

**An investigation into the neurological effects binge drinking has on  
Ireland's young adults.**

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## **Abstract**

The aim of the research is to analyse the variation in aggression, depression and sense of self control males and females experience during and after a period of binge drinking. The research was conducted quantitative study and consisted of 121 questionnaires. The results of the analysis of descriptive statistics showed that males experience greater levels of aggression than females and that females experience greater levels of depression than males during a session of heavy binge drinking. It was also discovered that similar levels of self control were recorded between males and females. The original hypotheses were largely in agreement with the recorded results.

## **Introduction**

The aim of this project is to examine the experiences, effects and attitudes of binge drinking among young adults. Binge drinking is a relatively new concept in modern society and has been portrayed as a negative aspect of social life in political circles, media programming and articles and in both urban and rural communities also. Substance abuse is thought to be a key factor in the prevalence of aggressive behaviour and depressive tendencies among young adults. This also is regarded as an issue caused by excessive alcohol consumption among young people. Bingeing at a young age can lead to many social, biological and psychological issues in later life.

Binge drinking in modern Ireland appears to be occurring more and more frequently among young adults. Bingeing is a particularly modern phenomenon which has come about due to a number of social and cultural issues present in society. The term “Binge”, according to the Oxford English dictionary has two specific connotations which are both used in defining the culture of alcohol consumption in Ireland. The first describes a binge as a period of uncontrolled eating, drinking etc... Many people would view this as an accurate description of their own personal perception. The Oxford English dictionary also defines bingeing as “going on a spree”. This is to say that bingeing can be associated with many forms of addiction and compulsion and also as a type of release mechanism. Binge drinking is categorised by the total consumption in a single drinking session. Males are said to binge drink if they intake more than five units of alcohol per occasion and females are said to binge drink if they exceed four units per occasion (Yalisove, 2004;102). Many other forms of categorising binge drinking have emerged and are usually based on the geographical location and the social status or stratification of a country. This is to say that no clear definition has emerged universally.

Binge drinking in particular has become the norm in many facets of society for young adults and studies and research in the area have aimed to examine the causes and effects of excessive alcohol consumption. Binge drinking can occur due to four main areas of life and lifestyle. These areas are biological makeup, psychological profile, sociological influences and cultural differences. Bingeing as a part of biology can be related to levels of tolerance and the human body's susceptibility to addiction. The primary basis for addiction is that "it requires a pattern of heavy drinking, and typically develops over a number of years" (Goldstein, 1994; 127). Bingeing in adolescence can enable this frequent intake of alcohol to develop into a serious problem such as addiction and escalate to new heights in later life. Many believe that addiction and bingeing may occur due to biological factors such as genetics. It is thought that genes play a large part in the attitudes and actions of individuals throughout their lives. This concept can allow for an individual's susceptibility to be led towards what are perceived as social stigmas such as binge drinking. The effects of heavy alcohol consumption with regards to genetic makeup can include depressive conditions such as bipolar and unipolar conditions emerging (Collins, Leonard and Searles, 1990; 39). These conditions lead an individual to experience a psychological imbalance. Individuals can experience changes in perceptions of their own lives such as euphoric sensations at one stage and suicidal tendencies at another stage. Studies aimed at analysing genetics with respect to alcohol consumption have provided inconclusive results. This can be due to individual variances and issues of age, sex and diet. Other biological influences such as liver changes and the liver's ability to process alcohol can lead to inconclusive results also (Collins et al, 1990; 39-40).

Psychological profiles are important when analysing binge drinking also. Studies carried out in America examined the causes of alcohol consumption and subsequent alcoholism from a biological perspective.

In Goodwin's book entitled "Is Alcoholism Hereditary?" one researcher, Vaillant examined drinking and alcoholism from a mental health angle and discovered that upbringing did not necessarily influence alcohol consumption.

He explained that "boyhood competence, warmth of childhood and freedom from childhood emotional problems-did not predict freedom from alcoholism". Psychological profiling is largely dependent on the individual and varies depending on those individuals past experiences and current state of mind. The susceptibility of alcohol consumption and subsequent necessity for bingeing may be somewhat psychologically relevant. Milgram's experiment demonstrated that humans cannot simply be programmed like computers and follow a simple mathematic type outline which would result in the same outcome for each individual in a certain situation. Instead individuals are simply individual. It is cognitive behaviour which exhibits tendencies and is the defining property in an individual's psychological makeup which allow for choices to be made (Brunas-Wagstaff, 1998; 101). This provides useful knowledge that no two people will make the exact same decision and this can be related to the notion of bingeing also. In many situations it is possible to assume that rationality and systematic decision making is not necessarily the case. Instead, it can be noted that many actions throughout one's lifetime can occur due to automatic reactions as opposed to a scientific method of analysing each task as it is presented (Nisbett and Ross, 1980, as cited in Brunas-Wagstaff).

Epidemiological surveys have provided evidence or many mental disorders present in young people associated with heavy alcohol consumption. These include anxiety, behavioural disorders and inflated rates of depression. These mental disorders have led to the increased substance abuse and experimentation and can have extremely detrimental effects in later life. This may have detrimental effects on the developmental processes of young people both mentally and physically (Baker and Velleman, 2007; 132-133).

It is possible to presume that aggression and depression become visible in a person during and after alcohol, however it can also be examined whether this aggression and depression is present in the individual initially and alcohol intake is simply acting as a form of catalyst. Rhode et al, 1996 discovered during a study that 50% of the participants who were alcohol dependent also suffered from an existing depressive disorder.

The connection between underlying depressive disorders and alcohol consumption can have detrimental effects on the individual and may eventually lead to suicide (Baker and Velleman, 2007; 134). Studies carried out in the area of cognitive behavioural therapy have managed to sharply reduce the recorded depression in females by reducing their alcoholic intake through a controlled 12-week programme using a placebo controlled environment (Baker and Velleman, 2007; 134). In order to reduce depression in adolescence the organisation SHADE in Australia aimed to analyse the individuals drinking habits and tackle it from there. This involved a series of semi structured counselling sessions and aimed to “prevent relapse to an acute episode of depression” and to “reduce the harm (mental and physical...) associated with problematic alcohol and other drug use” (Baker and Velleman, 2007; 139). This treatment continued on a ten session programme which aimed to increase a person’s understanding of the dangers of substance abuse. The study explained that it is easier to change a person’s perception of personal issues during adolescence and early adulthood. During this time the individual is at a stage of respect for themselves and others but also that the individual is non confrontational. The basis on which the individual is laboured somewhat and void of serious aggression enables the therapist to explore the problems to their fullest. These parameters make dealing with two major issues (depression and necessity for alcohol consumption) simpler with the individual becoming more accepting of help along with the self realisation that the issues are present and in need of address.

Cognitive therapy provides the final stage of recovery and realisation with regards to alcohol consumption and an underlying depressive condition. This occurs by explaining and altering an individual's outlook on all that they deem to be negative. Many believe that the solution to feeling depressed is to attempt to escape from the normality they face in daily life. This is where the alcohol consumption takes hold as it provides a route away from normality.

The theory derived from cognitive therapy is a method of enabling the individual to realise the problems they experience and logically understand that things may not be as bad as they seem (Baker and Velleman, 2007; 140).

Depression in young people is a common statistic and cognitive therapy may provide knowledge into the understanding of individual's conditions and issues. The study found that if these issues are dealt with at the earliest stage possible a positive solution is possible. In later life it may be difficult to address issues of alcohol abuse as individuals become more apprehensive to open up, realise that there is a problem and are prone to being more hostile.

Studies have also shown that alcohol consumption at a young age and the resulting binge drinking is largely based on and influenced by social factors. Among these social factors is the influence and history of an individual's family, which may be associated and linked to binge drinking among children and young adults. This can lead to excessive substance abuse and can cause addiction in later life (Crome et al, 2004; 95). Alcohol consumption within families has been noted as a primary causal factor of issues such as aggression and depression and may provide knowledge on similar issues in the youth binge drinking culture. Studies have found that alcoholism within the family unit is a large contributor to other family members becoming susceptible. This is very common among boys of alcoholic fathers. Robbins, 1966 declared that alcoholism was directly linked to antisocial personalities within young adults.

It is possible to locate difficulties with the aforementioned study as this degree of antisocial behaviour could have arisen from the alcohol within the family initially and is therefore not necessarily a factor leading to addiction.

Many social factors with regards to alcohol consumption are dependent on various aspects such as culture and geographical location. Studies conducted throughout America during the 1990s have shown that association to particular groups are causal factors associated with the beginning and continuation of binge drinking. One such social community in American universities was in fraternity and sorority houses. It was noted that high rates of binge drinking could be linked to these houses (Yalisove, 2004; 103).

Many issues of peer pressure and a sense of trying to find one's place within a particular social group can lead to heavy binge drinking in universities and communities. Bingeing is seen by many young adults as a method of participation in a socially constructed activity and environment.

A study was carried out in Andalusia around the area of masculinity and alcohol consumption. Andalusia is a region in Spain where the alcohol consumed is mainly wine. In recent times, beer and spirits have become common with the introduction of tapped beer as opposed to the previous bottled variety. It is regarded as a more social drink in the region. In Andalusia drinking is classified as being controlled with a need for etiquette with a strong reason required for abstaining from bar attendance. This frequently leads to competition and comparisons made between each males drinking capacity. It can be seen as a form of social peer pressure similar to that displayed in American fraternity houses. A failure to tolerate and maintain a lot of heavy drinking can result in an individual being classified as anti social or as a drunkard. This causes many complexities in an individual's personal image as well as self conscious. Individuals have been known to resort to drinking alone which is frowned upon also and regarded as a form of alcoholism. The social stigma surrounding what can be described as binge drinking in Andalusia can thus have detrimental effects on a person's behaviour.

Heavy binge drinking is permitted during the festival of the patron saint, Romerías. Women who, at any time appear to be tipsy or drunken, are regarded as prostitutes (Gefou-Madianou, 1992; 74).

Studies conducted in relation to parental and inter marital alcohol consumption aimed at analysing levels of hostility among adults. It was discovered that hostility and argumentative behaviour varied largely when analysing frequencies. It was noted that when varying nights of drinking and no-drinking that hostility was significantly higher than on nights of sustained drinking (Collins et al, 1990; 232-238).

Excessive alcohol consumption becomes a serious problem within the family and a solution is not entirely straightforward. Young adult children or youths of alcoholic parents are at risk of viewing alcohol as an escape route and this can lead to sustained bingeing from the children of alcoholics.

A study conducted in Britain to analyse the attitudes of young children to alcohol aimed to examine the individual's attitude to a number of areas around alcohol such as gender. It found that there is more tolerance for young males to drink as opposed to females and recorded figures showing that the average age for a young male to drink for the first time was significantly lower than that of his female counterpart (Aitken, 1978). A more recent study than this suggests that children of single female parents are less likely to take alcohol at a young age. It is believed that this may be due to the fact that the female parents recorded low levels of alcoholic intake. It can therefore be assumed that the cognitive behaviour in a young person's attitude to alcohol is directly related to his/her parent's attitude (Fossey, 1994).

In modern times in Ireland, due to economic and social factors such as the Celtic Tiger and the wealth associated with it, many members of the mainstream population have become accustomed to binge drinking. Studies carried out in 2000 discovered that the overall per capita consumption was 14.2 litres per person.

A 50% increase in spirit consumption along with double the amount of cider consumed may provide evidence that can explain the increase in binge drinking at this time. Alcohol abuse has been recorded at costing €2.4 billion annually according to the European Comparative Alcohol Study. This has excluded secondary costs which can include healthcare, health conditions, damage to property and car accidents to name a few ([www.alcoholireland.ie](http://www.alcoholireland.ie)). This heavy increase in consumption may arise from social factors, however it is also evident that the revenue generated from taxation of alcohol consumption in Ireland is an extremely necessary source of income for the government.

Figures published on [www.alcoholireland.ie](http://www.alcoholireland.ie) provide information on perceived aggression among the general population. It declares that “Alcohol-related offences increased by 30% between 2003 and 2007, from 50,948 to 66,406” and that “Almost half of the perpetrators of homicide were intoxicated when the crime was committed”. These figures suggest that alcohol is a primary causal factor related to serious crime and aggression in mainstream society nationally.

Research conducted in Britain around areas of binge drinking has drawn two main conclusions. It was discovered that binge drinking is potentially a contributory factor resulting in teenage pregnancies. This is of great concern as it has also been noted that binge drinking, even on a sub standard level can be detrimental to the baby. The study explained that developmental problems with regards to the foetus are common and this can be seen as alarming in many areas of the community. The reported pregnancies could possibly be linked to a lack of control or self awareness in young binge drinkers. One limitation to this study however is that it did not take into account the entire scale of the problem among substance abusers and binge drinkers as all of the participants in the study were school attendees. This leaves a large gap in research with regards to certain teens that are not attending school. In order to fully understand the scale of the perceived problem, teenagers that have left school for various reasons would need to be taken into account (Crome et al, 2004; 39).

Both medical and social studies on effects of heavy binge drinking have resulted in many key findings. Common harmful effects such as dependency in later life and malnourishment are the most common results of sustained binge drinking. The notion of dependency is alarming in many ways as studies have found alcohol dependency to be linked to homelessness and crime. This may suggest that self control is an issue and many perceive alcohol as a release mechanism or as a way of escaping from the monotony of everyday problems. Medically, binge drinking can lead to detrimental effects on the central and peripheral nervous systems.

These are neurological changes which in most cases are irreversible. One of the most commonly acknowledged medical findings among binge drinkers is Korsakoff's syndrome. Symptoms of the syndrome are short term memory loss accompanied with disorientation in place and time as well as confabulation and apathy (Crome et al, 2004; 109). Memory loss is one of the most common symptoms of chronic binge drinking and is directly related to depletion of the neurological system. Bingeing can also lead to many medical conditions including gastritis, ulcers and oesophageal varices.

The results of these conditions are digestion impedance and is directly related to nausea, vomiting and severe pain. This shows that binge drinking is putting pressure on many areas of society and is directly linked to stress on the medical services in Ireland.

Aggressive tendencies are common in a large proportion of males and alcohol can play a large part in exposing this aggression. "Alcohol has been cited as a contributory factor, which can lead to increased levels of aggression, in various types of studies" (Renfrew, 1997; 94).

This is not in agreement with all studies conducted on the issue of alcohol related aggression but can still be seen as a fundamental catalyst in exposing a certain degree of aggression in individuals. Renfrew, 1997 explains that although studies have struggled to categorically define the relationship with alcohol and increased aggression many studies have found that excessive alcohol use “results in a loss of inhibitions”. Berry and Brain, 1996, as cited in Renfrew, discovered that alcohol can be detrimental to the outer nerve cells. This “may result in an increase or decrease in many neurotransmitter processes” (Renfrew, 1997; 94). An altering in these neurotransmitters can be directly linked to increased discomfort for an individual and thus, lead to an increase in aggressive tendencies. As mentioned earlier crime studies in America have found that increased alcohol consumption is directly correlated with an increase in crime statistics. It is important to note that correlation does not necessarily mean causation (Renfrew, 1997; 94).

This is to say that although crime rises as alcoholic intake increases, secondary or tertiary factors may be affecting the overall outcome of the studies. An example of this would be perceived increased aggression in an individual who has alcohol in his/her system. Neurological deterioration may lead to a decrease in the sensory function or decreased motor skills. It is these impaired neurological functions which may provide an explanation for what is viewed as aggressive behaviour or increased frustration (Renfrew, 1997; 94).

The media has aimed to aggressively enforce the negative stigma surrounding binge drinking in order to reduce the problem. Drink Aware is an incentive created to visualise and make young adults more aware of the dangers of binge drinking. This has been done through their website and on television at prime time. Drink aware is largely involved with the major supplier of alcohol in Ireland-Diageo.

Many campaigns have been set up within Ireland to attempt to curb the scale of binge drinking. Two such initiatives are “The Rag Week Campaign” and the “Booze Myths Campaign” ([www.drinkaware.ie](http://www.drinkaware.ie)). Rag Week Campaign is aimed directly at students about the dangers of binge drinking and Booze Myths is directed towards eradicating hearsay about the effects of binge drinking. This is a government based plan to tackle binge drinking and has succeeded in portraying drinking to excess, however its effects to date have not had a major impact on the overall drinking culture present in Ireland. The revolutionary eradication of ‘happy hour’, which was used as a method of distributing alcohol at lower prices in Ireland in 2003, has been a promising addition to combating alcohol abuse among students and young people alike. It was introduced by the government as a fundamental way of combating binge drinking under the Intoxicating Liquor Act (The Irish Times, 08/08/03). Another initiative to decrease binge drinking was to introduce a law under the same act to punish publicans for serving a drunken person or allowing drunkenness in their bars (The Irish Times, 08/08/03).

Most research around the area of binge drinking in Ireland relates to the prevention and reduction in alcohol consumption. This can be seen to be a limitation in the overall study of alcohol abuse among young males and females. It is therefore necessary to analyse and examine psychological experiences around areas of aggression, depression and maintenance of control. These areas are seen as key in understanding and maintaining social norms and values. Examining aggressive behaviour may lead to crime reduction and security for others in modern Ireland. Depression studies examine areas of one’s psychological make-up and thus, can provide information on conditions which may only be visible during binge drinking.

It is also necessary to examine young adult’s experiences of a loss of control as this can provide insight into both aggression in the form of crime and also areas of depression and the usage of alcohol as an escape mechanism from the norms of society.

Five main hypotheses were formed in relation to the examining of aggression, depression and control based on the literature available.

They are as follows:

- It is hypothesised that there will be higher aggressive tendencies in younger males as opposed to older males during a session of binge drinking.
- It is hypothesised that there will be higher aggressive tendencies in males than in females during a session of binge drinking.
- It is hypothesised that there will be higher levels of depression in females than in males during a session of binge drinking.
- It is hypothesised that males will experience higher levels of self control than females during a session of binge drinking.
- It is hypothesised that frequent binge drinking will result in increased aggression in both males and females.

## Methodology

The aim of this research is to examine levels of aggression, depression and maintenance of control experienced by young adults during and after binge drinking. It is hoped that the perceived experiences could provide knowledge as to the ramifications of heavy binge drinking among young adults in Ireland.

### **Measures:**

Two areas which were deemed necessary to examine were both how a person views their own drinking habits with regards to binge drinking (Surveillance) and control maintenance with respect to heavy binge drinking.

(a) *Surveillance*. The surveillance subscale measures how frequently individuals would monitor their own personal aggression and how often they would regard depression as an issue during and after binge drinking. This subscale consists of 10 items for example; visible aggression among drinkers is common in Ireland. Responses are scored on a 5-point scale ranging from (1) 'strongly agree', (2) 'agree', (3) 'not sure', (4) 'disagree', and (5) 'strongly disagree'. Scores can range between 10 and 50 with higher scores indicating a higher level of personal aggression or depression.

(b) *Control*. The control subscale measures an individual's sense of control that they have over their actions and self awareness during heavy binge drinking. A high scorer would believe that they could control their aggression, depression and actions regardless of alcoholic intake, whereas a low scorer would believe that aggression, depression and appearance are controlled by factors such as genes and awareness.

This subscale consists of 7 items for example; Memory loss is a common experience after a night of binge drinking. Responses are scored on a 5-point scale ranging from (1) 'strongly agree', (2) 'agree', (3) 'not sure', (4) 'disagree', and (5) 'strongly disagree'. Scores can range between 7 and 35 with higher scores indicating a higher sense of awareness over personal aggression and depression as well as self control.

### **Materials:**

The materials used consisted of 125 questionnaires which were specifically drawn up to pin point and analyse levels of aggression, depression and maintenance of control. Four of these questionnaires were not fully completed and therefore were regarded as void so the total number of completed questionnaires amounted to 121. The completed questionnaires were analysed using the computer programme SPSS version 15. No other equipment or apparatus was necessary to conduct the research.

### **Participants:**

The study was conducted to analyse binge drinking among young adults. It was required that each participant was between the ages of eighteen and twenty four. This age bracket was also required, for accurate research and a truthful result. The total breakdown consisted of 54 females and 67 males. Participants ranged from all areas of society. Occupation or background information was not required and the research was conducted on a random selection basis. However, participants were required to have insight into Ireland's perceived binge drinking culture.

**Design:**

The research was conducted using quantitative research methods. The received questionnaires were analysed using descriptive statistics to monitor comparisons between levels aggression and depression experienced by males and females. Levels of control maintenance were also necessary to be examined between males and females and could be linked to the resulting aggression and depression. Using quantitative research methods it would be possible to compare males and females and calculate the average differences between the two in areas of aggression, depression and self control. Two separate correlation studies were also conducted to determine the relationship between frequency of binge drinking and aggression and depression in both males and females.

**Procedure:**

The first stage of this research study required distributing questionnaires to random participants on the street in Rathmines in Dublin, this was followed by participants on Camden Street in Dublin and the remaining participants were located in the city centre of Dublin. Each participant was given a brief introduction as to how to fill in the questionnaire and each participant was instructed to read the introductory paragraph explaining the research. Each questionnaire took under three minutes to complete comfortably.

It was explained that participants who felt uncomfortable with any of the questions for any reason could withdraw from completion and that it would be insured that their questionnaire would not be used in any part of the research. Incomplete questionnaires totalling four were discarded.

# Results

## Descriptive Statistics

Sex		N	Minimum	Maximum	Mean	Std. Deviation
Female	TotAgg	54	11.00	28.00	17.9815	4.49944
	Valid N (listwise)	54				
Male	TotAgg	67	13.00	32.00	23.3433	5.25862
	Valid N (listwise)	67				

The above table shows the examination of the total levels of aggression experienced by males and females during a session of binge drinking.

## Descriptive Statistics

Sex		N	Minimum	Maximum	Mean	Std. Deviation
Female	TotDep	54	9.00	28.00	20.8704	4.27386
	Valid N (listwise)	54				
Male	TotDep	67	9.00	28.00	17.3284	5.10611
	Valid N (listwise)	67				

The above table shows the examination of the total levels of depression experienced before and after binge drinking by males and females.

## Descriptive Statistics

Sex		N	Minimum	Maximum	Mean	Std. Deviation
Female	TotCon	54	11.00	20.00	14.6667	2.18917
	Valid N (listwise)	54				
Male	TotCon	67	9.00	22.00	14.8806	2.67152
	Valid N (listwise)	67				

The above table shows the examination of the levels of self control experienced by males and females during a session of binge drinking.

**Descriptive Statistics**

Sex	Age		N	Minimum	Maximum	Mean	Std. Deviation
Female	18.00	TotAgg	9	12.00	20.00	15.1111	3.10018
		Valid N (listwise)	9				
	19.00	TotAgg	12	11.00	22.00	16.4167	3.91868
		Valid N (listwise)	12				
	20.00	TotAgg	8	15.00	25.00	19.3750	3.58319
		Valid N (listwise)	8				
	21.00	TotAgg	3	13.00	26.00	21.6667	7.50555
		Valid N (listwise)	3				
	22.00	TotAgg	8	13.00	25.00	19.7500	4.43203
		Valid N (listwise)	8				
	23.00	TotAgg	7	13.00	22.00	16.5714	3.55233
		Valid N (listwise)	7				
	24.00	TotAgg	7	15.00	28.00	20.5714	5.25538
		Valid N (listwise)	7				
Male	18.00	TotAgg	12	17.00	26.00	22.9167	2.42930
		Valid N (listwise)	12				
	19.00	TotAgg	8	20.00	32.00	27.5000	4.24264
		Valid N (listwise)	8				
	20.00	TotAgg	2	28.00	32.00	30.0000	2.82843
		Valid N (listwise)	2				
	21.00	TotAgg	17	13.00	21.00	17.9412	2.94683
		Valid N (listwise)	17				
	22.00	TotAgg	10	17.00	26.00	22.8000	3.22490
		Valid N (listwise)	10				
	24.00	TotAgg	18	19.00	32.00	26.4444	5.38213
		Valid N (listwise)	18				

The above table shows a systematic breakdown of the age groups and sex of participants and their levels of aggression experienced within each specific age group.

## **Overview**

The total number of participants was 121. Of these 54 were female with the remaining 67 being male. The data was analysed using the programme Spss version 15. Participants were between the ages of eighteen and twenty four.

## **Descriptive Statistics**

Descriptive statistics showing aggression in younger males (18 years old) and older males (24 year olds) resulted in younger males recording a mean score of 22.91 with a standard deviation of 4.24. Older males scored significantly higher than younger males in this category with a mean score of 26.44 and a standard deviation of 5.38. The hypothesis was not supported in this case as it stated that younger males would experience higher levels of total aggression than older males.

The results from the analysis of descriptive statistics show that the mean score for males on a total aggression basis was 23.34 with a standard deviation of 5.25. The results of the total aggression experienced by females during binge drinking resulted in a lower mean score of 17.98 and a standard deviation of 4.50. This is a significantly lower figure than that of males resulting in the average female experiencing lower levels of aggression than males. The hypothesis was supported in this case where it stated that males would experience more aggressive tendencies during binge drinking than females. The total aggression was calculated through the addition of various variables aimed to analyse all types of aggression such as visible aggression and experienced personal aggression.

Results derived from analysing the descriptive statistics regarding the total depression and analysing this between males and females showed that males experience less depression during and after binge drinking than females. Males recorded mean scores of 17.32 and a standard deviation of 5.12. Females recorded a higher score of 20.87 with a standard deviation of 4.27. The hypothesis was supported with the results shown above. The hypothesis was supported as males experience greater levels of depression than females during a session of binge drinking. The total depression was calculated through the addition of various depression based variables.

The results of the descriptive statistics regarding self control with respect to binge drinking showed that males had a slightly lower mean score of 14.66 with a standard deviation of 2.19 when compared with females. Females recorded a slightly higher mean score of 14.88 with a standard deviation of 2.67. This shows that females experience slightly greater self control than males. The hypothesis was not supported with regards to self control as females experience higher levels than males.

A correlation study was run in order to determine whether or not there was a significant relationship between frequency of binge drinking and increased aggression in males. A similar study was carried out to determine whether there was a significant relationship between frequency of binge drinking and depression in females. The study was conducted by analysing Pearson's 'r'. Pearson's r is a measure of how positively or negatively related two variables are. Frequency of binge drinking was used as the criterion variable with total aggression and total depression acting as the predictor variables.

The results show that there was a moderately strong, positive correlation between frequency of binge drinking and total aggression in males. The correlation was also highly significant.  $r=0.38(67), p<.05$ . This provides knowledge that as binge drinking frequency increases for males they may have a tendency to become aggressive or experience aggressive urges.

The correlation analysed in relation to female frequency of binge drinking and total scores for depression resulted in a weak, positive correlation. The correlation was non-significant for female depression and frequency of binge drinking.  $r=0.15(54), p>.15$ .

This provides knowledge that a positive relationship exists between frequency of binge drinking and total depression experienced for females.

## **Discussion**

The aim of the research was to determine levels of aggression and depression present in males and females, between the ages of eighteen and twenty four, after a session of heavy binge drinking. The research was also aimed at analysing the perceived level of self control experienced by males and females during a session of binge drinking.

The results found that there are higher levels of aggression recorded in males than in females during heavy binge drinking. This provided useful knowledge and was in agreement with the original hypothesis which stated “It is hypothesised that there will be higher aggressive tendencies in males than in females during a session of binge drinking”. This was also in connection with the previous literature surrounding competitive tendencies in males as opposed to females. It was believed that hierarchy and egotistical tendencies would play a large part in the reason for an increase in levels of aggression in males during a session of heavy binge drinking. This was supported by the study conducted in Andalusia which stated that male aggression and competition were paramount in defining confidence and appreciation from an individual’s peers (Gefou-Madianou,1992;74). Female’s recording significantly lower scores with regards to the average level of aggression experienced can also be linked to the same study with many women perhaps feeling that aggressive behaviour may be seen as masculine and distasteful. Females do not experience nor are they subjected to the same expectation of dominance than males. The study of fraternity and sorority houses in America which explained further these aggressive tendencies reinforces the notion of attempting to impress and surpass one’s peers. Binge drinking is seen as a method of interaction and acceptance. Aggression can be present here also as peer pressure somewhat forces individuals to exit their personal comfort zone and deviate from their personal security (Yalisove,2004;103).

Similarly, with 80.6% of males confirming frequent heavy binge drinking, aggression, it was believed, would be increased. Females on the other hand recorded just over half that figure with 44.4% admitting to frequent heavy binge drinking. The correlation study conducted which showed a strong, positive and highly significant relationship between frequency of binge drinking and total aggression experienced may provide evidence for the increased aggression in males. The correlation provides useful knowledge that increased and prolonged binge drinking can result in acts of violence and hostility in males.

Previous studies have shown that variances in drinking nights and non drinking nights were in direct proportionality. It explained that hostility varied as it was higher on days, and in the days following heavy levels alcohol consumption. Opposing this it was found that during days of abstinence from heavy binge drinking individuals were seen to be far more sedated and less confrontational or hostile (Collins et al,1990;232-238). Similarly to this, figures on crime published by the website [www.alcoholireland.ie](http://www.alcoholireland.ie) may see a certain amount of validation given the frequency of binge drinking in males.

Results concerning the average levels of depression present in females were significantly higher than that present in males. The hypothesis was accurate in this regard as it stated “It is hypothesised that there will be higher levels of depression in females than in males during a session of binge drinking”. This had been viewed as an important finding in the previous research done on the area of depression in males and females. Baker and Velleman explained that in Australia depression is common in females with regard to alcohol consumption. However, this did not explain the underlying conditions which each individual may have, nor did it go as far to say that alcohol was the cause of the depression. Instead, the study realised that there was a need for action to be taken as various behavioural issues may arise with conscious self induced intoxication. Aitken understands that males begin drinking at a significantly lower age than females.

This may suggest that young females are protected from a very young age and are therefore reluctant to distance themselves from the parental bonds which have previously ensured security. Depressive conditions may arise from this area especially given the research which suggests that women in general are more likely to suffer from disorders such as bipolar or unipolar tendencies (Collins, Leonard and Searles,1990;39).

The previous study carried out in Britain around teenage pregnancies and the detrimental physical effects it can have on a baby in the womb can also be linked to depressive tendencies. The weak, positive and non-significant correlation between frequency of binge drinking and total levels of depression experienced by females indicates that alcohol may be a contributory factor to female depression. However, it may be more accurate to examine further neurological differences in females with regards to depression. Stress and anxiety may provide a greater understanding of the feelings of depression each female could be experiencing. It is important to note also that depression may have other consequences for females.

It is not simply the physical damage to the female body but also the mental and emotional strain present in the mother through binge drinking that may also have detrimental effects. Binge drinking while pregnant has been cited as a causal factor directly related to neurological abnormalities present in babies just after birth account (Crome et al,2004;39).

Males recording lower scores of self control in respect to heavy binge drinking as opposed to females with slightly higher levels of self control can be seen to have many connotations. The hypothesis was not supported in this case. It had been assumed that males would record levels of increased self control over females as males a biologically constructed to have a greater tolerance than females. A number of points can be drawn from this; firstly, this may account for the increased crime rates in Ireland between 2003 and 2007 ([www.alcoholireland.ie](http://www.alcoholireland.ie)).

The significant increase in serious crime rates and the publication that “Almost half of the perpetrators of homicide were intoxicated when the crime was committed” can be linked to this sense of a loss of control. Males with decreased self control may revert to their state of hierarchy and their need for acceptance. This can be directly linked to peer pressure and a sense of attempting to impress those with whom they look up to.

Females scored slightly lower on this measure and this may provide evidence when linking it to the previously discussed case carried out in Britain surrounding the area of binge drinking and teenage pregnancies. The struggle for self control among males and females alike may have some foundation in figures published by the European Comparative Alcohol Study. A 50% increase in spirit consumption along with double the amount of cider consumed may provide evidence that can explain the increase in binge drinking at this time. Alcohol abuse has been recorded at **costing** €2.4 billion annually, as mentioned previously. This figure, which does not include medical care or damage to property, signifies just how serious the issue of self control maintenance can be among young adults in modern Irish society. It is a fundamental stereotype which can also be seen as relevant in this case. Ireland is largely understood to be a nation where heavy alcoholic drinking is socially acceptable at least when compared to other countries.

This has been used by the Irish Tourism board when advertising brand names such as Guinness and Jameson. It can be argued that young adults are extremely susceptible to advertising and that this could explain the large scale disregard for alcohol abuse among young people in Ireland. The setting up of government incentives such as [www.drinkaware.ie](http://www.drinkaware.ie) have aimed to curb drinking on a large scale by attempting to reducing alcoholic intake through campaigns such as “The Rag Week Campaign”. This campaign can be seen as influential as ‘Rag Week’ is primarily aimed at students and based around binge drinking.

The hypothesis was not supported in relation to younger males experiencing increased

aggression than that of older males as older males recorded higher mean scores. The hypothesis was formed on the basis that maturity would play a part in determining aggressive behaviour. It may however, indicate that a lengthy period of heavy binge drinking can result in hostility, violence and disrespect for authority. The research done on crime rates by [www.alcoholireland.ie](http://www.alcoholireland.ie) was conducted between the years of 2003 and 2007 which would naturally put the older age group of males at a similar age group to that of the younger group presently.

This may account for the higher aggressive mean scores for older males. Similarly, given the current economic downturn and the abolition of publican incentives such as ‘Happy Hour’, in 2003, younger males nowadays simply may not have the finances to sustain a lifestyle of frequent heavy binge drinking. This would indicate that the government incentives are having a positive impact on revising the binge drinking culture present in modern Ireland.

Limitations can be found within the study. It is possible to assume that aggression may be viewed differently by different people. Similarly, different people might argue with what constitutes aggression and on what scale it can be measured. Depression may be viewed by individuals a sense of feeling down and that many do not experience the same levels of depression as others do. While binge drinking certain individuals may perceive that they can exercise self control when in actuality they may be in control with respect to those around them.

This is not necessarily a flaw or limitation but instead an individual’s perception of their own ability.

The study investigated 121 people. Perhaps a larger number of participants or a more diverse group of urban and rural participants would have provided more detailed evidence of the urban-rural divide with respect to Ireland’s overall binge drinking culture.

It was not possible to locate an even number of males and females; however this may have enabled more concise results which could be analysed. An even number of males and females may have

provided a more concise outcome. At the beginning of the research, a separate investigation into occupations of the participant may have provided further information on binge drinking tendencies. It may have been possible to monitor or assume financial situations and compare different occupational sectors to their attitudes towards binge drinking. This in turn would provide knowledge on drinking habits and allow for aggression and depression to be critically analysed.

In the study it is evident that binge drinking in Ireland is still a serious concern. Levels of aggression in young adult males and depression in young adult females is an alarming statistic overall. The reported crime rates from 2003 to 2007 are still relevant with respect to aggression. However, it cannot be presumed that the crime rates will decrease significantly. Concerns over the economic stability and subsequent lack of stable employment have already seen a steady increase in social issues such as binge drinking and substance abuse. The report that mental health issues are common with alcohol consumption would suggest that steady monitoring and rules that have been enforced by the Health Authority must be adhered to.

The greatest dangers facing Ireland in 2010 with regards to binge drinking is that for a large proportion of the youth preparing to enter into an unstable environment binge drinking could easily be seen as an escape route. The implications from this could lead to physical medical problems as well as a rise in crime rates and also an increase in mental health issues in males and females alike. The research depicts that the disregard for maintaining one's control during alcohol consumption could also lead to social and personal issues. A current issue throughout Ireland nowadays is the use of both legal and illegal drugs. If this causes many of Ireland's youths and young adults to experiment with such drugs as well as maintain their heavy levels alcohol consumption it can be assumed that only negative results will follow.

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## Websites

- [www.alcoholireland.ie](http://www.alcoholireland.ie)
- [www.drinkaware.ie](http://www.drinkaware.ie)
- [www.theirishtimes.com](http://www.theirishtimes.com)

# Appendix

## Questionnaire

This study is concerned with the personal experiences an individual has with respect to binge drinking in Ireland. Please answer each section as honestly as you can, do not spend too long thinking about each question as there are no right or wrong answers. Any information that you give will remain strictly confidential, you are not required to write your name anywhere on this survey. I hope you find this interesting, and I would like to thank you in advance for your time and co-operation.

Questionnaire: The overall aim of the study being conducted is to determine the major effects binge drinking has on young adults. All participants must be between the ages of 18 and 25. Binge drinking is categorised as consuming five units of alcohol per occasion for males and four units per occasion for females.

Please select: Male; Female; Age \_\_

Q1: Would you categorise yourself as a frequent binge drinker given the above guidelines?

Yes: No:

Q2: Is binge drinking the norm for the majority of young adults in Ireland?

Yes: No:

Q3: Visible aggression among drinkers is common in Ireland.

Strongly Agree: Agree: Strongly Disagree: Disagree: Unsure:

Q4: I have experienced aggressive tendencies during a night of binge drinking.

Strongly Agree:                      Agree:                      Strongly Disagree:      Disagree:                      Unsure:

Q5: I have partaken in violence during a night of binge drinking.

Strongly Agree:                      Agree:                      Strongly Disagree:      Disagree:                      Unsure:

Q6: I struggle to maintain control during heavy binge drinking.

Strongly Agree:                      Agree:                      Strongly Disagree:      Disagree:                      Unsure:

Q7: I have experienced levels of depression on a night of binge drinking.

Strongly Agree:                      Agree:                      Strongly Disagree:      Disagree:                      Unsure:

Q8: I have become emotional during a night of binge drinking.

Strongly Agree:                      Agree:                      Strongly Disagree:      Disagree:                      Unsure:

Q9: I have experienced depression in the day or days after binge drinking.

Strongly Agree:                      Agree:                      Strongly Disagree:      Disagree:                      Unsure:

Q10: Memory loss is a common experience after a night of binge drinking.

Strongly Agree:                      Agree:                      Strongly Disagree:      Disagree:                      Unsure:

Q11: I use binge drinking as a way of getting away from everyday life.

Strongly Agree:                      Agree:                      Strongly Disagree:      Disagree:                      Unsure:

Q12: I experience embarrassment after a night of binge drinking.

Strongly Agree:                      Agree:                      Strongly Disagree:      Disagree:                      Unsure:

Q13: The vast majority of my friends are binge drinkers.

Strongly Agree:                      Agree:                      Strongly Disagree:                      Disagree:                      Unsure:

Q14: I require alcohol to enjoy social events:

Strongly Agree:                      Agree:                      Strongly Disagree:                      Disagree:                      Unsure:

Q15: I get easily frustrated when binge drinking.

Strongly Agree:                      Agree:                      Strongly Disagree:                      Disagree:                      Unsure:

Q16: My respect for authority decreases as I get drunk.

Strongly Agree:                      Agree:                      Strongly Disagree:                      Disagree:                      Unsure:

Q17: I feel capable of looking after others while drunk.

Strongly Agree:                      Agree:                      Strongly Disagree:                      Disagree:                      Unsure:

Q18: I have cried on a night of heavy binge drinking.

Strongly Agree:                      Agree:                      Strongly Disagree:                      Disagree:                      Unsure:

Q19: I feel angry towards my friends and others while on a night of binge drinking.

Strongly Agree:                      Agree:                      Strongly Disagree:                      Disagree:                      Unsure