felt that that this issue was important to discuss from a female perspective. This concern was only highlighted by the female sample, and not by the male sample. This was an interesting gender-bias, which seemed to be totally polarised by the two sexes.

CHAPTER 4. DISCUSSION

The present study's aim was to investigate the possible effects that excessive alcohol consumption had on consumers. The findings supported the hypotheses stated earlier. Overall, each mood level rating scale indicated that the participant was negatively affected after a binge drinking sessions. Mood levels did decrease after binge drinking sessions. Additionally, as predicted the male sample did show aggressive behaviours when intoxicated, however the female sample did not. The areas of interest were the effects that binge drinking had on participants' levels of anxiety and depression. The study also looked at the impacts of binge drinking on physical and emotional mood levels. By comparing both men and woman's drinking patterns over a 30 day period and tracking their mood levels a comprehensive study was completed. Understanding participants' family histories and their developed attitudes towards drinking was vital.

Quantitative data for this particular study proved very successful in providing statistical information in relation to drinking patterns and levels of consumption. The quantitative data provided evidence which allowed the researcher to gain an understanding of the effect of high levels of alcohol consumption on the consumers' physiological and psychological sense of well-being. In addition to this, the sample group recruited had a low dropout rate. The analysis also successfully addressed the hypothesis and supported the prediction that mood levels will significantly decrease following a binge drinking session.

Background Questionnaires

Interestingly a high number of participants had a family history of alcoholism/dependence or alcohol related disease. The statistics suggested that almost one in five fell into this category. This statistic was compounded by the finding that over half of the participants believed that their parents regularly engaged in binge drinking. Twenty-eight out of fifty participants fell into this category.

Forty-two participants engaged in two drinking sessions in a normal week, with eight participant's engaging on one or less drinking session in a week. This is a high number as the study aimed at recruiting participants that engaged in a minimum of two drinking sessions per week. Another interesting finding is that no participants engaged in three or more drinking sessions per week, which is extremely low considering 39 out of 50 were participants, which are stereotyped as belonging to a culture of binge drinking.

The levels of alcohol consumption provided interesting statistics. Only three participants consumed six or less drinks on average during a drinking session. This is the limit set by ALAC as a safe and responsible number of standard drinks to consume. Exceeding this limit is considered binge drinking for both male and female in New Zealand. Seventy-two percent of the female sample group consumed over ten standard drinks in an average drinking session. This is three times the limits set by ALAC for female consumers. In addition to this finding, the male statistics were more surprising. Ninety-six percent of the male sample consumed, on average, more than ten drinks per drinking session. Interestingly 88 percent of the male sample consumed 13 or more standard drinks which is at least double the limit set for the male consumer by ALAC. These statistics are high. The number of drinking sessions for both sexes and the number of standard drinks per drinking session are of dangerous levels.

The effects of these drinking behaviours were evident in the results as well. Thirty-one participants passed out at least once during the last year due to binge drinking. Females had a higher pass-out rate than males, despite consuming less standard drinks per session. However, females often consumed triple their drinking limits level, and males doubled theirs (as defined by ALAC), suggesting a positive correlation between drinking behaviours and passing out. Four females passed out four times during the last year compared no males. Surprisingly no subjects passed out five or more times during the last year. This is

astounding considering the high levels of alcohol consumption, and regular binge drinking sessions.

The high levels of consumption also led to a high rate of vomiting during and/or after consuming high amounts of alcohol. Only seven participants did not vomit at all during the last year. With the high levels of alcohol consumed, a lower number was expected. Despite this, 47 participants vomited at least once during the last year, with 20 vomiting five or more times during this period. Once again females had a higher rate of vomiting following a drinking session compared to their male counterparts. Their statistics almost doubled that of the male samples.

The perceived aggression level statistics gathered support the findings discussed earlier in regards to alcohol and aggression. The effects of the alcohol on males and females were noticeably contrasting. In total 21 participants felt no different or felt less aggressive. Sixteen females fell into this category, compared to only five males. Twenty-nine participants, 20 male and 9 females, suggested feeling more aggressive/much more aggressive. The male sample group was drastically higher compared to the female statistics. This result suggests that alcohol has a greater influence on males compared to females in regards to aggression. Comparing this finding around perceived aggression with the number of times participants became aggressive during the last year also provided a positive correlation. Twenty-five subjects never became violent during intoxication. Of this group 20 were female and only five were males. Twenty five males became violent at least one time compared to only five females. Overall 80 percent of males became violent one or more times, compared to 20 percent of the female group. This finding directly correlates with table 3.12 in regards to perceived aggression during intoxication. Table 3.12 and Table 3.13 suggest that alcohol has a direct relationship to male levels of aggression, with minimum effects on females.

Seven participants were arrested for reasons of intoxication or behaviour which occurred as a result of being under the influence of alcohol. Six of these were males compared to only one female. This could possibly be attributed to behavioural issues, such as violence or disorderly behaviour in public, which would once again show a relationship with Table 3.12 and Table 3.13. Future research could allow a greater understanding of behaviours which have occurred whilst under the influence of alcohol.

Overall females consumed more standard drinks exceeding their limit by ALAC compared to males; males consumed more standard drinks compared to females, but only doubled their ALAC limits for binge-drinking. The effects on females were more physiologically evident, compared to psychological/behavioural. This was the opposite for the male sample.

Alcohol Use Questionnaire

The Alcohol Use Questionnaires (AUQ) illustrated dangerous levels of drinking. Once again the male sample group scored higher than the female sample group. On average the male sample fell into one category higher risk than the female group. These results suggest that the average female participant has some of the risk factors that are consistent with alcohol abuse and/or dependence. The male sample group fell into this category suggesting that, their drinking behaviours are consistent with others who report problems with alcohol/alcohol dependence. Looking at the averages of the groups is a bit misleading as there are some outliers which altered the reliability of these statistics. For the entire group the highest score obtained was 20, scored by a male. The lowest score was zero which was also obtained by a male. This would have significantly impacted the average score for this group. Similarly the female sample had some outliers, as the highest score obtained was 19, and the lowest score was one. Interestingly the spread between the male and female group was not

big, despite it dividing them into two categories. This is shown by their combined average which is 11.2, which borderlines two categories of risk.

Judging the drinking behaviours and patterns, the male sample was destined to score higher on the AUQ than the female sample. This tool of assessment needs to be adjusted to fit with the different sexes, as drinking limits are considered to be different for males and females. This was not taken into consideration in this assessment. The points attributed to the questions were not adjusted for the sexes of the participants, causing males to scores higher than females, irrespective of the fact that females often tripled their drinking limits, compared to males only doubling their limits. This was backed up by the fact that two males and no females scored between 20-25, falling into the highest risk category. Twice as many males (males n=16, females n=8) fell into the second highest category of risk compared to females. Once again this statistic is hard to analyze as the assessment does not cater for the different sexes. It would be more valid if the categories and totals symbolised different levels of risk for the different sexes, as drinking limits are different for males and females. The female sample dominated the lower levels of risk categories despite the fact that their alcohol consumption compared to ALAC's binge drinking guidelines were much higher (males n=7, females n=17).

Unsurprisingly almost 98 percent of participants indicated that the majority of their friends consumed alcohol. Only one person did not indicate this. This may be associated with the drinking culture within New Zealand, particularly amongst people between the ages of 18 and 30. Interestingly males felt that it was harder to enjoy parties and social events without the presence of alcohol. Almost 100 percent of males could not enjoy these events without alcohol, compared to approximately 60 percent of females. Another disturbingly high statistic was that 76 percent of the sample has had unprotected sex due to being intoxicated. It is assumed that this is due to being intoxicated, as there is an abundance of education around

this issue. Forty-one participants missed work or school due to having a hangover. This statistic seems extremely high, but once again more research needs to be done into the ratio of times this has occurred compared to the number of times drinking. The fact that the physiological effect of alcohol impacts an individual's daily routine in such a manner is rather disturbing. The fact that being hung-over could negatively impact and burden an individual's everyday life and daily routine is harmful and damaging both personally and socially. In general the questions were rather closed ended, which lacks validity for more in depth research. Also the limited questions decrease reliability. The most significant limitation is the fact that the questionnaire is not balanced, scaled and adjusted to cater for the different sexes, hence not providing an accurate method to draw meaningful conclusions in relation to the scores obtained.

Alcohol Use Identification Test

The Alcohol Use Identification Test (AUDIT) did show a high average score for the male participants (17.76), and once again showed a relatively low average for the female group (13.8). These scores, similarly to the AUQ were not scaled differently for the different sexes. This factor raises an issue with test validity. The AUDIT uses the same points scale system, and zone/level classification method for both males and females.

The AUDIT scored the females on average lower than the males, despite the fact that their levels of drinking compared to ALAC's definition of binge drinking were worse. Approximately one fifth of the participants fell in the highest zone of risk (Zone 4). Once again the majority were males. Majority of females scored within the lowest two zones of risk.

Mood Scales

In regards to the previous methods of analysis discussed, in my opinion the self-rating mood scales were the best and most accurate method of analysis administered. The rationale behind this is that the self-rating scales provided a daily comparison which allowed patterns and trends to be discovered. The self-rating scales also provided the participants with a scale of measuring each variable independently. The self-rating mood scales were important in allowing the researcher to get an accurate picture of the effect of alcohol on participants' mood levels and sense of well-being. Unlike the other tools of analysis, the mood scales limit the chance of simply categorising and grouping participants. The mood scales increased validity and reliability as it catered for individual responses, and was not affected by gender difference.

The results yielded similar findings as past research completed in this area of study. Each of the mood rating scales showed a similar relationship between the number of standard drinks consumed, and its negative effect on mood levels, anxiety and depression. Despite correlations being evident, statistically they were rather weak. None of the R-square values were over .5. Possible explanations to this could be that there were multiple outliers which affected the line of best fit.

Previous research on the effect of alcohol on sleep disruption was similar to this study's findings. However, the correlation between the number of standard drinks consumed and the number of hours asleep was weak, although still significant. This could have been explained by participants estimating these hours, and not really being aware of what time they went to sleep and what time they woke up. In addition to this, there was no consideration for the quality of sleep and any disrupted sleep. In future, understanding individual body clocks and sleeping patterns also needs to be researched. Despite these flaws, the effects of

minor changes in sleep patterns should be taken seriously as this could have significant health implications.

Interestingly the weakest, yet significant correlation was between the number of standard drinks and anxiety levels. Past research suggests that increased anxiety is a common effect after consuming excessive amounts of alcohol. A possible explanation for this low statistical result could be that participants were not aware of the symptoms associated with anxiety. Also the negative stigma associated with being anxious could have altered respondent's answers. In future providing definitions could improve this language issue. In addition to this, asking leading questions, which will allow the researched to gauge whether possible symptoms of anxiety are present will be effective.

The statistical correlation between alcohol consumption and depression was higher compared to anxiety. It was once again significant, but rather weak. Depressive symptoms were a major factor in past research; however the statistics in this research study was contradictory. Once again this could be explained by the stigma associated with depression, and participants answering untruthfully. Another factor could have been that the participants were not educated in regards to what depressive symptoms are, hence not able to fully judge their mood.

Interestingly the three mood rating scales which had the highest responses were emotional, physical and daily overall mood rating. These were all significant. The respondents could easily relate to these categories, and the negative stigmas surrounding these areas were not at great.

Interviews

As discussed in Chapter 1, the literature studied strongly supports the theory that binge drinking causes problematic physiological effects such as headaches and sleep

deprivation. Swift & Davidson(1998); Wiese et al. (2000); Harburg et al., (1981) all concluded that excessive drinking was directly related to alcohol induced headaches and disturbances in sleep patterns, leading to severe sleep deprivation. Verster et al., (2003) and Calder (1997) also provided similar findings to these. It would appear that the findings of the present study are consistent with the literature discussed earlier in relation to participants experiencing headaches and sleep deprivation. The physical mood scales were also much lower which once again strongly supports the qualitative data gathered. So, in summary the qualitative data and the quantitative results support these two areas of concern. The interviews suggest that dehydration is a common factor in binge drinking. Participants seemed to 'expect' headaches the morning after a big drinking session. They talked about knowing which types of alcohol had a worse effect on their headaches, and seemed to accept this consequence as part of drinking. It was perceived as a small price to pay for a good night out. Participants spoke candidly about feeling lazy and unmotivated which could have a direct relationship to sleep pattern disturbances. Being accurate with the sleep patterns is vital in this area of research, which could have been effected as participants only estimated their sleeping hours due to being intoxicated and not fully aware. Both male and female samples had experienced this and it was not over or under-represented in either group.

As mentioned earlier multiple methodologies have led to mixed conclusions. Some studies have found that low dosages of alcohol are associated with increases in positive effects such as happiness and elation (Ekman et al., 1963; Goldberg, 1966; Hartocollis, 1962; Jones, 1973; Kastl, 1969; Smith, Parker, & Noble, 1975; Tamerin&Mendelson, 1969). Other studies (Mayfield, 1968; Mayfield & Allen, 1967; Williams, 1966) have yielded data that more closely coincide with the popular tension reduction hypothesis of alcohol consumption (Conger, 1956), namely, that anxiety and depression are reduced following alcohol ingestion. Yet, at higher dosages, alcohol has been found to increase negative effects (Tamerin, Weiner, & Mendelson, 1970; Warren & Raynes, 1972; Williams, 1966). More recent studies support

the latter, suggesting that binge drinking lowers mood levels and cause participants to feel somewhat depressed and 'down'. These findings are strongly supported in the present study's findings. The interviews overwhelmingly supported the research discussed earlier in regards to alcohol and mood disturbances. This was backed up by the quantitative data collected in relation to this topic. It is also theorised that lack of sleep or physical wellness can affect mood and the sense of well-being. It is also commonly known that alcohol is a depressant; hence it was easy for participants to identify and relate this this consequence to their drinking behaviours. Once again both sexes were represented in the area of interest. There was no skewed or contradicting effect between the two sexes.

Literature reviewed earlier stated that alcohol intoxication has been linked to many types of aggression, such as assault (Myers, 1982), wife abuse (Gayford, 1975), and rape (Johnson, Gibson, & Linden, 1978). Taylor and Leonard (1983) deduced that a strong positive relation exists between alcohol dose and physical aggression. In the earliest article, Steele and Southwick (1985) investigated the effects of alcohol on social behaviour in general. Of the 35 articles used in the meta-analysis, 14 examined the relation between alcohol and aggression. Steele and Southwick (1985) concluded that alcohol can increase aggression by reducing inhibitions. In conclusion, the results of the review indicate that alcohol does indeed facilitate aggressive behaviour. These studies suggest that combination of physical and psychological effects caused by alcohol tends to strongly correlate with aggressive behaviour. The findings in the present study supported the previous literature discussed however was overwhelmingly skewed towards the male population. Almost every male interviewed had experienced aggressive behaviour whilst intoxicated. It seemed to be a 'macho' behaviour to go hand-in-hand with being drunk. This could have a direct correlation to lowering mood levels and could be an area of future research. Interestingly almost none of the females had experienced becoming aggressive due to being intoxicated. Generally the

female sample became more placid. The fact that males consumed more alcohol could have had an effect on them becoming more aggressive and losing control.

Interestingly the interviews highlighted an unforeseen finding, which is an area of great importance. The female sample had obvious negative associations with intoxication and sexualized behaviors. This area was prominent in the interviews in relation to negative effects of binge drinking, however was rarely highlighted by the male participants. The female sample often experienced unwanted sexual attention from males who were also intoxicated. They strongly associated being intoxicated with making poor judgment calls in regards to sexual behaviors and believed increased risk were taken sexually due to this. This finding is supported by Abbey et al, (1998). The study concluded that alcohol increase the likelihood that a man would misperceive a female companion's sexual intentions, and that this misperception would lead to sexual assault. Additional findings by Muehlenhard et al, (1987) and Morojele et al. (2005) supported this finding as well. The findings indicated that a major risk factor in sexual aggression is alcohol consumption and being intoxicated. Many females had experienced unwanted sexual experiences as a result of alcohol. Both studies pointed to strong links between alcohol consumption and sexual risk behaviour.

Limitations

This study had a number of limitations which will be identified throughout this section. The study's overall sample size was small. This was compounded by a high drop out rate. In addition to this, nine participants did not complete the thirty- day rating scales. This would have negatively impacted the study's statistical power in relation to reliability, however all participants completed the initial background questionnaires. An added methodological limitation is the low number of interviews carried out (n=10). This limited the amount of qualitative data collected for analysis. Increasing the number of interviews

would have increased the amount of qualitative data collected. This could have helped to provide a wider range of experiences, opinions and could provide interesting data for analysis. Increasing the spread of occupations, religions and ethnicities would have been desired. Overall, a larger sample size would have been desirable, as it would have increased the robustness of the findings.

Another methodological problem with the present study was the fact that there would have been an issue with accuracy around the number of standard drinks consumed, and often estimates would have been reported. In addition to this, answering some questions truthfully could have been another area of concern, as participants may have attempted to present themselves in a more positive light. The settings and time lines for completing each day's scale were not consistent for each participant and this might have affected respondents' answers as well.

In regards to the AUDIT and the AUQ, the scales and questions were very categorical which limited individual and gender differences. The questionnaires did not take into consideration the different drinking limits for different sexes, or ages. Creating gender specific norms on the questionnaires scales would enable the test results and scales to be more valid. This is necessary as males and females have different limits considered as binge drinking. This requires the scales of risk to match the number of drinks considered to be dangerous for each gender separately and specifically. Also clinical judgment should be exercised in cases where the participants score is not consistent with other evidence, or if the patient has a prior history of alcohol dependence. It may also be instructive to review the patient's responses to individual questions dealing with dependence symptoms (Questions 4, 5 and 6) and alcohol-related problems (Questions 9 and 10). Provide the next highest level of intervention to patients who score 2 or more on Questions 4, 5 and 6, or 4 on Questions 9 or 10.

Finally the study was aimed at a specific group of alcohol consumers (binge-drinkers). The study successfully attracted individuals who had a high tendency for binge drinking. Hence, it may not be a representative sample.

Future Research Suggestions

Increasing sample size in future research would provide greater statistical power for analysis. In addition to this increasing ethnic diversity would amplify the validity. Comparing ethnicities and effects on mood and behaviour would be an interesting area of research.

Focussing on areas surrounding the effects of alcohol on consumers' behaviours, such as aggression is vital. Understanding these consequences of drinking could be beneficial in controlling negative behaviour resulting from excessive drinking. This could include researching different types of alcohols and finding whether there is a direct correlation or difference in regards to behavioural responses.

Conclusion

In conclusion, it is apparent that the findings of the present study did support the hypotheses stated. A relationship was evident in the study. Despite this the correlations between the number of standard drinks consumed and the mood rating scales were relatively weak. Each if the correlations were significant. This was true for the relationship between the standard drinks consumed and the participants' anxiety rating levels, depression rating levels, emotional, physical and overall ratings scores over the 30 day period. The results did match the findings of previous research carried out. As mentioned before, these findings were all significant enough to support the hypotheses of this research project.

In addition to this, the hypothesis in relation to alcohol's effect on aggression was also only partly supported. The statistical results showed that the male sample had become more

aggressive whilst under the influence of alcohol. The female sample did not show aggressive behaviour whilst under the influence of alcohol. These two findings were supported by the qualitative findings discovered during the interviews. Males were more inclined to become violent whilst intoxicated compared to females. Males had a history of at least one or more violent altercations whilst drunk.

The qualitative analysis provided five clear themes within the interviews carried out. The first pattern consisted of the negative effects binge drinking has on society and how it is part of New Zealand culture. This included themes surrounding social acceptance, the impact on families, crime and so forth. The second pattern consisted of negative experiences, experienced by the participants and its commonness within the culture of binge drinking. These predominantly included sexual experiences. The third area uncovered was based around behavioural issues which occur whilst intoxicated. This focussed on elements such as violence and aggression mainly. The fourth pattern consisted of health issues and supported the earlier findings in relations to alcohols destructiveness in regard to wellbeing. These looked at physical effects caused by dehydration, sleep deprivation and lost appetite to name a few. The fifth and last pattern found was psychological effects caused by binge drinking. This was a major area of interest and supported all findings included in this research paper. Psychological elements drastically affected and commonly experienced by all interviewees were areas of motivation, low levels of mood and other depressive symptoms. The qualitative findings supported previous research completed and their findings.

A number of limitations were present in the research carried out. This included a low sample size compounded by a high dropout rate and a low number of interviews conducted. In addition to this the accuracy and truthfulness of information provided by the participants in relation to standard drinks and hours slept were also of concern and questionable. Finally the

accuracy and validity of the AUQ and AUDIT questionnaires across the two sexes were also deemed a possible limitation.

Understanding some of the present study's methodological problems and inconsistencies, it is still important to point out that there was a relationship evident, despite being weak, between alcohol and depression, anxiety, emotional mood, physical mood and overall daily mood rating.

To increase validity and reliability in similar future research carried out a number of suggestions were made. These include increasing the sample size and diversity the participants' selection process. Completing comparative studies between the sexes and ethnicities would also be of great interest. In addition to this focussing on the relationship between alcohol and aggressive behaviour would also be recommended for future research. .

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Appendix A: Participant Information Form

This appendix contains the research projects information, and participants' rights in regards ethical guidelines.

Participant Information.

The effect of binge drinking on an individual's mood over a 30 day period.

The research project looks at binge drinking and its effect on people's mood levels. Binge drinking is considered to be 6 standard drinks for males and 4 standard drinks for Females in one drinking session. There is a lot of research in regards to drinking and its effects on people physically, however psychological effects such as mood continuously being researched. This research project focuses on the effect on mood levels after consuming alcohol in large amounts. It looks at how alcohol lowers or increases mood levels and how long these mood levels remain for. The benefit of being part of this research project is that it will help you as an individual's to gauge your drinking and possibly have a closer look at how it affects your everyday life. It will provide the necessary information to allow us to gauge the impact that binge drinking has on peoples mood and to what extent it impacts people's lives. The experiment runs for approximately 30 days with multiple questionnaires, rating scales and interviews to be completed. Please read below for more information and requirements:

- Please answer all questions as honestly and accurately as possible.
- Data gathering methods will include:
 - 1) Background questionnaire - Completed on Day 1
of 30
 - 2) Alcohol Use Questionnaire (AUQ) - Completed on
Day 1 of 30
 - 3) Alcohol Use Disorders Identification Test (AUDIT) - Completed on
Day 1 of 30
 - 4) Daily Mood Rating Scale - Completed Daily
 - 5) Only 10 participants will be selected to take part in a - Selected

Randomly over the 30 day period.

60 minute one-on-one interview

- **ALL** information gathered will be confidential
- **NO** personal names will be recorded at all as each participant will be provided a “code”
- Until the start of the data analysis you may withdraw from the research project
- There are **NO** right or wrong answers to any questions asked
- The research will not negatively impact any religious, cultural and ethnic groups
- All information gathered will be destroyed once the research has been completed
- Ethics has been approved by the School of Psychology Ethics Committee.
- If you have any concerns about this project you may contact the convenor of the committee(Dr. Robert Isler – Email: r.isler@waikato.ac.nz)

Appendix B: The Completed Background Questionnaire

This appendix contains the general background questionnaire, which consisted of 14 items, that was used to gain qualitative and quantitative data for analysis.

Questionnaire and Background Information.

- This questionnaire is interested in participants' personal background information.
- This questionnaire is focussed around attitudes towards binge drinking and drinking behaviour.
- This questionnaire is entirely anonymous
- Please answer all questions by either circling or responding to the category that most accurately reflects your view.
- Please note that there are no right or wrong answers, and that all your responses will be confidential. Thank you for your time and honesty.

1. What is your current age? (Please tick appropriate response)

- | | |
|-----------------------------|-----------------------------|
| 18 <input type="checkbox"/> | 25 <input type="checkbox"/> |
| 19 <input type="checkbox"/> | 26 <input type="checkbox"/> |
| 20 <input type="checkbox"/> | 27 <input type="checkbox"/> |
| 21 <input type="checkbox"/> | 28 <input type="checkbox"/> |
| 22 <input type="checkbox"/> | 29 <input type="checkbox"/> |
| 23 <input type="checkbox"/> | 30 <input type="checkbox"/> |
| 24 <input type="checkbox"/> | |

2. What is your current occupation? (Please respond in the space provided)

3. To which one of the following ethnic groups do you consider you to belong? (Please tick appropriate response)

- NZ/European/Pakeha
- NZ Maori
- Pacific Island group (e.g. Samoan, Tongan, Fijian etc.)
- Other: Please Specify: _____

4. Sex? (Please tick appropriate response)Male Female **5. Do you have any religious belief? (Please tick appropriate response)**Yes No **If 'Yes' – Please specify your current religious belief:**

Alcohol Consumption Information:**6. Do you have any family history in regards to alcoholism/alcohol dependence or alcohol related diseases? (Please tick the appropriate response)**Yes No **7. Does either of your parents regularly engage in binge drinking? (Please tick the appropriate response)**Yes No **8. On average how often would you engage in binge drinking in a normal week? (Please tick appropriate response)**

- One (1) binge drinking session per week
- Two (2) binge drinking sessions per week
- Three (3) binge drinking sessions per week
- Four (4+) or MORE binge drinking sessions per week

9. On average how many standard drinks would you consume in a typical drinking sessions? (Please tick appropriate response)

- 3 or under
- 4 – 6
- 7 – 9
- 10 – 12
- 13 – 15
- 15 +

10. Within the last year how many times have you passed out due to excessive drinking? (Please tick appropriate response)

- Never
- Once
- Twice
- Three Times
- Four Times
- Five times or more

11. Within the last year how many times have you vomited due to excessive drinking? (Please tick appropriate response)

- Never
- Once
- Twice
- Three Times
- Four Times
- Five times or more

**12. When consuming alcohol what effect does it have on how aggressive you feel?
(Please circle appropriate response on the 5-point scale shown below)**

- 1 = Feel Much Less Aggressive
- 2 = Feel Less Aggressive
- 3 = No Difference in my Level of Aggression
- 4 = Feel More Aggressive
- 5 = Feel Much More Aggressive

13. Within the last year how many times have you become violent due to excessive drinking? (Please tick appropriate response)

- Never
- Once
- Twice
- Three Times
- Four Times
- Five times or more

14. Have you ever been arrested due to being intoxicated/or due to behaviour which occurred as a result of being intoxicated? (Please circle: Yes or No)

- Yes
- No

Appendix C: The Alcohol Use Questionnaire (AUQ) and the Alcohol Use Disorders
Identification Test (AUDIT)

This appendix contains The Alcohol Use Questionnaire (AUQ) and the Alcohol Use Disorders Identification Test (AUDIT), which was incorporated within the general questionnaire of study. The AUQ consisted of 10 True and False questions in regards to alcohol consumption. The AUDIT consisted of 10 questions with value-associated answers that provided a total score in regards to drinking behaviours.

Alcohol Use Questionnaire.

This questionnaire will help to gauge your drinking habits and whether or not they are cause for concern. Please read the following statements and tick the appropriate response.

- 1) **The majority of my friends drink alcohol.**
True False

- 2) **I am able to enjoy parties or social events where alcohol is not served.**
True False

- 3) **I have never been arrested for drunk driving.**
True False

- 4) **I have had unprotected sex because I was intoxicated.**
True False

- 5) **On more than one occasion I have said, “I don’t drink more than anyone else.”**
True False

- 6) **On more than one occasion I have missed work or school because of a hangover.**
True False

- 7) **I have a family history of alcoholism.**
True False

- 8) **I can drink more than most of my peers.**
True False

- 9) **It takes much more alcohol for me to “catch a buzz” now than when I started drinking.** True False

- 10) **I have tried to cut down on my drinking but it didn’t last very long.**
True False

Alcohol Use Disorders Identification Test (AUDIT)

<p>1. How often do you have a drink containing alcohol?</p> <p>(0) Never [Skip to Qs 9-10] (1) Monthly or less (2) 2 to 4 times a month (3) 2 to 3 times a week (4) 4 or more times a week</p> <p style="text-align: right;"><input style="width: 40px; height: 20px;" type="text"/></p>	<p>6. How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?</p> <p>(0) Never (1) Less than monthly (2) Monthly (3) Weekly (4) Daily or almost daily</p> <p style="text-align: right;"><input style="width: 40px; height: 20px;" type="text"/></p>
<p>2. How many drinks containing alcohol do you have on a typical day when you are drinking?</p> <p>(0) 1 or 2 (1) 3 or 4 (2) 5 or 6 (3) 7, 8, or 9 (4) 10 or more</p> <p style="text-align: right;"><input style="width: 40px; height: 20px;" type="text"/></p>	<p>7. How often during the last year have you had a feeling of guilt or remorse after drinking?</p> <p>(0) Never (1) Less than monthly (2) Monthly (3) Weekly (4) Daily or almost daily</p> <p style="text-align: right;"><input style="width: 40px; height: 20px;" type="text"/></p>
<p>3. How often do you have six or more drinks on one occasion?</p> <p>(0) Never (1) Less than monthly (2) Monthly (3) Weekly (4) Daily or almost daily</p> <p><i>Skip to Questions 9 and 10 if Total Score for Questions 2 and 3 = 0</i></p> <p style="text-align: right;"><input style="width: 40px; height: 20px;" type="text"/></p>	<p>8. How often during the last year have you been unable to remember what happened the night before because you had been drinking?</p> <p>(0) Never (1) Less than monthly (2) Monthly (3) Weekly (4) Daily or almost daily</p> <p style="text-align: right;"><input style="width: 40px; height: 20px;" type="text"/></p>
<p>4. How often during the last year have you found that you were not able to stop drinking once you had started?</p> <p>(0) Never (1) Less than monthly (2) Monthly (3) Weekly (4) Daily or almost daily</p> <p style="text-align: right;"><input style="width: 40px; height: 20px;" type="text"/></p>	<p>9. Have you or someone else been injured as a result of your drinking?</p> <p>(0) No (2) Yes, but not in the last year (4) Yes, during the last year</p> <p style="text-align: right;"><input style="width: 40px; height: 20px;" type="text"/></p>
<p>5. How often during the last year have you failed to do what was normally expected from you because of drinking?</p> <p>(0) Never (1) Less than monthly (2) Monthly (3) Weekly (4) Daily or almost daily</p> <p style="text-align: right;"><input style="width: 40px; height: 20px;" type="text"/></p>	<p>10. Has a relative or friend or a doctor or another health worker been concerned about your drinking or suggested you cut down?</p> <p>(0) No (2) Yes, but not in the last year (4) Yes, during the last year</p> <p style="text-align: right;"><input style="width: 40px; height: 20px;" type="text"/></p>
<p>Record total of specific items here <input style="width: 40px; height: 20px;" type="text"/></p> <p><i>If total is greater than recommended cut-off, consult User's Manual.</i></p>	

Appendix D: Daily Mood Rating Scales

This appendix contains an example of a Daily Mood Rating Scale which was filled on over 30 consecutive days. This form consisted of information regarding: number of standard drinks consumed previous day, types of alcohol consumed and number of hours asleep. The rating scales consisted of: Anxiety Rating, Depression Rating, Physical Mood Rating, Emotional Mood Rating and Overall Daily Mood Rating. There was also room for additional comments.

Mood Scale

Day 1 / Date: _____

Number of standard drinks consumed the previous evening: _____

Types of alcohol consumed (Please circle – More than one may be circled): Wine /
Spirits / Beer

Number of hours of sleep: _____

Rating Scale:

Please indicate on the scales below you level of rating based on '1' being no level of mood felt/experienced and '5' being high level of mood felt/experienced.

Anxiety Rating

1	2	3	4	5
(No anxiety)				(High level of anxiety)

Depression Rating

1	2	3	4	5
(No depression)				(High level of depression)

Please indicate on the scales below your level of rating based on '1' being very low (negative) and '5' being very high (positive) level in regards to headings below.

Physical Mood Rating:

1	2	3	4	5
(Very low)				(Very high)

Emotional Mood Rating:

1	2	3	4	5
(Very low)				(Very high)

Overall Daily Mood Rating:

1	2	3	4	5
(Very low)				(Very high)

Comments: Other possible reasoning for high/low mood rating: eg. Other drugs consumed, illness, death etc.

Appendix E: Individual Interview Consent Form and Interview Schedule

This appendix consists of the Interview Consent form which provided participants with their rights in regards to taking part in the research. This appendix also contains the interview schedule which consisted of four topics: personal questions, alcohol related questions, attitudes towards binge drinking and mood factors due to binge drinking. This measurement was used to provide more detailed qualitative data for analysis.

Individual Interview Consent Form.
The University of Waikato
Psychology Department

The effect of binge drinking on an individual's mood over a 30 day period

Rickardt van Dyk
Dr. Jo Thakker
 027 303 3089

rgv1@waikato.ac.nz or jthakker@waikato.ac.nz

I am a student at the University of Waikato, and I am conducting interviews for my Master's Thesis. I am studying the effects of binge drinking on an individual's mood over a 30 day period.

During this study, you will be asked to answer some questions regarding your drinking behaviour and the effects it has on your mood and sense of well-being. This interview was designed to be approximately one hour in length. However, please feel free to expand on the topic or talk about related ideas. Also, if there are any questions you would rather not answer or that you do not feel comfortable answering, please say so and we will stop the interview or move on to the next question, whichever you prefer.

All the information will be kept confidential. I will keep the data in a secure place. Only myself and the faculty supervisor mentioned above will have access to this information. Upon completion of this project, all data will be destroyed or stored in a secure location.

Participant's Agreement:

I am aware that my participation in this interview is voluntary. I understand the intent and purpose of this research. If, for any reason, at any time, I wish to stop the interview, I may do so without having to give an explanation.

The researcher has reviewed the individual and social benefits and risks of this project with me. I am aware the data will be used in a Master's Thesis that will be publicly available at the University of Waikato Library on the. I have the right to review, comment on, and/or withdraw information prior to the Thesis submission. The data gathered in this study are confidential with respect to my personal identity unless I specify otherwise. I understand if I have the right to edit the interview transcript after I have completed the interview to edit any information provided. I have been provided with an interview schedule and sample questions which have provided me with an idea of the types of questions I will answer.

If I have any questions about this study, I am free to contact the student researcher or the Supervisor. If I have any questions about my rights as a research participant, I am free to contact the convenor:
 Dr. Robert Isler – r.isler@waikato.ac.nz.

I have been offered a copy of this consent form that I may keep for my own reference. I have read the above form and, with the understanding that I can withdraw at any time and for whatever reason, I consent to participate in today's interview.

 Participant's signature

 Date

 Interviewer's signature

Individual Interview Schedule.

Research Topic: The effect of binge drinking on an individual's mood over a 30 day period.

The interview will consist of a mixture of closed and open-ended questions to collect the appropriate qualitative data.

Main Topics to be covered (General Questions):

Introducing the Research Topic:

- The interview topics covered are related to binge drinking, mood, and attitudes towards consuming alcohol. It covers experiences and drinking behaviour as well. The interview also included personal and background information.
- The research looks at the effect binge drinking has on an individual's mood over a 30 day period.

Reassurance to all Participants:

- Ensure all participants know that there are no 'right' or 'wrong' answers and that his/her responses will be confidential.
- All information will be kept confidential and no personal information will be mentioned used.
- Remind participant that he/she can withdraw at any time during this interview.

Topic 1: Personal Related Questions:

- What is your current age?
- Are you male or Female?

Topic 2: Alcohol Related Questions:

- How old were you when you started drinking alcohol regularly?
- What do you consider binge drinking to be?
- On average how often do you engage in binge drinking during a week?
- Why do you binge drink?
- Have you ever been involved in a physical confrontation due to binge drinking? If 'Yes' - Please explain?
- Have you ever become physically sick due to consuming too much alcohol? If 'Yes' - How regularly?
- Which types of alcohol do you consume?
- Have you got any family history related to drinking issues or alcoholism? If 'Yes' - Please elaborate?

Topic 3: Attitude towards Binge Drinking:

- What do you think of New Zealand's Binge Drinking culture?
- Do you think that Binge Drinking has a negative effect on society? If 'Yes' - How?
- Do you think Binge Drinking should be controlled more strictly?
- What are your views on health related effect due to Binge Drinking?

Topic 4: Mood Factors due to Binge Drinking:

- Have you ever consumed excessive alcohol due to have low mood, hoping it would increase your mood? If 'Yes' – How successful was this? How did it affect your mood level?
- Have you ever consumed alcohol and become depressed or had a decrease in mood levels? If 'Yes' – How did it affect your mood level? In what way did your mood level change?

- Please explain what is your mood like after a Binge Drinking session?
- What areas of your normal daily routine are altered, or which areas of your mood/feelings are generally different whilst being ‘hungover’?
- Do you believe alcohol improves mood or decreases mood levels the following day after a binge drinking session? Why would you say this?

Appendix F: Recruitment of Binge Drinking Participants

This appendix contains the poster and the social networking message that was utilised in order to acquire the correct participants.

Poster:

Do You Regularly Binge Drink?

I am currently writing my Master's Thesis and am interested in how binge drinking alters and effects peoples mood levels. The study will run for 30 days and will consist of multiple questionnaires and mood level scales to be completed. All information will be kept confidential. Read below and see if you fit the participant requirements.

So are you:

Male or Female?

Aged between 18 – 30?

Regularly engage in binge drinking...At least weekly on average?

Keen to gauge your drinking behaviour and mood for a 30 day period?

Answered YES to all above?

There will be no 'right' or 'wrong' answers and all information will be kept strictly confidential!

In order to explore some aspects further, I would possibly also have to interview some randomly selected participants.

If you are interested please contact me (Rickardt van Dyk) on - mobile: 027 3033089 or via email: rgv1@waikato.ac.nz

If you have any other enquiries regarding this research, you can also get in contact with my supervisor:

Dr. Jo Thakker – jthakker@waikato.ac.nz

Facebook Message:

Hey, I am currently writing my Master's Thesis and am interested in how binge drinking alters and effects people's mood levels. The study will run for 30 days and will consist of multiple questionnaires and mood level scales to be completed. All information will be kept confidential. Read below and see if you fit the participant requirements.

Male or Female? Aged between 18 – 30? Regularly engage in binge drinking...At least weekly on average? Keen to gauge your drinking behaviour and mood for a 30 day period?

Answered YES to all above?

There will be no 'right' or 'wrong' answers and all information will be kept strictly confidential!

In order to explore some aspects further, I would possibly also have to interview some randomly selected participants.

If you are interested please contact me (Rickardt van Dyk) on - mobile: 027 3033089 or via email: rgv1@waikato.ac.nz

If you have any other enquiries regarding this research, you can also get in contact with my supervisor:

Dr. Jo Thakker – jthakker@waikato.ac.nz



Appendix G: Complete Correlation Tables

This appendix contains the complete correlation tables (every measure in the present study correlated with every other measure) for the total sample.

Complete Correlation (Pearson's r) Table between every measure in the Total Sample.

		Number of Drinks	Overall Mood Rating	Anxiety Rating	Depression Rating	Emotional Mood Rating	Hours Asleep	Physical Mood Rating
Number of Drinks	Pearson Correlation	1	-.640**	.361**	.565**	-.604**	-.490**	-.597**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000
	N	1230	1230	1230	1230	1230	1230	1230
Overall Mood Rating	Pearson Correlation	-.640**	1	-.455**	-.624**	.866**	.310**	.832**
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000
	N	1230	1230	1230	1230	1230	1230	1230
Anxiety Rating	Pearson Correlation	.361**	-.455**	1	.656**	-.422**	-.300**	-.456**
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.000
	N	1230	1230	1230	1230	1230	1230	1230
Depression Rating	Pearson Correlation	.565**	-.624**	.656**	1	-.603**	-.252**	-.560**
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000
	N	1230	1230	1230	1230	1230	1230	1230
Emotional Mood Rating	Pearson Correlation	-.604**	.866**	-.422**	-.603**	1	.281**	.755**
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000
	N	1230	1230	1230	1230	1230	1230	1230
Hours Sleep	Pearson Correlation	-.490**	.310**	-.300**	-.252**	.281**	1	.349**
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.000
	N	1230	1230	1230	1230	1230	1230	1230
Physical Mood Rating	Pearson Correlation	-.597**	.832**	-.456**	-.560**	.755**	.349**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	
	N	1230	1230	1230	1230	1230	1230	1230

** . Correlation is significant at the 0.01 level (2-tailed).