

# Doctorate in Clinical Psychology Volume 1

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# **Examining** Alcohol Use

in

# **British Medical Students**

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Hayley Pattinson

**Doctorate in Clinical Psychology 2000** 

**University College London** 

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#### **ABSTRACT**

In 1998 the BMA published a report outlining the growing concerns of alcohol misuse within the medical profession. Although research has indicated problems of alcohol misuse within medical profession, little is known about the antecedents of this misuse and whether patterns of alcohol use identified within qualified medical practitioners begin at medical school. This study therefore aimed to assess the extent of alcohol use by medical students attending a London university, to determine if their alcohol use differed from other students' alcohol use. This study also examined psychological well being within this student group, to determine if this was associated with alcohol use. Finally, this study explored attitudes towards alcohol use within the student culture.

Questionnaires packs were distributed to 1<sup>st</sup> and 3<sup>rd</sup> year medical and psychology students, during lectures. 5<sup>th</sup> year medical students were sent questionnaires by registered post. A total of 570 responses were received with a response rate of 98.2% obtained from questionnaires administered during lectures. Overall, levels of alcohol use did not differ between medical and psychology students. However, over half of all 1<sup>st</sup> and 3rd students were identified to be drinking at a harmful level, with 3<sup>rd</sup> year psychology students having the largest proportion (69%) drinking at this level. Alcohol consumption was also found to differ in the three years of medical students sampled, with 1<sup>st</sup> years drinking more than both 3<sup>rd</sup> and 5<sup>th</sup> years.

A significant interaction was found between subject-group and year of study with respect to psychological distress and although anxiety levels were generally low there was a significant difference between the two groups. Levels of depression for both psychology and medical students were not clinically significant. No relationship was found between alcohol use and psychological distress or anxiety and alcohol was not used as a coping strategy for stress.

This study raised a number of important issues regarding university students alcohol consumption and psychological well being. It has clear clinical and education implications, which are discussed in detail, together with proposals for future research.

#### Chapter 1 INTRODUCTION

1.1 In 1992 the government published 'The Health of the Nation', outlining health targets for the National Health Service to achieve by the year 2005. One of the targets they paper identified was the reduction of alcohol-related problems, particularly with respect to coronary heart disease and strokes. The report stated that this target would seek to reduce the number of people currently exceeding the maximum weekly intake of alcohol, in order to address the increasing number of alcohol-related problems.

Research examining the impact of alcohol misuse upon society, reported that 25% of general medical hospital beds in Britain are filled with patients with alcohol-related problems (Glass and Strang, 1991). This finding was supported in Booth's (1997) report, in which he stated "If sensible drinking limits were *never* exceeded, hospital beds would become available in unprecedented numbers, waiting lists would vanish, the emergency services would have a massive over-capacity, as would the entire criminal justice system" (p25). Such is the scale of drinking problems within the British culture.

#### 1.2 <u>How much is too much?</u>

Alcohol taken in any quantity may be harmful, under particular circumstances or at certain time's i.e. when driving. In fact the risk of sustaining alcohol-related injuries begins to increase with blood ethanol (alcohol) concentrations as low as 20mg/100ml (Morgan and Ritson, 1998) and as a result, it is difficult to identify a 'safe' level of alcohol consumption. However, in an attempt to provide some guidelines regarding

alcohol intake and risk of injury to health, the Royal College of Physicians, Psychiatrists and General Practitioners (1995), sought to provide an appropriate definition of use and concluded that:  $\leq 21$  units per week for men

 $\leq$  14 units per week for women

were associated with low risk (Morgan and Ritson, 1998). The units of alcohol referred to are equivalent to 10ml or 8g of absolute alcohol, and although alcohol content varies substantially between beverages, one unit is approximately equivalent

to: <sup>1</sup>/<sub>2</sub> pint (284ml) ordinary strength beer or lager

glass (125ml) average strength wine
glass (50ml) average strength fortified wine

1 single (25ml) measure of spirits.

However, also in 1995, the Department of Health reviewed 'the scientific and medical evidence on the health effects of drinking alcohol' and concluded that drinking 3-4 units of alcohol per day (28 units per week) for men and 2-3 units per day (21 units per week) for women, would not be associated with progressive risks to health (Morgan and Ritson 1998). Although medical and alcohol agencies acknowledged the benefit of having, a daily recommended maximum alcohol levels, "many.... were unhappy with these recommendations" and felt that there did not "appear to be any compelling reason at present, to change the low thresholds from those originally set" (p9).

#### 1.3 Risk associated with alcohol intake levels

Using the guidelines originally set by the three Royal Colleges, the following criteria are used to define levels of risk associated with alcohol consumption.

Low risk:	Intake unlikely to be associated with the development of
	alcohol-related problems if taken over 7 days.
	Men : $\leq 21$ units per week
	Women : $\leq$ 14 units per week

Hazardous risk: Intake likely to increase the risk of developing alcohol-related harm.

Men: 22-50 units per week

Women : 15-35 units per week

Harmful risk: (synonym: alcohol misuse) A pattern of drinking associated with the development of alcohol-related harm. Men : > 50 units per week Women : > 35 units per week

(Morgan and Ritson, 1998)

#### 1.4 Alcohol Dependence

The standardised diagnostic criteria used to identify substance (alcohol or any other drug) dependence requires at least three or more of the following, to be present:

- Strong desire or sense of compulsion to take the substance.
- Impaired capacity to control substance-taking behaviour in terms of onset, termination or levels of use.
- Physiological withdrawal state when substance use is reduced or stopped or use of the substance to relieve or avoid withdrawal symptoms.
- Evidence of tolerance to the effects of the substance.
- Other pleasures or interests being given up or reduced because of the substance use.
- Persistent substance use despite clear evidence of harmful consequences.

(ICD-10 : WHO 1992)

## 1.5 Impact of Alcohol on Society

In an attempt to address the problem of high alcohol consumption, the government identified that the percentage of men drinking more than the recommended maximum weekly intake of 21 units per week, should be reduced by 10% from a current 28% (1990) to 18% in the year 2005 (DoH, 1992). The proportion of women exceeding the recommended maximum level of 14 units per week should also be decreased from 11% to 7% in this same time-scale (DoH, 1995).

The concern of the government to address alcohol misuse and alcohol-related problems in its 'Health of the Nation' paper (1992), clearly reflects the research findings which indicate the increasing health and social problems related to alcohol misuse within the general population. It has been estimated that in the 16-64 year old age group, the proportion of alcohol dependence is 4.7% (OPCS, 1994), with the heaviest consumers of alcohol being young men aged 18-24 years (Office for National Statistics, 1998). In a review of literature on the impact of alcohol within the family and the workforce, the Institute of Alcohol Studies (1999) stated that "one-in-three divorce petitions cite excessive drinking by one partner as a contributory cause of marriage break-up". In addition to this, the same review estimated that "problem-drinkers" resulted in "8-14 million days excess absence", at a cost to industry of £700 million a year (IAS, 1999).

Although the 'Health of the Nation' (1992) paper identified alcohol-related problems in the population as a whole, it did not report on alcohol consumption and related problems within specific sub-populations, for example alcohol use among identified professions.

In 1995 the Office of Population Censuses (OPCS) identified deaths from cirrhosis and other alcohol-related disorders by occupation and compared these figures to a 'standardised' death rate for the 'average population' (S.D.R = 100). 'Publicans and bar staff' were found to have the highest death rates in both categories (cirrhosis = 383; O.A.R.D<sup>1</sup> = 431). Interestingly, 'doctors' had the second highest death rate, that was 3.4 times higher than that of the 'average occupation' (cirrhosis = 341;

<sup>&</sup>lt;sup>1</sup> OARD - Other alcohol related diseases

O.A.R.D. = 157). Given access to alcohol supplies, it would seem plausible that publicans and bar staff would have the highest standardised death rate from alcoholrelated disorders within an occupational review. However, it is perhaps of greater interest and concern that the second highest occupational group was that of doctors.

#### 1.6 Alcohol and the Medical Profession

Concerns regarding alcohol (and drug use) within the medical profession have been raised for many years with Brewster (1986) finding concerns regarding medics addiction to alcohol, cocaine and morphine as far back as 1869. In that year James Paget (1869) commented on the fate of failed medical students; "through their continuance in the same habits of intemperance or dissipation as had us, even while they were students, anticipate their failure" (p240). Historically, even the lay-person's view of the medical profession has been that of a heavy drinking group; "You are drinking too much when you are drinking more than your doctor" (Talbot, 1989) and indeed current research in this area appears to have supported this view.

In a review of standard mortality rates, Glatt (1982) reported that death rates from alcohol misuse among medics had been steadily increasing from 1911-1961. In a more recent paper, Plant (1987) reported that although the number of deaths from liver cirrhosis among medical practitioners had fallen, it continued to be significantly higher than the national average and clearly suggested an on-going problem of alcohol-misuse for this particular profession. Although speculation and supposition regarding alcohol use within the medical profession is widespread, British research in this area is limited. The majority of research that has been conducted has been based in the USA.

It has been estimated that 40% of the American medical profession have either an alcohol, morphine or other drug habit (Brewster, 1986) and that physicians are 30-100 times more likely to experience addiction problems than the general public (AMA, 1973; Murray, 1974). Furthermore, McAuliffe et al. (1984) conducted a comparative study to examine the drinking patterns in physicians, pharmacists, lawyers and the general population. McAuliffe et al. (1984) found that heavy drinking among US males in these identified groups decreased with age except within physicians, for whom heavy drinking increased with age. This finding was also supported by Hughes et al. (1991) who stated that although physicians had significantly lower rates of psychoactive substance use, when compared to non-physician age peers, they had higher levels of alcohol use. This study highlighted the concerns of alcohol misuse within the medical profession and the need for longitudinal studies of alcohol use of physicians, in an attempt to identify patterns, which ultimately lead to the development of full-blown alcohol misuse syndromes, as seen in mid-career physicians (Talbott et al. 1987).

In a review of risk factors commonly associated with physicians, Vaillant et al. (1972) reported that bad marriages, drug abuse and a tendency to use psychotherapy were symptoms of the "occupational hazards of medical practice" (p372). This study revealed that 36% of the 47 physicians who had participated in the 30-year life review had "high drug use" (on two or more occasions, the physician had reported heavy drinking or "trouble with control"). However, this study was initiated in the late 1930's and thus the findings may not be applicable to medical training and practice today.

Although the research increasingly seems to suggest that USA physicians do experience alcohol-related problems, this may not be true of the British medical profession.

In 1998 the British Medical Association published a report on behalf of the 'Working Group on the Misuse of Alcohol and Other Drugs by Doctors', due to the growing concerns of drug and alcohol misuse within the medical profession. The main aims of the report were to highlight the current difficulties in this area, raising awareness of "..the nature, extent, complexity and consequences of misuse of alcohol..." (BMA report, 1998 p2). This report was written in response to the seriousness of alcohol misuse within the British medical profession, with an estimated one in fifteen UK doctors suffering with some form of dependence (BMA 1998). Within a decade, figures relating to alcohol dependence have risen from an estimated 2000-3000 alcoholic doctors in England and Wales (Glatt, 1982), to an estimated 9000, needing help for a substance addiction (Hatcher, 1998). Furthermore, according to the report published by the BMA (1998) "two thirds of all cases referred to the GMC (General Medical Council) involved the misuse of alcohol" (p3). This again clearly illustrates the increasing trend in such cases from the 1950's when "one third of disciplinary cases heard by the GMC arose from being 'drunk in charge'" (Brewster 1986; Glatt 1964).

The high prevalence of alcohol misuse within the British medical profession was reviewed in 1986 by the "Special Committee of the Royal College of Psychiatrists" which reported one of the most compelling findings to date. On the basis of the standardised mortality rate (SMR) for cirrhosis of the liver, the committee found

doctors to have a measure of 311 (i.e. 3.11 times that of the general population's SMR). As Talbot (1989) reported "this measure is widely agreed to be the most sensitive indicator of the level of alcohol abuse " (p339) and thus is supportive of the BMA's Working Group report (1998).

In a more recent and much quoted (Brooks and Scholar, 1998; Daily Mail, 1998; Hatcher, 1998) study, Birch et al. (1998) found that of the 90 junior house officers who participated in their study, 93% drank alcohol and over 60% exceeded safe drinking limits. This paper reported that "pleasure" was the predominant reason for drinking alcohol and that neither anxiety nor mental ill health appeared to be related to alcohol misuse. In this same study, it was noted that pathological anxiety was indicated in 21% men and 45% women, who scored 8 or more on the Hospital Anxiety-Depression Scale (Zigmond and Snaith 1983). These figures clearly raise issues for concern about both the level and prevalence of alcohol misuse within this profession. However, perhaps of greater interest was the reported finding that these same participants, who had been involved in a previous study (Ashton and Kamali, 1995; Webb et al. 1996) had increased their level of alcohol consumption since medical school. The paper did not seek to determine why levels of alcohol consumption had increased during this period and as the study used a 'lifestyle' questionnaire to determine alcohol patterns, it is difficult to 'gauge the reliability and accuracy of the findings' (p190) with respect to alcohol use.

### 1.7 Alcohol Use and Medical Students

These studies clearly highlight issues regarding alcohol use, post-qualification. However, Richman et al. (1992) investigated shifts in drinking patterns during

medical school training in the USA and found that "one third of future physicians had manifested a problem drinking...by the end of their first year of medical school" (p22). A similar developmental pattern was indicated by Clark et al. (1987) findings in which 18% of medical students were considered alcohol abusers within their first two years of medical school. Although the figures in this latter paper are not so alarmingly high, the pattern of manifestation remains the same.

In contrast to these findings Flaherty and Richman (1991) reported that although 19.4% of students beginning medical training had alcohol-related problems, they had none by the end of their second year, indicating a dramatic decrease in alcohol use. In a subsequent review paper Flaherty and Richman (1993), concluded that although medical students did have a slightly higher use of alcohol, the pattern and prevalence of alcohol dependence is "very consistent with their age-mates in the general population" (p196). However, Baldwin et al. (1991) reported that medical students were more likely to use alcohol, but less likely to use illicit substances, in comparison with two national cohorts of similar age.

Comparisons across studies are often difficult due to differences in methodology, but USA research into prevalence of alcohol misuse in medical students seems to remain inconclusive. Furthermore, with clear differences in both legal and moral attitudes towards alcohol consumption between the USA and UK, it would be difficult to draw cross-cultural comparisons. It is therefore necessary to examine British based research.

Despite the commonly propounded view that medical students are a heavy drinking group (Adshead and Clare, 1986), research to confirm or dispute this is limited. In an attempt to address this and based on the view reported by Adshead and Clare (1986), Collier and Beales (1989) conducted a questionnaire-based study, to examine drinking habits among medical students. Of the 260 replies received, one fifth of this student population were identified to be drinking at a level "likely to damage their health" (p21). Furthermore, 53% reported that alcohol had affected their academic performance at some time, with only 15% of the students stating that they "might" have a drinking problem.

Although Collier and Beales (1989) did not use a comparison group in their study, they did compare their findings with two other studies (Goddard and Ikin, 1988; Breeze, 1985) and reported that male medical students appeared to drink similar amounts to men of a similar age, in the general population. Female medical students however, appeared to drink more than women matched for age, within the general population.

In a more recent study, Ashton and Kamali (1995) indicated "disturbing trends in alcohol consumption" (p190), with over 25% of medical students exceeding low-risk levels. In this study, although figures were lower than those reported by Collier and Beales (1989), the authors of this paper concluded that 25% "still seemed excessive for individuals of this young age group" (p191). High levels of alcohol consumption in a larger scale study of medical students were also reported by Webb et al. (1998), who reported 48% of men and 38% of women exceeding sensible weekly limits.

Again, this study did not use a direct comparison group to determine if such figures were only confined to medical students.

File et al. (1994) investigated whether patterns of heavy drinking, as indicated in previous studies, were already present at the time of entry to medical school or whether these observed patterns developed through the course of medical training. Of the 66 first year students who were tectotal at entry to medical school, 11 of these were drinking regularly by the end of the first year. Based on a reported 'typical weekly intake', only 5% of students were consuming levels of alcohol that were considered to fall within the 'dangerous' drinking range and that by the end of the first year, most of this small group had decreased their alcohol intake.

In a similar examination of first year students embarking upon a medical career, Gutherie et al. (1995) surveyed 204 first year medical students and found that one third of male medical students had weekly alcohol consumption levels above the recommended safe limit. Gutherie et al. (1995) concluded that although 36% of students obtained a score on the GHQ (Goldberg 1972), indicating probable 'psychological disturbance', this was not related to increased alcohol consumption and that the levels of alcohol misuse were similar to that of young adults within the general population.

File et al. (1994) also found that the levels of alcohol consumed by first year medical students were similar to those found in general population surveys (i.e. Breeze 1985; Goddard and Ikin 1988). However, by the fifth year of medical school training, 59% of male, non-Asian students were drinking above safe limits and that 38% were

consuming 'dangerously high' levels of alcohol, with a weekly mean of 40 units. This figure is clearly much higher than those reported in the general population surveys. The authors of this paper also commented that unlike non-Asian students, most Asian students, in all years, were drinking within safe limits and that this was consistent with general population studies (see Cochrane and Bal, 1990). It was also noted, however, that 5<sup>th</sup> year male Asian students drank significantly more alcohol on a weekly basis, than male Asian students in other years.

Although File et al. (1994) did not specifically examine any factors within the medical school environment, that may have been associated with the increasing levels of alcohol consumption, they did conclude that the "incidence in medical students drinking above safe limits is sufficiently high to warrant improved education and intervention" (p26).

In a more recent study, Sharkey and Patterson (1997) reported similar findings to File et al. (1994), with 37.8% of final year medical students obtaining AUDIT (Alcohol Use Disorders Identification Test - Saunders et al. 1993) scores indicating that they were at a "hazardous risk of developing alcohol-related harm" through their alcohol consumption. Interestingly, 65% of this group stated that they felt that they should not continue drinking at their current level, long-term. In an attempt to compare these findings with those of previous studies, Sharkey and Patterson (1997) reviewed Collier and Beales (1989) work. In their study, Collier and Beales estimated the prevalence of alcohol misuse, within this population, as being up to 23% which is significantly lower than the findings of Sharkey and Patterson (1997). Sharkey and Patterson proposed that the reason for the significant differences in

levels of alcohol misuse was due to the sensitivity of measures used. Collier and Beales (1989) had used a measure know as the CAGE (Mayfield et al. 1974), which has been identified as being a less sensitive measure than that of the AUDIT (Saunders et al. 1993), used in Sharkey and Patterson's study.

It would therefore appear that although medical students do not begin training consuming any higher amounts of alcohol than other young adults in the population do, through the course of training patterns of 'hazardous' drinking levels are developed. This plausible hypothesis is consistent with reports from those doctors who have experienced alcohol-related problems later in their career. In a study examining characteristics of alcoholic doctors, Murray (1976) found that approximately 20% of 'alcoholic doctors' began drinking heavily whilst they were undergraduates. Little however is known about why this may be the case or why medical students appear to increase their levels of alcohol consumption through the course of training.

Stress is a factor that is frequently associated with medical training and which may perpetuate the layperson's reason as to why medics would drink high levels of alcohol. It would seem that the stress of medical student life is often blamed rather than the student culture and attitudes to drink (Smith, 1986). Stress has indeed been identified as being par-for-the course in medical training, with high levels of stress being identified within this population (Firth-Cozens, 1987; 1990; Gaughran et al. 1997; Hsu and Marshall, 1987).

In a study examining predictors of depression in General Practitioners, Firth-Cozens (1998) focused on the use of alcohol as a coping strategy for managing stress. In this study, Firth-Cozens reported that 68% of GP's questioned used alcohol to cope with stress and that 7% of those reported using it "frequently". However, it was also concluded that alcohol use was not significantly related to depression but that alcohol was used to cope with symptoms of stress, particularly in female doctors. Although in this study, alcohol was identified as being used to cope with symptoms of stress, other studies, to date, have failed to find any significant correlation between levels of psychiatric disturbance (Gutherie et al. 1995), anxiety or mental ill health (Birch et al. 1998), with intake of alcohol and alcohol misuse.

This therefore raises questions as to what factors are linked to increased alcohol consumption and are these factors related to medical school training. Drinking is often viewed as being related to stress or psychological distress (Rosehan and Seligman 1989; BMA 1992). However, social factors may also play a role in alcohol consumption such as peer pressure, expectations of others and the culture of the environment.

As previously indicated little is know about the medical school culture, with research being scarce in this area. Unlike many other undergraduate subjects, medical degrees start the vocational developmental process immediately, with students engaged in highly structured timetables and arduous training schedules from day one of their training. In a report reviewing the difficulties of medical school training, one student commented that medical school was like an "indoctrination into a strange cult

where students are deprived of freedom, forced to submit to higher authority and engage in strange rituals" (Rudolpha et al. 1995 - p1396).

It is perhaps the indoctrination to engage in strange rituals and the belief that "an ability to hold one's liquor is supposed to be almost mandatory for medical students" (Murray, 1976) that holds the link. In a report of an MCA<sup>2</sup> lecture (Kemm, 1997), it was noted that although students may "enter medical school full of idealism.....The drinking culture of medical school may foster inappropriate ways of handling stress and create problems that surface later in their career" (p1).

As previously highlighted, availability to alcohol is significantly linked to alcohol consumption, with publicans and bar staff having the highest mortality rates from cirrhosis and other alcohol-related disorders. Availability relates to both the accessibility and affordability of alcohol. For example, Arabs drink much less than Europeans mainly because the Muslim faith proscribes the consumption of alcohol. Therefore, alcohol is not readily available and any drinking that does occur has to take place in private (Special Committee of the Royal College of Psychiatrists, 1986). Furthermore, the cost of alcohol influences levels of consumption as illustrated in the time period 1950-1976, when the relative cost of beer reduced significantly (Morgan and Ritson, 1998) and the demand for alcohol increased (Special Committee of the Royal College of Psychiatrists, 1986).

These factors are highly pertinent to the medical school and university environment, in which bars are plentiful and alcohol is subsidised. As one report indicated "One

<sup>&</sup>lt;sup>2</sup> Medical Council on Alcoholism

English university campus was described..." as having "..32 licensed bars and no coffee bar" (Report of Working Party, 1996). Research indicates that individuals whose drinking is subsidised and who have easy access to alcohol, are more at risk from developing alcohol-related problems (Morgan and Ritson, 1998). It is therefore perhaps the availability combined with the "astonishing degree of tolerance of drunkenness among medical students" (Adshead and Clare, 1986) that cultivates harmful drinking patterns.

Clearly questions remain regarding the prevalence of alcohol misuse within the medical school population, how levels of alcohol use are comparable with other student groups, what factors are associated with alcohol use and how influential is the medical school environment with regards to alcohol use.

## 1.8 Aims of Study

This study aims to examine patterns of alcohol use among undergraduate medical students, attending a British university, to determine, whether there is a difference in alcohol use in this population compared to other non-medical undergraduate students. It aims to identify if there are any patterns of alcohol use that emerge through the process of medical school training and whether alcohol use changes over the course of training. Furthermore, this study will explore the attitudes and beliefs associated with alcohol use and medical training, in an attempt to establish possible reasons for drinking alcohol.

This study will also measure levels of depression, anxiety and psychological distress within medical students and non-medical students and will compare these two populations for prevalence and severity. These factors will be reviewed to determine any differences between the two groups and across each group, in order to identify if changes occur over the period of studying. Finally, this study will attempt to identify if these or other factors are associated with alcohol use and if so, in what way.

#### 1.9 <u>Research Questions</u>

This study aims to establish:

- 1) Do medical students consume higher levels of alcohol than other students do?
- 2) Does alcohol consumption change as students' progress through their undergraduate courses?
- 3) What are the levels of depression and anxiety amongst the student groups and are these levels higher in medical students than other students?
- 4) Is there a relationship between psychological well being and alcohol use?
- 5) Why do medical students drink alcohol?

#### Chapter 2 METHODOLOGY

#### 2.1 Overview

Medical students and psychology students, registered at a London university, were approached to participate in this study. Year one and year three students from these undergraduate courses were asked during agreed lectures to voluntarily participate in this research by completing a questionnaire pack that was administered and collected during the same lecture. Year 5 medical students were sent questionnaires postally, with an enclosed letter outlining the study. The questionnaires took 10-15 minutes to complete and were anonymous. Consent to participate in the study was given through the voluntary completion of the questionnaires.

## 2.2 Design

This study used a cross-sectional design, in which groups of  $1^{st}$ ,  $3^{rd}$  and  $5^{th}$  year students studying medicine and  $1^{st}$  and  $3^{rd}$  year students studying psychology were compared.

#### 2.3 Sample

The group of focus in this study was 558 medical students, registered on an undergraduate course in medicine, at a London university. The medical students were in years 1 (pre-clinical), 3 (clinical and pre-clinical) and 5 (clinical) of their medical training. The comparison group consisted of 255 students registered on the undergraduate degree course in psychology, at the same university. The psychology students were in years 1 and 3 of their degree course. Psychology students were selected as an appropriate comparison group, as this group was academically

matched with the medical students, with respect to A-level University entrance grades.

With the exception of year 5 medical students, all students (medics and non-medics) were surveyed during a three-week period in the second half of the autumn term. This period was not immediately before or after any examinations and avoided atypical times such as Christmas and 'Freshers' Week.

Year 5 medical students were surveyed at the beginning of the autumn term, in order to maximise response rates and to avoid any examination periods.

#### 2.4 <u>Procedure</u>

Consent to carry out this study using students from a London university, was initially sought from the Dean of Medicine and the Head of the Psychology Department, who both gave their permission to approach students and endorsement of the study. Permission was also gained from the respective lecturers who kindly allocated time at the end of lecture slots, to administer the questionnaires.

2.4.1 Medical students (years 1 and 3) and Psychology students (years 1 and 3): All students were informed that the study was to examine alcohol use among university students that their participation in the study was voluntary. It was also explained to the students that their consent to participate in the study and use information given would be assumed by questionnaire completion. Each year group was given the same explanatory speech (see appendix 2). The questionnaires were anonymous and thus confidentiality was guaranteed. All participants in the study completed a questionnaire pack (see appendix 4), which were administered and collected by the researcher within the lecture.

**2.4.2** Medical students (year 5): The format of undergraduate medical training, is such that students begin their clinical placements during the last two years of their course. As a result of this direct lecture, teaching is minimal and thus students in year 5 are rarely gathered together. In order to collect data from this year group, questionnaires were administered postally.

It was arranged with the assistant director of administration that the questionnaires would be posted to year 5 medical students, inside a pack from the university, which was sent by recorded delivery. By sending the questionnaires out in this format, it was hoped that the response rate would be maximised. The questionnaire pack contained a letter explaining the purpose of the study. The researcher and a medical lecturer, who had taught the students, signed this letter (see appendix 3). The pack also contained the questionnaire and a stamped addressed return envelope.
#### 2.5 <u>Measures</u>

The measures for this study were compiled together to form a questionnaire pack that was administered to all participants. The following measures were used in this study (see appendix 4 for copies of measures):

#### 2.5.1 Drinking Patterns and Attitudes towards Alcohol Use and Student Life.

This questionnaire was designed specifically for the purposes of this study. Questions were generated through initial discussion groups and later, pilot questionnaires, with a group of medical students attending a Welsh university, who were not involved in the main study. Students were asked to openly discuss their experiences, views and opinions about alcohol, alcohol-related problems, alcohol-use generally and within the student culture. The researcher, who took a minimal role in the discussion, facilitated the groups. These discussion groups provided the basis to generate appropriate items for the questionnaire, which were then piloted for views on this group of medical students. The questionnaire was then reviewed by three external researchers, for comment.

The questionnaire comprised of two sections; Questions 2-8 were to be completed by students who drank alcohol and focused on patterns of drinking and self-appraisal of drinking. Questions 9-18 were to be completed by all students (drinkers and non-drinkers of alcohol) and targeted attitudes towards student drinking and the student culture, methods of coping with stress and knowledge of alcohol consumption. Question 1 established whether the participant was a drinker or non-drinker of alcohol.

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#### 2.5.2 General Health Questionnaire – 12 item (GHQ-12)

The 12 item General Health Questionnaire (Goldberg, 1972) is used to screen for psychological distress. The GHQ-12 was chosen because it is a well-established validated questionnaire, that has over 50 validity studies published and has been used in over 38 countries (Goldberg and Williams, 1988). Both reliability and validity studies on a range of populations have been described by Goldberg and Williams (1988). In particular, it has been validated in the student population (Radanovic and Eric, 1983) and research has shown that the 12 questions are highly discriminant items (Duncan-Jones et al. 1986), with high internal consistency (Banks et al. 1980).

It is a self-administered, short and straightforward questionnaire that takes about 2 minutes to complete. The standard method of scoring 0-0-1-1 for each item was employed, allowing a maximum score of 12. The GHQ-12 has a cut-off score of 2/3. Based on a number of validation studies (Goldberg and Williams, 1988), the recommended cut-off point used to indicate the presence of psychological distress is 3. Higher scores obtained on the GHQ-12 indicate a greater probability of clinical disorder.

#### 2.5.3 Alcohol Use Disorder Identification Test (AUDIT)

The AUDIT was developed in 1993 by the World Health Organisation, to identify hazardous and harmful alcohol-consumption (Saunders et al. 1993). Unlike many other alcohol-screening tools, the AUDIT is sensitive to screen for both hazardous alcohol-intake (before symptoms begin or mild symptomology) and formal alcohol disorders (MacKenzie et al. 1996). It is therefore particularly suitable for initial screening of people with possible alcohol problems of any type.

The AUDIT is a 10-item self-report questionnaire, which takes only a few minutes to complete. It consists of two questions relating to quantity and frequency; a question on binge drinking; two CAGE (Mayfield et al. 1974) questions and five DSM-III criterion questions. It has a maximum score of 40, with a score of 8 or above sensitive in predicting alcohol-related harm and current drinking problems (Conigrave et al. 1995).

#### 2.5.4 Hospital Anxiety and Depression Scale (HAD)

The HAD Scale (Zigmond and Snaith, 1983) is used to measure subjective anxiety and depression. It is a 'present state' instrument, that is relatively unaffected by any concurrent physical illness (Snaith and Zigmond, 1994). It takes approximately five minutes to complete and provides a brief state measure of anxiety and depression.

- Anxiety: The concept of anxiety in this questionnaire covers anxious mood, restlessness and anxious thoughts. It examines generalised anxiety that is not necessarily focused on a situation.
- Depression: The HAD Scale focuses on loss of interest and diminished pleasure response i.e. a lowering of hedonic tone, which has been recognised to be a reliable guide to the type of mood disorder of biological origin (Snaith and Zigmond, 1994).

The HAD Scale has a maximum score of 21, for each sub-scale, with a score of 8 or more, indicating clinical levels.

#### 2.5.5 <u>Demographic Details</u>

The demographic sheet gathered information on gender, age, year of study, intercalated subject being studied (applicable to year 3 and 5 medics), ethnicity, religion and main sport played.

The questionnaire did not contain any information to identify individual participants, but was marked either MS (Medical Students) or NMS (Non-Medical Students), in order to differentiate the focus and comparison groups.

#### 2.6 Data Analysis

The data collated was analysed in a number of sections:

- (i) The quantitative data was analysed using a series of factorial and one-way ANOVA's.
- (ii) 'Free-response' data was initially coded, before being analysed. Three independent raters agreed the coding of this data. Once the data was coded, a series of Pearson's Chi-Square tests were performed. The 'free response' data was also examined in the context of the quantitative data relevant to each of the questions.
- (iii) The final section of the results examined patterns of alcohol consumption between psychology and medical students. In order to gain an estimation of weekly drinking levels a calculation was made by multiplying the number of occasions in the week, that the students stated they regularly drank alcohol (Questionnaire A: Items 2a + 2b) by the number of drinks containing alcohol,

that the students stated they drank on a typical occasion when drinking (Questionnaire C (AUDIT) - Item 2). This calculation enabled an estimation, if somewhat crude, of the number of units that the students may drink on a weekly basis. Three independent raters agreed with the items selected to make this calculation.

#### 2.7 <u>Ethical Considerations</u>

It was anticipated that due to the nature of this study, no psychological or physical distress would be caused through participation. Ethical approval to carry out this research was granted by the Joint UCL/UCLH Committee on Ethics of Human Research (Study No. 99/0116 - See Appendix 1).

#### Chapter 3 RESULTS

#### 3.1 Statistical Analyses

The primary quantitative data collected was analysed in two stages. Firstly medical students and psychology students in years 1 and 3 were compared. A series of ANOVAs were performed with factors of group (medical vs. psychology students) and year (1<sup>st</sup> year vs. 3<sup>rd</sup> year). Secondly, a series of One-Way ANOVA's were performed to compare years 1, 3 and 5 of medical students. Post-hoc comparisons were adjusted with Bonferroni corrections.

Clinical caseness (i.e. scores obtained above the standard clinical cut-off points on the questionnaires) was also examined, where appropriate, for each of the main variables, using Pearson's Chi-Square. Clinical caseness was firstly examined by comparing subject-year groups (i.e. 1<sup>st</sup> year medicine vs. 1<sup>st</sup> year psychology) and secondly, comparing years 1, 3 and 5 medical students.

Results are presented in sections. Sections 3.3 and 3.4 consist of three parts: Part (i) reports comparisons of the psychology student group and the medical student group; Part (ii) reports comparisons of medical students in years 1, 3 and 5. Part (iii) reports to results of clinical cases for each variable.

Section 3.5 examines whether there is a relationship between scores obtained on the AUDIT questionnaire (i.e. alcohol use) and scores obtained on (i) GHQ-12 questionnaire (i.e. psychological distress); (ii) Had Scale – anxiety sub-scale. A Pearson's Chi-Square Test was performed on this data set.

Analyses of 'free-response' data, will be reported in Section 3.6. Finally, Section 3.7 reports upon student drinking patterns.

#### <u>3.2</u>

#### 3.2.1 Participants

All participants for this study were enrolled on undergraduates courses in either 'Psychology' or 'Medicine' at a London university. With the exception of Year 5 medical students, all potential participants were asked to participate in this study during agreed lecture slots.

An overall response rate of 98.2% (485 out of 494) was obtained from questionnaires administered during lectures. A detailed breakdown of the response rates obtained is given in Table 1.

	Medical Students	Psychology Students
Year 1	98.7% (152)	98.9% (88)
Year 3	98.4% (182)	95.4% (63)
TOTAL (n)	334	151

Table 1: Response rates obtained from administering questionnaires during lectures.

A total of 219 questionnaires were mailed by recorded delivery to Year 5 medical students. A response rate of 38.8% (85 students) was obtained from this group and therefore in total 570 students participated in this study.

#### 3.2.2 Demographic Details

Sex: Of the 570 participants, 229 (41.5%) were male and 323 (58.5%) were female. 18 (3.1%) did not state their sex. Examining this by group, of the 405 medical students who responded, 196 (48.4%) were male and 209 (51.6%) were female. With respect to the psychology students, there was a much greater gender bias (see Table 2a). The psychology student group had a preponderance of females, compared to the medical student group ( $\chi^2 = 29.91$ ; df = 1; p < 0.0001).

Table 2a:	Gender (n (%)) and age (mean $\pm$ S.D.) of students who participated in
	study.

		YEAR OF STUDY					
		1			5		
		Medicine	Psychology	Medicine	Psychology	Medicine	
Age		18.9 (1.52)	19.2 (1.84)	21.6 (1.48)	22.6 (5.04)	23.6 (1.27)	
Gender	Male	72 (48%)	24 (27.3%)	81 (47.6%)	9 (15.3%)	43 (50.6%)	
	Female	78 (52%)	64 (72.7%)	89 (52.3%)	50 (84.7%)	42 (49.4%)	

Age: The average age of the medical student group was 21.0 years  $\pm$  2.3 (range 17-29 years) and the average age of the psychology student group was 20.6 years  $\pm$  3.9 (range 17-43 years). Overall, differences in age between medical and psychology students were not significant (t = -1.72; p = 0.86). However, there was a significant difference in age between year 3 medical and psychology students, with psychology students being older (t = 2.28; df = 239; p = 0.023).

Ethnicity: The two groups were broadly comparable in terms of ethnicity (Table 2b). In each group the majority of respondents classified themselves as 'White -UK/Irish'. However, there was a preponderance of medical students who identified their ethnic background being from the Asian sub-continent as (Bangladesh/Indian/Pakistani), compared with psychology students. There was also significantly more students who classified themselves as 'White - other', within the psychology student group, compared to the medical student group (Table 2b). 9 students did not state their ethnic background status.

		Sul			
		Psychology	Medicine	TOTAL	
	Bangladesh/Indian/	9.5% (14)	24.0% (99)	20.1% (113)	
	Pakistani				
Ethnic	Black	3.4% (5)	3.9% (16)	3.7% (21)	
group	Chinese	6.1% (9)	5.1% (21)	5.3% (30)	
	White - UK/Irish	50.0% (74)	50.6% (209)	50.4% (283)	
	White – other	21.6% (32)	9.2% (38)	12.6% (70)	
	Any other group	9.4% (14)	7.2% (30)	7.9% (44)	
	TOTAL (n)	148	413	561	

Table 2b : Ethnic backgrounds of students who participated in study (% (n))

#### 3.3 Alcohol Use

3.3.1 A total of 419 (73.5%) students stated that they consumed alcohol; 151 (26.5%) students stated that they did not drink alcohol.

Interestingly, mean scores of both the medical student group and the psychology student group in years 1 and 3, were above the cut-off point of 8 for hazardous drinking (Table 3). However, there was no significant difference between the two groups of students.

## **Table 3 :**Mean scores (standard deviation) obtained on the AUDIT by Medical<br/>and Psychology students

	Y	YEAR OF STUDY				
	1	3	5	TOTAL		
Medical Students	9.52 (5.37)	9.07 (6.04)	7.53 (5.79)	8.92 (5.79)		
Psychology Students	8.97 (5.62)	10.17 (5.81)		9.49 (5.71)		

**3.3.2** Comparing drinking levels of years 1, 3 and 5 medical students (Fig. 1), there was a trend indicating that AUDIT scores decreased from years 1 to 3 to 5 ( $F_{2,355} = 2.87 \text{ p} = 0.058$ ).





#### 3.3.3 Clinical Caseness

There was a trend, indicating that  $3^{rd}$  psychology students were more likely to score above the cut-off point of the AUDIT, indicating alcohol consumption at a harmful level, than  $3^{rd}$  year medical students ( $\chi^2 = 3.34$ ; df = 1; p = 0.067). There was no significant difference between year 1 psychology and medical students ( $\chi^2 = 0.54$ ; df = 1; p = 0.464).

With respect to comparisons of clinical caseness between years 1, 3 and 5 medical students (Table 4) there was a significant difference between years 1 and 5 ( $\chi^2 = 8.21$ ; df = 1; p = 0.004) and between years 3 and 5 ( $\chi^2 = 7.58$ ; df = 1; p = 0.006). As

shown in Fig. 2, significantly more 1<sup>st</sup> year medical students scored above the cut-off point of the AUDIT, (indicating alcohol consumption at a harmful level), than 5<sup>th</sup> year medical students. Also significantly more 3rd year medical students scored above the cut-off point of the AUDIT, than 5<sup>th</sup> year medical students. There was no significant difference between years 1 and 3 medical students ( $\chi^2 = 0.61$ ; df = 1; p = 0.805).

Table 4:Number of cases of harmful alcohol consumption in psychology and<br/>medical students, based on AUDIT cut-off scores (N students + (% of<br/>that group)).

	Subject and Year of Study					
	Med 1	Psy 1	Med 3	Psy 3	Med 5	Total
Drinking alcohol	56	37	70	18	47	228
at acceptable level						
(< 8)	(43.4)	(48.7)	(44.9)	(31.0)	(45.6)	(46.3)
Drinking at level	73	39	86	40	26	264
indicating						
harmful alcohol	(56.6)	(51.3)	(55.1)	(69.0)	(35.6)	(53.7)
consumption (> 8)						

Fig 2: Percentage of clinical cases indicated on the AUDIT, across year of study, in psychology and medical students.



Subject and Year of Study

#### 3.4 Psychological Well-being

#### 3.4.1 <u>GHQ-12</u>

**3.4.1.1** There was a significant interaction between subject group and year of study  $(F_{1,479} = 14.5; p < 0.0001)$ , with year 3 psychology students having higher GHQ-12 scores than year 1 psychology students or medical students (see Fig. 3; Table 5).

**Table 5 :**Mean (standard deviation) GHQ-12 scores obtained from Medical and<br/>Psychology students.

	YI			
	1	3	5	TOTAL
Medical Students	2.64 (2.84)	1.44 (1.81)	3.68 (3.09)	2.33 (2.64)
Psychology Students	2.72 (2.83)	3.48 (3.49)		3.03 (3.13)

Furthermore, there was a main effect of group whereby psychology students scored significantly higher on the GHQ-12 than medical students ( $F_{1,479}$  = 16.6; p<0.0001).

# **Fig. 3:** Mean GHQ-12 scores obtained from 1<sup>st</sup> and 3<sup>rd</sup> year medical and psychology students.



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With respect to threshold scores, the psychology students sampled had a mean score of 3.03 ( $\pm$  3.13), which lies on the cut-off point indicating psychological distress. Medical students sampled had a mean of 2.33 ( $\pm$  2.64) which falls below the cut-off point.

**3.4.1.2** Examining differences in GHQ-12 across year of study, within the medical student group, there was a significant difference between years 1 and 3 ( $F_{2,414}$ = 24.75; p < 0.0001); years 1 and 5 (p = 0.008), and years 3 and 5 (p < 0.0001). Interestingly, as illustrated in Fig. 4, GHQ-12 scores decreased from year 1 to year 3 and increased from year 3 to year 5.





Year of Study

#### 3.4.1.3 Clinical Caseness

A significant difference ( $\chi^2 = 20.02$ ; df = 1; p < 0.0001) was found between year 3 psychology and medical students, with more 3<sup>rd</sup> year psychology students obtaining scores indicating psychological distress (>3) on the GHQ-12. There was no significant difference, with respect to clinical caseness found between year 1 psychology and medical students.

An examination of differences across year of study in medical students, showed a significant difference between years 1 and 3 ( $\chi^2 = 13.56$ ; df = 1; p < 0.0001), with more 1<sup>st</sup> year medical students obtaining scores indicating psychological distress on GHQ-12. A significant difference was also found between years 1 and 5 ( $\chi^2 = 6.33$ ; df = 1; p = 0.012) and years 3 and 5 ( $\chi^2 = 34.26$ ; df = 1; p < 0.0001). A greater percentage of 5<sup>th</sup> year medical students scored above the cut-off point of the GHQ-12, compared to 1<sup>st</sup> and 3<sup>rd</sup> year medical students (Fig. 5; Table 6).

### Fig. 5: Percentage of clinical cases indicating psychological distress on the GHQ-12, across year of study, in psychology and medical students.



Subject and Year of Study

Table 6:Number of clinical cases of psychological distress in psychology and<br/>medical students, based on GHQ-12 cut-off scores (N students + (%<br/>of that group)).

	Subject and Year of Study					
	Med 1	Psy 1	Med 3	Psy 3	Med 5	Total
Normal	108	64	158	38	46	414
Range on						
GHQ-12	(71.1)	(72.7)	(87.3)	(61.3)	(54.8)	(73.0)
(<3)						
Psychological	44	24	23	24	38	153
Distress						
(≥3)	(28.9)	(27.3)	(12.7)	(38.7)	(45.2)	(27.0)

#### 3.4.2 HAD Scale - Anxiety

**3.4.2.1** Although scores were generally low, there was a significant difference in levels of anxiety between the two groups (See Table 7).

# Table 7 :Mean (standard deviation) anxiety scores obtained on the HAD Scaleby Medical and Psychology students.

	Y	TOTAL		
	1	3	5	J
Medical Students	6.14 (3.90)	6.63 (3.70)	6.50 (4.53)	6.42 (3.95)
Psychology Students	6.73 (3.95)	7.90 (4.05)		7.22 (4.02)

Psychology students were significantly more likely to obtain higher scores on the anxiety sub-scale of the HAD Scale questionnaire, than medical students ( $F_{1,479} = 5.95$ ; p = 0.015) and third year students were significantly more anxious than first year students ( $F_{1,479} = 4.74$ ; p = 0.03). There was no interaction between group-subject and year, with respect to anxiety sub-scale scores on the HAD Scale (see Fig. 6).

Fig. 6:Mean anxiety scores of psychology and medical students in years 1<br/>and 3 of study.



**3.4.2.2** As can be seen in Table 7, the mean scores, obtained from the anxiety subscale of the HAD Scale questionnaire, did not differ significantly across year group of the medical students ( $F_{2,413} = 0.652$ ; p=0.521).

#### 3.4.2.3 Clinical Caseness

There was a significant difference between year 3 psychology and year 3 medical ( $\chi^2$  = 12.11; df = 2; p < 0.002), with psychology students showing a greater preponderance of clinical anxiety. Year 3 psychology students were also more likely to score within the moderate to severe range of anxiety compared to year 3 medical students (Table 8). There was no significant difference with respect to clinical cases of anxiety between year 1 psychology and year 1 medical students.

Comparing year 1 and year 3 medical students, there was a significant difference in clinical cases of anxiety ( $\chi^2 = 6.50$ ; df = 2; p = 0.039). Year 3 medical students were more likely to experience anxiety at a clinical level compared to year 1 and to year 5 medical students ( $\chi^2 = 8.71$ ; df = 2; p = 0.013). There was no significant difference between year 1 and year 5 medical students ( $\chi^2 = 0.74$ ; df = 2; p = 0.69).

Table 8:Number of clinical cases of anxiety in psychology and medical<br/>students, based on HAD Scale cut-off scores (N students + (% of that<br/>group)).

	Subject and Year of Study					Total
	Med 1	Psy 1	Med 3	Psy 3	Med 5	4
Normal	88	46	91	23	51	299
Range	(57.9)	(32.3)	(50.6)	(36.5)	(60.7)	(52.7)
(0-7)						
	40	27	70	22	18	177
Mild Anxiety	(26.3)	(30.7)	(38.9)	(34.9)	(21.4)	(31.2)
(8-11)						
Moderate-	24	15	19	18	15	91
Severe	(15.8)	(17.0)	(10.6)	(28.6)	(17.9)	(16.0)
Anxiety						
(> 11)					, , , ,	

Fig. 7: Percentage of clinical cases of anxiety indicated on the HAD Scale, across



year of study, in psychology and medical students.

### 3.4.3 HAD Scale - Depression

**3.4.3.1** Although there was a significant difference with respect to scores obtained on the depression sub-scale and subject ( $F_{1,478} = 7.51$ ; p=0.006) and also a trend towards an interaction was found with respect to subject-year interaction, ( $F_{1,478} = 3.03$ ; p=0.08), the levels of depression identified were not clinically relevant. Both the medical student group and the psychology student group had mean scores within the 'normal range' and well-below the cut-off scores (Table 9), (Medicine: mean = 2.72  $\pm 2.82$ ; Psychology: mean =  $3.42 \pm 2.50$ ).

Table 9:Mean (standard deviation) depression scores obtained on the HADScale by Medical and Psychology students

	YI			
	1	3	5	TOTAL
Medical Students	3.14 (2.86)	2.28 (2.50)	2.92 (3.26)	2.72 (2.82)
Psychology Students	3.40 (2.33)	3.44 (2.73)		3.42 (2.50)

**3.4.3.2** Although there was a significant decrease from year 1 to year 3 medical students ( $F_{2,412} = 4.123$ ; p=0.017) in scores, the levels of depression indicated were again within the normal range and hence were not clinically relevant. There was no significant difference between years 1 and 5 or years 3 and 5.

### 3.5 <u>Are scores obtained on AUDIT questionnaire related to scores obtained</u> on (i) GHQ-12 questionnaire; (ii) HAD Scale – anxiety sub-scale?

#### 3.5.1 AUDIT and GHQ-12

A Pearson's Chi-Square analysis was performed to determine if scores obtained on the AUDIT questionnaire (high – low) were related to scores obtained on GHQ-12 questionnaire (high – low). No relationship was found between AUDIT scores and GHQ-12 scores ( $\chi^{2}= 0.25$ ; df = 1; p = 0.874).

#### 3.5.2 AUDIT and HAD Scale – anxiety sub-scale

No relationship was found between scores obtained on the AUDIT questionnaire and scores obtained on the HAD Scale – anxiety sub-scale ( $\chi^2 = 0.11$ ; df = 1; p = 0.915).

#### <u>3.6</u>

This section of the results examines the 'free responses' given to specific questions asked. For sections 3.6.1-3.6.3, the results are presented firstly by examining the quantitative responses given to the first part of the question and secondly, by examining the 'free-responses' given to support the response. Sections 3.6.4 -3.6.6 report 'free-responses' given.

#### 3.6.1 <u>Has alcohol ever affected academic performance?</u>

31.7% (n = 156) of students stated that alcohol had affected their academic performance, with the majority of these students stating that their academic performance had been affected 'occasionally' (Table 10).

A significant difference, with respect to the frequency that alcohol had affected academic performance, was found between year 1 and year 3 medical students ( $\chi^2 =$ 9.72; df = 3; p = 0.021). Medical students in year 3 were more likely to have had their academic performance affected by alcohol compared to year 1 medical students. Also year 3 medical students were more likely to have had their academic performance affected by alcohol compared to year 5 medical students ( $\chi^2 = 9.72$ ; df = 4; p = 0.045).

No differences were found with respect to subject group.

Table 10:Responses given from psychology and medical students to the<br/>question (A6) - 'Has alcohol ever affected your academic<br/>performance?' (N students + (% of that group)).

	Med 1	Psy 1	Med 3	Psy 3	Med 5	TOTAL
No	99	52	99	31	55	336
	(77.3)	(68.4)	(63.1)	(53.4)	(75.3)	(68.3)
Occasionally	18	19	45	19	9	110
	(14.1)	(25.0)	(28.7)	(32.8)	(12.3)	(22.4)
Sometimes	10	5	10	7	7	39
	(7.8)	(6.6)	(6.4)	(12.1)	(9.6)	(7.9)
Often/	1	0	3	1	2	7
V.Often	(0.8)		(1.9)	(1.7)	(2.8)	(1.4)

Of 156 (31.7%) students who stated that alcohol had affected their academic performance, 147 (94.2%) gave explanations as to how it had affected their academic performance. The reasons given for how academic performance had been affected are listed in Table 11. No significant differences were found between subject-year groups or between year of study in medical students, with respect to the type of reasons given as to how their academic performance had been affected. Interestingly, 1.4% (n = 2) of students stated that they had 'been inspired' in their academic performance, having consumed alcohol!

Table 11:Reasons given as to how students felt that their academic<br/>performances had been affected through the use of alcohol (N<br/>students + (% of that group)).

		Subject Group and Year of Study					
	Med 1	Psy 1	Med 3	Psy 3	Med 5		
Lack of	10	8	17	8	6		
attention	(38.5)	(33.3)	(32.7)	(30.8)	(35.3)		
Hangover	6	8	23	11	7		
(unable to work)	(23.1)	(33.3)	(44.2)	(42.3)	(41.2)		
	4	0	8	3	3		
Missed lecture	(15.4)		(15.4)	(11.5)	(17.6)		
Tired/Sleeping	6	8	4	4	1		
in lecture	(23.1)	(33.3)	(7.7)	(15.4)	(5.9)		

#### 3.6.2 Do medical students drink more alcohol than other students do?

51.6% (291) of students sampled stated that they believed medical students consumed more alcohol compared to other student groups. Interestingly a significant difference was found between year 1 and year 5 medical students ( $\chi^2$ = 5.05; df = 1; p = 0.025). Year 1 medical students were more likely to state that medical students do drink more alcohol than other students do (Table 12).

Table 12:Responses given from psychology and medical students to the<br/>question (A10) - 'Do you think that medical students drink more than<br/>other students do?' (N Students + (% of that group)).

	Subject Group and Year of Study					
	Med 1	Psy 1	Med 3	Psy 3	Med 5	
No	61	45	86	34	47	273
	(40.1)	(52.3)	(47.8)	(55.7)	(55.3)	(48.4)
Yes	91	41	94	27	38	291
	(59.9)	(47.7)	(52.2)	(44.3)	(44.7)	(51.6)

A total of 564 (98.9%) responded to this question. 299 (53.0%) gave reasons for their response.

Significant differences were found between subject-year groups, regarding the reasons why respondents believed that medical students did drink more than other students.

#### Year 1 : Medicine vs. Psychology

The majority of students in each group cited 'stress' as the main reason they thought that medical students drank more than other students. However, there was a significant difference with respect to other reasons given ( $\chi^2$ = 18.07; df = 6; p = 0.006). Psychology students in year 1 were more likely to cite that it was 'Common Knowledge' that medical students did drink more alcohol; that medical students were 'Expected to' drink more or that it was as a result of 'Peer Pressure'. Medical students in year 1 were more likely to cite that it was as a result of having to pack drinking into a shorter period of time ('less time') or that it was because of 'Socialising' that they tended to drink more.

#### Year 3 : Medicine vs. Psychology

A similar pattern to that observed in year 1 students was also observed in year 3 students, with reasons given, differing between the two subject groups ( $\chi^2$ = 27.69; df = 6; p < 0.0001). Although there was a greater spread across reasons cited in this year group, 'stress' was again the most common reason given as to why medical students were thought to drink more alcohol than other students. Psychology students were more likely to cite 'Common Knowledge' whereas medical students in year 3 were more likely to cite 'Socialising' or that it was because it was part of the 'Culture of Medical School' that they tended to drink more.

Table 13:	Reasons given as to why students consider medical students to drink
	more alcohol than other students (N Students + (% of that group)).

		Subject Group and Year of Study					
	Med 1	Psy 1	Med 3	Psy 3	Med 5		
Stress	34	17	28	7	15		
	(42.5)	(44.7)	(28.3)	(23.3)	(28.8)		
Less Time	8	1	10	5	8		
	(10.0)	(2.6)	(10.1)	(16.7)	(15.4)		
Expected to	7	5	15	3	3		
	(8.8)	(13.2)	(15.2)	(10.0)	(5.8)		
Socialise	8	0	15	1	5		
	(10.0)		(15.2)	(3.3)	(9.6)		
Culture	21	7	22	5	14		
	(26.3)	(18.4)	(22.2)	(16.7)	(26.9)		
Peer Pressure	2	5	9	2	7		
	(2.5)	(13.2)	(9.1)	(6.7)	(13.5)		
Common	0	3	0	7	0		
Knowledge		(7.9)		(23.3)	5 5 6 7 7 7 7 8 7 8 8 8 8 8 8 8 8 8 8 8 8 8		

Interestingly, no significant difference was found across years 1, 3 and 5 of medical students, with respect to reasons cited.

#### 3.6.3 Does the medical school/ university life influence students use of alcohol?

565 (99.1%) of students responded to this question, of which 399 (70.6%) gave an account as to why they thought that either medical school or university life influenced students level of alcohol drinking.

Significant differences were identified between year 1 medical and psychology students ( $\chi^2$ = 13.17; df = 2; p = 0.001) and between year 3 medical and psychology students ( $\chi^2$ = 8.63; df = 2; p = 0.013). In both years 1 and 3, medical students were more likely to report that they felt that medical school life either had 'no influence' or that it 'discouraged' students use of alcohol compared to psychology students.

Furthermore,  $1^{st}$  year medical students were more likely to report that they felt that medical school either had 'no influence' or that it 'discouraged' students use of alcohol in comparison to year 3 medical students ( $\chi^2 = 6.35$ ; df = 2; p = 0.042). No other significant differences were found with respect to this question.

Table 14:Responses given from psychology and medical students to the<br/>question (A11) - 'Do you feel that medical school / university life<br/>encourages/discourages students use of alcohol?' (N students + (% of<br/>that group)).

		TOTAL				
	Med 1	Psy 1	Med 3	Psy 3	Med 5	
Encourages	103	78	141	59	68	449
	(68.2)	(88.6)	(79.2)	(93.7)	(80.0)	(79.5)
Has No	44	10	36	3	17	110
Influence	(29.1)	(11.4)	(20.2)	(4.8)	(20.0)	(19.4)
Discourages	4	0	1	1	0	6
	(2.6)		(0.6)	(1.6)		(1.1)

With respect to responses given to the question ' Does medical school/university life encourage/discourage students use of alcohol?', significant differences in the responses given were observed between subject group, with regards to those students who believed that medical school/university life encouraged students use of alcohol.

#### Year 1: Medicine vs. Psychology

The most frequently cited reason that both psychology and medical students gave for the medical school/university life encouraging students use of alcohol, was that it was 'Part of medical school/ university life'. This category included comments that it was 'Tradition' to encourage the use of alcohol; that the 'Union' actively promoted it and that 'Staff' were viewed to encourage students use of alcohol. There was a significant difference regarding other reasons why the medical school/university life was deemed to be influential upon student's use of alcohol ( $\chi^{2}$ = 15.81; df = 4; p = 0.003). With respect to additional responses made, psychology students were more likely to cite 'Availability/Accessibility' than medical students. This category included responses such as 'lots of bars' and 'cheap alcohol'. Medical students were more likely to cite 'Stress' or 'Peer Pressure' for reasons that they considered medical school to encourage students use of alcohol (Table 15).

#### Year 3: Medicine vs. Psychology

Significant differences in the reasons cited for the medical school/university life influencing students use of alcohol, were also identified in year 3 students ( $\chi^{2}$ = 25.94; df = 4; p < 0.0001). The most frequently cited reason that year 3 psychology students cited for the university life encouraging students use of alcohol was 'Accessibility/Availability', whereas year 3 medical students were more likely to cite that they thought it was 'Part of medical school life'.

No significant difference was found with respect to reasons given to this question across years 1, 3 and 5 medical students

Table 15:Reasons given as to why students consider that medical<br/>school/university life encourages students use of alcohol (n (%)).

	Subject Group and Year of Study					
	Med 1	Psy 1	Med 3	Psy 3	Med 5	
Stress	8	0	18	4	9	
	(10.5)		(15.8)	(8.5)	(16.1)	
Involved in	18	21	26	13	15	
all Social	(23.7)	(36.2)	(22.8)	(27.7)	(26.8)	
Activities						
Part of Med.	31	20	52	9	19	
School/ Uni.	(40.8)	(34.5)	(45.6)	(19.1)	(33.9)	
Life						
Peer	13	4	11	5	7	
Pressure	(17.1)	(6.9)	(9.6)	(10.6)	(12.5)	
Availability/	6	13	7	13	6	
Accessibility	(7.9)	(22.4)	(6.1)	(34.0)	(10.7)	

20.5% of students who responded stated that they believed that medical school/university life either had 'No Influence' (19.4%) or that it 'Discouraged' (1.1%) students use of alcohol.

#### 3.6.4 How do you cope with stress?

537 (94.2%) of students responded to this question. No significant difference was found with respect to subject-year groups or across years 1, 3 and 5 medical students, regarding the methods cited for coping with stress. The majority of students (73.6%) stated that they would 'Talk to a friend/partner/ parent' in order to help them cope with stressful periods (Table 16). Approximately one fifth of medical students and one fifth of psychology students stated that they would 'Do something else' to help them cope with stress. Items in this category included 'Exercise', 'Go shopping', 'Watch TV' and 'Meditate or engage in specific relaxation'.

Interestingly, only 2.0% of the total number of students who responded, stated that they would either 'Go to the pub' or 'Have an alcoholic drink' to help them manage their stress.

Table 16:	Methods given for how psychology and medical students manage
	their stress (N students and (% of that group)).

	S	Subject Group and Year of Study					
	Med 1	Psy 1	Med 3	Psy 3	Med 5		
Talk to	97	54	135	44	65		
friend/partner /parent	(68.8)	(68.4)	(77.6)	(69.8)	(81.3)		
	40	18	31	13	12		
Do something else	(28.4)	(22.8)	(17.8)	(20.6)	(15.0)		
	2	2	3	2	2		
Drink alcohol	(1.4)	(2.5)	(1.7)	(3.2)	(2.5)		
	2	5	5	4	1		
Smoke/Drugs	(1.4)	(6.3)	(2.9)	(6.3)	(1.3)		

#### 3.6.5 How do friends advise you to cope with stress?

407 (71.4%) responded to this question. There was no significant difference between subject-year groups or across years 1, 3 and 5 medical students. The most commonly cited advice that friends appeared to offer was 'Talk' about their problems or worries. Also, frequently cited was that of the advice to 'Relax' and not to worry about their problems (Table 17).

A further 2.2% (9) of the total number of students who responded to this question, stated that their friends would advise them to 'smoke' or 'take drugs'.

Table 17:Advice given by friends with respect to how to cope with stress, as<br/>reported by psychology and medical students (N students + (% of that<br/>group)).

	Subject Group and Year of Study						
	Med 1	Psy 1	Med 3	Psy 3	Med 5		
Drink/ Pub	11	11	14	7	10		
	(16.7)	(16.7)	(11.6)	(15.2)	(19.2)		
Do something	29	14	39	13	15		
else	(25.7)	(21.2)	(32.2)	(28.3)	(28.8)		
Talk	41	16	44	12	16		
	(36.3)	(24.2)	(36.4)	(26.1)	(30.8)		
Relax	32	25	24	14	11		
	(28.3)	(37.9)	(19.8)	(30.4)	(21.2)		

#### 3.6.6 How do tutors advise you to cope with stress?

394 (69.1%) students responded to this question. Significant differences were found between year 3 psychology and medical students ( $\chi^2 = 32.16$ ; df = 4; p < 0.0001), with year 3 medics more likely to cite that tutors would advise them to 'talk' about their difficulties compared to year 3 psychology students. Year 3 psychology students were more likely to cite that their tutors gave them 'no advice' with regards how to cope with stress.

There were also significant differences between years 1 and 5 ( $\chi^2$ = 23.11; df = 4; p < 0.0001); year 1 and 3 ( $\chi^2$ = 12.51; df = 4; p = 0.014) and years 3 and 5 ( $\chi^2$ = 29.51; df = 4; p < 0.0001) medical students. Year 1 medical students were more likely to cite that their tutors had advised them to 'do something else', in order to manage stress; Year 3 medical students were more likely to state that their tutors had advised them to 'talk' about their concerns and year 5 medical students were more likely to state that they felt their tutors had offered them 'no advice' with respect to managing their levels of stress (Table 18).
Table 18:Advice given by tutors with respect to how to cope with stress, as<br/>reported by psychology and medical students (N students + (% of that<br/>group)).

	Subject Group and Year of Study				
	Med 1	Psy 1	Med 3	Psy 3	Med 5
Do something	29	11	14	5	11
else	(25.7)	(16.9)	(12.2)	(9.8)	(22.0)
	26	20	20	9	3
Plan/Organise	(23.0)	(30.8)	(17.4)	(17.6)	(6.0)
Professional	7	4	5	1	4
advise	(6.2)	(6.2)	(4.3)	(2.0)	(8.0)
Talk	32	10	55	6	7
	(28.3)	(15.4)	(47.8)	(11.8)	(14.0)
No advice	19	20	21	30	25
	(16.8)	(30.8)	(18.3)	(58.8)	(50.0)

# 3.7 Drinking Patterns

This section examines more specifically students patterns of alcohol use, by firstly reporting upon weekly drinking levels and secondly, patterns of binge drinking.

# 3.7.1 Weekly Drinking Levels

46.3% (264/570) of students knew the correct maximum recommended weekly intake for alcohol for men. 49.5% (282/570) of students knew the correct maximum recommended weekly intake for alcohol for women (Table 19).

Table 19:Students who correctly stated the maximum recommended weekly<br/>intake of alcohol for men and women (N students + (% of that<br/>group)).

		Subject Group and Year of Study				
		Med 1	Psy 1	Med 3	Psy 3	Med 5
		44	13	115	12	80
Men	Correct	(28.9)	(14.8)	(63.2)	(19.0)	(94.1)
		108	75	67	51	5
	Incorrect	(71.1)	(85.2)	(36.8)	(81.0)	(5.9)
		47	16	125	17	77
Women	n Correct	(30.9)	(18.2)	(68.7)	(27.0)	(90.6)
		105	72	57	46	8
	Incorrect	(69.1)	(81.8)	(31.3)	(73.0)	(9.4)

As indicated by the above figures, over half the number of students sampled did not know the maximum recommended weekly intake for alcohol. Therefore, in order to gain an estimation of the weekly intake for alcohol of students a calculation was made from data collected. Once this calculation had been derived, an examination of the number of students exceeding the recommended weekly level was made. Students were grouped by subject and gender.

#### 3.7.1.1 Male Students

Overall 47% (88/187) of male students were consuming alcohol on a weekly basis at a harmful or hazardous level (Morgan and Ritson, 1998) i.e. more than 22 units of alcohol per week. Male students studying medicine exceeded the recommended maximum intake level more than male students studying psychology. The amount of alcohol consumed on a weekly basis also appeared to decrease in medical students from year 1 to year 3 to year 5 (Table 20).

Table 20:	Percentages of male psychology and medical students exceeding
	maximum recommended weekly intake of alcohol.

	Weekly Units of Alcohol			
-	0-21*	22-50 <sup>*</sup>	>50*	
		(Hazardous)	(Harmful)	
Medicine Yr 1	38.9	47.4	14.0	
Psychology Yr 1	50.0	45.0	5.0	
Medicine Yr 3	59.4	35.9	4.7	
Psychology Yr 3	55.6	22.2	22.2	
Medicine Yr 5	64.9	24.3	10.8	
TOTAL	52.9	37.4	9.6	

\* Units cited are based on BMA guidelines for male alcohol intake levels

# 3.7.1.2 Female Students

Overall 34.3% (96/280) of female students were consuming alcohol on a weekly basis at a harmful or hazardous level. Psychology students in years 1 and 3 exceeded the maximum recommended weekly intake or alcohol for women, more than medical students in years 1 and 3. 1st year female students studying medicine appeared to drink more alcohol on a weekly basis than 5<sup>th</sup> year female medical students (Table 21).

 Table 21:
 Percentages of female psychology and medical students exceeding

 maximum recommended weekly intake of alcohol.

	Weekly Units of Alcohol			
	0-14*	15-35	>35`	
		(Hazardous)	(Harmful)	
Medicine Yr 1	55.9	35.3	8.8	
Psychology Yr 1	56.4	41.8	1.8	
Medicine Yr 3	77.9	20.8	1.3	
Psychology Yr 3	60.0	31.1	8.9	
Medicine Yr 5	80.0	20.0	0	
TOTAL	65.7	30.0	4.3	

\* Units cited are based on BMA guidelines for female alcohol intake levels

# 3.7.2 Binge Drinking

Patterns of binge drinking were analysed firstly using an ANOVA with factors of group (medical vs. psychology students) and year (1st year vs. 3<sup>rd</sup> year) and secondly a One-Way ANOVA was performed to compare years 1, 3 and 5 of medical students.

There was no significant difference between the two groups of students, with respect to frequency of binge drinking (Fig. 8). However, there was a significant difference between years 1 and 5 medical students ( $F_{2, 355} = 3.431$ ; df = 2; p = 0.033), with 1<sup>st</sup> year medical students more likely to binge drink (Table 22).

Fig. 8:Percentage of psychology and medical students in years 1 and 3<br/>drinking more than six drinks in one sitting.



Number of occasions >6 drinks

	Subject Group and Year of Study				
	Med 1	Psy 1	Med 3	Psy 3	Med 5
Never	26	16	29	9	18
	(20.2)	(21.1)	(18.6)	(15.5)	(24.7)
< Monthly	31	24	42	19	27
	(24.0)	(31.6)	(26.9)	(32.8)	(37.0)
Monthly	22	22	49	18	13
	(17.1)	(28.9)	(31.4)	(31.0)	(17.8)
Weekly	46	14	33	12	15
	(35.7)	(18.4)	(21.2)	(20.7)	(20.5)
Almost Daily	4	0	3	0	0
	(3.1)		(1.9)		

**Table 22:**Frequency of binge drinking of psychology and medical students (N<br/>students and (% of that group)).

#### 3.8 Summary of Major Findings

- A large proportion of both psychology and medical students sampled were drinking at a hazardous or harmful level. Alcohol therefore appears to be a feature of student life and is not unique to those students studying medicine.
- A significant proportion of students were identified to be experiencing levels of psychological distress (GHQ-12) and clinical levels of anxiety (HAD Scale).
- Levels of depression were very low and not clinically relevant in either group.
- Alcohol use was not related to levels of psychological distress or anxiety.
- Alcohol use was not a coping strategy for managing high levels of stress.
- The majority of students are not aware of the maximum recommended weekly levels for alcohol consumption i.e. drinking at a 'safe' level.
- Nearly all students feel that the medical school culture/university life encourages students' use of alcohol.
- Students in their final year of study feel unsupported by the tutorial system, with respect to managing levels of stress.

#### Chapter 4 DISCUSSION

The results of this study will be discussed in relation to the initial research questions posed and in the context of previous research, before the limitations of the present study are reviewed. This chapter will conclude with a discussion of the clinical and educational implications of the present research and proposals for future research.

### 4.1 Alcohol Consumption by Medical and Psychology Students

One of the main aims of this study was to identify whether medical students consumed higher levels of alcohol compared to other students. As highlighted in the introduction, previous research has focused on the medical student group in isolation and therefore ignored the impact of university life in general on alcohol consumption. By neglecting to address this question, only limited conclusions could have been drawn.

Interestingly, levels of alcohol use did <u>not</u> differ between medical students and psychology students in years 1 and 3. However, over half the students in each group, in both years 1 and 3, were drinking at a 'hazardous' level as indicated by AUDIT questionnaire scores (Saunders et al. 1983). Further, third year psychology students tended to have the largest proportion (69%) of those who consumed alcohol at a harmful level.

These findings clearly support Pickard et al.'s (2000) recent study, in which it was reported that over half of second year medical students sampled exceeded

recommended weekly levels. Although previous studies (Ashton and Kamali, 1995; Collier and Beales, 1989; Gutherie et al. 1995) have reported "disturbing trends in alcohol consumption" (Ashton and Kamali, 1995 p190), findings have been lower than those reported in this current study. Despite this, however, previous studies have concluded that even these lower levels "still seemed excessive for individuals of this age-group" (Ashton and Kamali, 1995 p191) and that medical students "are no better and probably worse than the general population in adopting safe drinking limits" (File et al. 1994).

However, it is important to note at this stage that comparisons with previous studies must be made with caution. This study used the AUDIT (Saunders et al. 1983) as a measure of alcohol use whereas previous studies have used a variety of different measures, including the CAGE questionnaire (Mayfield et al. 1974) and the Michigan Alcoholism-Screening Test (Selzer, 1971). Several researchers have highlighted the lack of sensitivity of these other measures (Kitchens, 1994; Piccinelli et al. 1997; Saunders et al. 1983), in comparison with the AUDIT and therefore as a consequence of using a more sensitive measure, a higher rate of detection may have been obtained in this current study. Despite this the results from this present study clearly support previous findings in identifying high levels of alcohol use within universities.

#### 4.2 <u>Recommended Drinking Limits</u>

In addition to examining alcohol use in specific reference to potential levels of harm (i.e. AUDIT questionnaire), this study also examined drinking patterns among the student groups.

Nearly all 5<sup>th</sup> year medical students knew the maximum recommended weekly intake of alcohol consumption for men and women. The majority (70%) of 1<sup>st</sup> year medical students did not know these figures and a minority (34%) of 3<sup>rd</sup> year medical students did not know these figures. Psychology students in both years 1 and 3 were largely unaware of these limits. It would seem therefore, that despite health education initiatives, basic information about 'safe' alcohol consumption is not getting through to undergraduates. This clearly has implications for universities and student welfare.

With research indicating that a significant proportion of people cannot remember or often do not actually admit to how much alcohol they have consumed (Special Committee of the Royal College of Psychiatrists, 1986) and the majority of students being unable to state a maximum weekly intake level, a calculation was made on the basis of information supplied by the students, to establish an approximate weekly drinking level figure (see section 2.6).

**4.2.1 Male students:** Nearly half (47%) the male students had weekly alcohol consumption at a harmful or hazardous level (i.e. more than 22 units of alcohol per week). More psychology students in year 3 (22%) appeared to be drinking at a harmful level (i.e. more than 50 units) than any other group of students

questioned. The findings from this study are therefore supportive of Pickard et al. (2000) and Webb et al.'s (1996) findings that large proportions of male students exceed the maximum recommended drinking levels. The findings are higher than those reported by Robins et al. (1988) of young adult men within the general population and as such this may be attributed to the increased availability of alcohol to students. As already discussed (see section 1.7), availability is significantly linked to alcohol consumption and with cheap union bars being an integral part of university life, it is perhaps not surprising to find that students are drinking at higher levels than young adults within the general population.

Clearly, these alarmingly high figures of alcohol consumption have educational and clinical implications, which will be discussed later in this chapter (see section 4.10).

**4.2.2 Female students:** A third (34%) of female students who drank alcohol were drinking at either a hazardous or harmful level. Approximately half of psychology and medical students in their 1<sup>st</sup> year were consuming alcohol at a hazardous or harmful level. In year 3, greater proportions of female psychology students were drinking above the recommended weekly intake for women than female medical students in year 3. Thus high levels of alcohol intake are not restricted to male students, supporting Collier and Beales' (1989) earlier study. The proportion of female students in this current study found to be exceeding the maximum recommended weekly intake of alcohol for women are less than those previously reported (Pickard et al. 2000; Webb et al. 1996; 1998). However these findings are comparable to 18-24 year olds across the British population in general

(Thomas et al. 1998). It is unclear as to why higher levels of female drinking were found in previous studies.

Only 20% of 5<sup>th</sup> year medical students were drinking at a hazardous level (i.e. 14-35 units per week), with none exceeding 35 units per week (i.e. harmful alcohol consumption). However, due to the low response rate of this year, this figure may not be truly representative of year 5 drinking.

#### 4.3 Binge Drinking

Binge drinking is defined by the AUDIT questionnaire (Saunders et al. 1983) as drinking six or more alcoholic drinks on one occasion and is identified as carrying health risks, even if the individual is consuming levels within the maximum recommended weekly limit (Pols and Hawks, 1991; Special Committee of the Royal College of Psychiatrists, 1986).

A quarter (25.8%) of medical and psychology students who consumed alcohol were identified as binge drinking at least on a weekly basis. 1<sup>st</sup> year medical students appeared to have a greater preponderance of binge drinkers, with 39% stating that they consumed six or more alcoholic drinks at least on a weekly basis. Although these figures are concerning, binge drinking is most prevalent within this age group (i.e. 18-24 year olds – Morgan and Ritson, 1998) and these figures are consistent with those identified within young adults in the general population (Moore, 1994). Therefore, it is clear that there are clinical and education implications with respect to these findings, which extend beyond that of the university system. These will be discussed in detail later on in this chapter.

#### 4.4 Beliefs about Alcohol Consumption

Interestingly, in terms of students' views of alcohol use by medical students' over half of the students sampled stated that they felt medics did consume more alcohol than other students did. Therefore, even though this study found no difference in alcohol use by medical and psychology students, many students held the 'stereotyped' image of the 'heavy-drinking medical student'.

The reasons given for stating that medical students were thought to drink more than other students were similar in both student groups. Overall, the majority of students (psychology and medicine) stated that 'stress' was the main reason that they thought medical students drank more alcohol. Psychology students were more likely to state that it was just 'common knowledge' that medical students drank more, whereas medical students tended to qualify their response by stating other factors, most notably that drinking was "part of medical school".

Although the reasons cited by the two subject groups differed, interestingly, these reasons all appear to have a common theme relating to the 'stereotypic' image held of medical students. These reasons all appear to support the reputation that medical students are supposed to drink more alcohol than others do. Furthermore, this view is not only compounded by the view that the student has of him or herself as a medical student, but also by their peers within medical education and by other student groups.

#### 4.5 Changes in Alcohol Consumption

The patterns of alcohol use across years 1, 3 and 5 of medical students varied and will be discussed, although with the caveat (see section 4.9) that comparison with  $5^{th}$  years are limited due to the sampling bias in this group and therefore, these results must be interpreted with caution.

Alcohol consumption differed in the three years sampled with  $1^{st}$  years drinking more than both  $3^{rd}$  and  $5^{th}$  years. Medical students in their  $5^{th}$  year consumed the least amount of alcohol. A similar pattern emerged, with regards to 'clinical caseness', whereby more  $1^{st}$  year medical students scored above the cut-off point of the AUDIT questionnaire than  $5^{th}$  years (57% of  $1^{st}$  years compared with 36% of  $5^{th}$  years).

Although the response bias in the 5<sup>th</sup> year may well contribute to the differences noted between years 1, 3 and 5, the decrease in levels of harmful alcohol consumption is consistent with both Croen et al. (1997) and Flaherty and Richman's (1993) reports. This finding could be attributed to the increasing levels of responsibility that these students are facing. By year 5 of medical study, students are actively involved in clinical work and therefore high levels of alcohol use would be dangerous. Furthermore, 5<sup>th</sup> year medical students are heavily involved in their clinical work in addition to preparing for final examinations, and thus may have less time for drinking. It should also be noted that 5<sup>th</sup> year medical students might be more aware of the impact of drinking at an increased level and so actively reduce their levels of alcohol consumption.

#### 4.6 Psychological Well Being

One question initially posed was 'what are the levels of psychological distress, anxiety and depression among the student groups?' Examining levels of psychological distress on the GHQ-12, a third of students sampled obtained scores indicative of distress. Furthermore psychological distress increased from year 1 to year 3 in psychology students, but decreased from year 1 to year 3 in medical students. Third year psychology students were experiencing the greatest level of psychological distress with more 3<sup>rd</sup> year psychology students being above the cut-off point for 'caseness', than were 3<sup>rd</sup> year medical students.

This difference in subject group and year of study could be attributed to third year psychology students' increased work demands with their pending final examinations. Year 3 medical students meanwhile, may be experiencing excitement and feelings of euphoria as they are exposed to their first role as a 'doctor' in their first clinical placements.

Looking at differences across years, 1<sup>st</sup> and 5<sup>th</sup> year medical students were more likely to obtain a score indicating psychological distress than 3<sup>rd</sup> year medical students. In terms of clinical cases (GHQ-12), year 5 medical students had the greatest percentage of students experiencing high levels of psychological distress. Almost half (45%) of the year 5 medical students who completed the GHQ-12 obtained a score indicating psychological distress. Again, this increase could be attributed to the demands of final year training and the pending final examinations. However, it should be reiterated that the results obtained from year 5 medics may not necessarily be representative of this year.

Although few other studies have used the GHQ to identify levels of psychological distress within medical students, the findings are lower than those previously found (Birch et al. 1998; Gutherie et al. 1995). However, the proportion of psychology students identified as scoring within the range of the GHQ indicating psychological distress are comparable to those found by Birch et al. (1998) and Gutherie et al. (1995) in medical students and junior house officers.

With respect to levels of anxiety, although there was a significant difference between the two groups of students, group mean scores for each group were low and below the cut-off for mild anxiety. Psychology students were more anxious than medical students and although there was no interaction between subject group and year of study, 3rd year students were significantly more anxious than 1<sup>st</sup> year students. The proportion of medical students in this current study who appear to be experiencing levels of anxiety at a clinical level were comparable to previous studies (Ashton and Kamali 1995; Pickard et al. 2000; Webb et al. 1998). Interestingly, the proportion of medical students scoring within the clinical anxiety range of the HAD Scale (i.e.  $\geq$ 8), appears less than the proportion of university students in general scoring within this range (Webb et al. 1996).

Although the overall mean scores for anxiety were below the cut-off point on the HAD Scale, a proportion of students were experiencing 'clinical' levels of anxiety with more 3rd year psychology students experiencing anxiety at a clinical level, than  $3^{rd}$  year medical students. Indeed 35% of  $3^{rd}$  year psychology students obtained scores indicating mild anxiety and 28.9% obtained scores that were indicative of moderate-severe levels of anxiety. It is unclear as to why first year psychology

students may be experiencing higher levels of anxiety than first year medical students. However, the differences observed between year 3 psychology and year 3 medical students could be attributed to the presence of more mature students studying psychology.

Webb et al. (1996) commented that mature students were more likely to obtain higher scores on the HAD Scale, with a greater proportion appearing to experience anxiety at a clinical level. This may therefore be a factor as to why psychology students were identified as being significantly more anxious than medical students. The psychology student group had a greater age range (17-43 years) than the medical student group (17-29 years), thus reflecting the presence of more mature students. Although, the overall difference in age between psychology and medical students was not significant, the higher proportion of mature students within the psychology group may have impacted upon the results.

With respect to differences in the number of clinical cases of anxiety identified across year of study in medical students, 3<sup>rd</sup> year medics were more likely to obtain scores on the HAD Scale indicating a clinical level of anxiety compared to 1<sup>st</sup> and 5<sup>th</sup> year medics. 50% of 3<sup>rd</sup> year medical students scored above the cut-off point for clinical levels of anxiety, with 39% falling within the mild range and 11% falling within the moderate-severe range. It is unclear as to why third year medical students were more likely to experience anxiety at a clinical level. Speculation could be made from their stage of training and whether entering the clinical field of medicine may also be associated with anxiety.

Levels of depression (HAD Scale) for both psychology and medical students were well within the 'normal' range and although psychology students scored significantly higher, these scores were not clinically relevant. Similarly, levels of depression decreased as students progressed from years 1 to 3, but again, these levels were not clinically significant.

Aston and Kamali (1995) and Webb et al. (1998) reported similar findings to this study. However, Pickard et al. (2000) identified 9% of men and 10% of women in their study of  $2^{nd}$  year medical students, as experiencing clinical levels of depression with Webb et al. (1996) also reporting small numbers of students experiencing depression at a clinical level.

#### 4.7 Alcohol Use and Psychological Well Being

No relationship was found between alcohol use and psychological distress (GHQ-12) or alcohol use and levels of anxiety (HAD Scale). These results are again consistent with previous findings (Birch et al. 1998; Gutherie et al. 1995; Pickard et al. 2000).

Despite the results of this and other studies finding no relationship between alcohol use and levels of "stress" in medical students, it is clear that many students <u>believe</u> that some medical students drink more than others because of stress. Although there is ample testimony that stress is a factor associated with alcohol abuse, it may be that "students are eager to convince themselves that drinking to excess is a perfectly reasonable reaction to ....stress" (Talbott, 1989 - p344).

Experimental studies have shown that alcohol dampens the effect of a stressful stimulus (Rosehan and Seligman, 1989). If as is proposed, stress reduction were a factor as to why individuals consume alcohol, one would expect alcohol to increase either during or in anticipation of stressful events or situations. However, alcohol consumption increases <u>after</u> such periods and during conditions of relief from stress (Rosehan and Seligman 1989). Therefore, it may be proposed that it is not stress itself, which increases alcoholic drinking but that some factor (or factors) associated with the relief from stress that, increases an individual's desire to consume alcohol. This hypothesis could thus account for why this study did not find a relationship between 'stress' and alcohol use and supports Gutherie et al.'s (1995) proposal that other factors may be more relevant in influencing alcohol use.

#### 4.8 Alcohol and Coping

It was hypothesised that alcohol may be used as a coping strategy in order to help medical students manage the demands of training. However this was not found to be the case as when asked how students cope with stress, only 2% stated that they would either drink alcohol or go to the pub. Furthermore, very few students stated that their friends would advise them to manage their stress by going to the pub or drinking alcohol.

In terms of how students actually manage their stress, the vast majority of both medical and psychology students stated that they would talk about their concerns to a partner, friend or parent. A third of students also stated that their friends would advise them to "talk" about their difficulties or worries. Both psychology and

medical students also reported that they were advised to 'relax' and 'not worry' about things, by their friends.

Advice given by academic tutors on coping with stress differed between groups. Year 3 medical students were most likely to state that their tutors had advised them to "talk" about their concerns, whereas over half year 3 psychology students stated that their tutors offered them "no advice". To what extent this may reflect differences in students seeking advice is not known.

Differences in how students stated that their tutors advised them to manage their stress were found across years 1, 3 and 5 medical students. 1st year medical students most commonly stated that their tutors had advised them to "plan and organise" their workload; 3<sup>rd</sup> year medical students were most frequently likely to state that their tutors had advised them to "talk" about their difficulties and 5<sup>th</sup> year medical students most frequently cited that their tutors offered them "no advice".

The results from this study clearly indicate that both psychology and medical students in their final year of study feel unsupported by their academic tutors with respect to helping them manage their levels of stress. The perception that final year students have about support from their academic departments therefore needs to be addressed, as it raises both clinical and educational issues.

#### 4.9 Limitations of Present Study

There were demographic differences identified between the psychology and medical student groups, which may have impacted upon the findings of this study. Of particular note was the difference in ethnicity of the two main groups. A quarter of medical students were from the Asian sub-continent but only 10% of psychology students. Although little is known about patterns of alcohol consumption among adult ethnic minority groups (HEA, 1997), alcohol is proscribed in certain cultures such as Islam, Hindu Brahmin and devout adherents to the Buddhist religion (Special Committee of the Royal College of Psychiatrists, 1986). Research that has been carried out among adult minority ethnic groups, indicates that in comparison to "white English-born men", Muslim and Hindu men drink significantly less alcohol (Cochrane and Bal, 1990). This study did not account for the possible impact that ethnicity may have had on the findings.

In terms of age, overall the two groups of students did not differ but there were more mature students in the 3<sup>rd</sup> year psychology group. Having an older aged group may have impacted upon the results of this study, particularly with reference to levels of anxiety as previously discussed. Future studies should aim for closer matching of participants in different student groups.

With respect to the time period at which questionnaires were administered, every effort was made to ensure that students were not asked to participate before, during or immediately after, examination periods. Holiday periods were also accounted for. However, due to the time restrictions of this study, students were asked to participate during the mid-period of their autumn term. This meant that 1<sup>st</sup> year students had

only been at university for a relatively short period of time (approximately 6-8 weeks). As a consequence, 1<sup>st</sup> year students may not have settled in the routine of university life and may have been particularly active in many of the social events that are often arranged for this year group. The results from this study, may therefore not truly represent students' alcohol consumption or psychological well-being across their whole 1<sup>st</sup> year of study.

It should also be noted that in an attempt to ensure that the study did not coincide with examination periods, alcohol consumption may have been higher in all years of study, in comparison with later points in the year when work and exam pressures may decrease levels (Pickard et al. 2000). In order to address this issue, future research could consider sampling students at different points throughout the academic year.

An extremely high response rate was obtained for  $1^{st}$  and  $3^{rd}$  year medical and psychology students. A relatively low response rate was obtained from  $5^{th}$  year medical students. Questionnaires were administered postally to this group and thus it was anticipated that a lower response rate would be obtained in comparison to those years approached during lectures. As  $5^{th}$  year medical students are rarely in the university setting during their final year, questionnaires could not be distributed in the same manner as  $1^{st}$  and  $3^{rd}$  year students. File et al. (1994) obtained a similar response rate (37%) from  $5^{th}$  year medical students, completing questionnaires. However, unlike this study, File et al. (1994) actually distributed questionnaires to  $5^{th}$  year medical students during a lecture within their clinical setting.

Sharkey and Patterson (1997) obtained a much higher response rate (92%) from final year medical students by attending a pre-arranged lecture for this group. Although Ghodse and Howse (1994) did not specifically identify 5<sup>th</sup> year medical students as participating in their study, they did recruit participants postally and obtained a response rate of 68% overall by sending repeat questionnaires to non-responders, four to six weeks after the initial mailing.

It would therefore seem that the response rate for  $5^{th}$  year medical students in this study may have been increased by either a repeat mailing to non-responders or by arranging a suitable time at which  $5^{th}$  year medical students would have been assembled together. The data obtained from the  $5^{th}$  year students in this study must therefore be interpreted with caution, as the sample obtained may not be truly representative of this year group. More definite conclusions, regarding both drinking patterns and psychological well being require replication studies recruiting larger samples of final year medical students.

This study focused on students from one university, across two academic subjects. The results from this study may therefore vary from the national norm. However, as indicated by Webb et al. (1996), many university students across different faculties and throughout the UK are drinking above sensible limits and are experiencing significant levels of anxiety.

As previously commented, comparisons with previous studies are limited by methodological differences. Estimates of levels of drinking, in particular, vary

according to measures used. The AUDIT questionnaire (Saunders et al. 1983) has been identified as being particularly sensitive at detecting alcohol intake at a 'hazardous level' (Kitchen, 1994) and thus is able to detect patients at a mild or presymptomatic level (Saunders et al. 1983). However, it is widely accepted that a significant proportion of people have a tendency to under-report their alcohol use (HEA, 1997; Morgan and Ritson, 1998; Piccinelli et al. 1997). Therefore, despite, the use of a particularly sensitive measure, the present findings may under-represent the actual levels of alcohol use.

In addition to this, self-report questionnaires are open to criticism as methods to assess an individual's substance use (Ghodse and Howse, 1994). Although to increase participation and honesty of reporting, all questionnaires were anonymous, the results may still not reflect an accurate picture of drinking levels. As indicated by Ashton and Kamali (1995), it is difficult to gauge the reliability and accuracy of findings from self-report questionnaires.

Furthermore, this study did not directly ask students to state their weekly drinking levels in terms of units of alcohol consumed. Instead a calculation was made on the basis of information given (see section 2.6) which enabled a 'rough' estimation of individual's weekly drinking levels. Although this may have been a somewhat crude method of deducing such limits, given that OPCS surveys typically account for only 60% of all alcohol consumed (OPCS, 1991), it was felt that this calculation would provide a reasonable estimation. However, as indicated in OPCS surveys (1991) these figures probably still under-estimate actual weekly drinking levels by students.

This study used a cross-sectional design and thus does not provide information on change in individuals over time and furthermore, non-equivalent groups may confound results. A longitudinal design would have provided greater insight in terms of assessing the impact of alcohol as students pass through their academic careers. Furthermore, little is known about the continuation of undergraduate drinking habits, post-graduation. A longitudinal study would enable drinking patterns to be followed through as individual's progressed from undergraduate to professional status.

#### 4.10 Clinical and Educational Implications

The findings of this study have highlighted a level of hazardous and harmful drinking among two groups of university students. They have also indicated that some students are experiencing clinical levels of psychological distress. A large number of students also reported that they felt that they do not receive support or advice from their academic tutors. These findings have a number of clinical and educational implications, which will be discussed in the context of this and previous studies.

Half of the total student groups sampled were drinking at a harmful level and most (80%) believed that the culture of university life actively encouraged students use of alcohol. Only 1% of the total sample felt that university life discouraged students' use of alcohol. Students clearly felt that the accessibility and availability of alcohol (i.e. cheap alcohol and lots of bars), together with the involvement of alcohol in social activities in university life, encouraged alcohol consumption.

In reviewing the need to address alcohol misuse, Talbott (1989) commented on the current ambiguity of medical institutions and universities regarding alcohol use. In particular, in his discussion about the medical school culture, Talbott (1989) reported that "by the end of 'freshers' week a new intake of students is usually left in no doubt that they are expected to uphold the reputation of medical students to 'work hard and play hard" (p342). Indeed in a recent video produced by medical students to show to potential medical students (i.e. school sixth formers), it was noted that the content of the video focused predominantly on the different licensed bars on the university Although as Varma (1998) indicates "anyone who has ever been to campus. university will tell you that drinking plays a significant part in their social life......the case of medical students is made worse by the fact that medical students often have subsidised or free bars paid for by drug companies" (p34). It would therefore seem that although overall medical students do not differ in their levels of alcohol consumption compared to psychology students, alcohol clearly has a significant presence within medical school culture.

However, this image perpetuated by medical schools is not peculiar to medical students, as indicated by the findings of the present study and previously by Webb et al. (1994). Webb et al. (1994) suggested that "universities may be lacking in their responsibilities towards students" with regards to the poor standard of education offered about general health and alcohol (and drug) use. This current study supports Webb et al.'s (1994) findings. Indeed it furthers the discussion and suggests that students feel that university life actually promotes alcohol consumption and neglects to provide support for general well being.

This study therefore highlights the need to review university promotion of alcohol and the need to start addressing the lack of promotion of healthier lifestyles. The early identification of problems, such as those indicated in this current study, together with the development of an environment that promotes an atmosphere of safe drinking, might ultimately lead to a decrease in the number of adults who go on to develop alcohol-related problems.

Baldwin et al. (1991) reported upon the reluctance of academia to teach about physician impairment, despite focusing on substance abuse within the general population, with Glass (1989) commenting on the neglect of medical training to focus on alcohol (and drug) use per se. Denial within the university system and the medical establishment needs to be overcome, in order to facilitate the availability and accessibility of services for students with difficulties such as alcohol misuse or problems of mental health. Kemm (1997) reported upon the denial at a personal level being compounded by denial at a professional level, which he draws from the Royal Colleges report into 'Stress in the Medical Profession'. In this report, Kemm notes that no mention of alcohol is made, despite alcohol misuse being cited as a common consequence of stress.

It would appear that not only does the issue of denial need to be addressed, but also the establishment of a culture that regards seeking help as a constructive option rather than as an admission of failure (Brooke, 1996). The medical profession has been highlighted in particular as one in which disclosure is both difficult and stigmabound (Adshead and Clare, 1986; Hatcher, 1998; Rogers, 1998; Strang et al., 1998). In order to address issues of both alcohol misuse and psychological well being,

attempts need to be made to provide appropriate services at an early stage of career, be it medical or otherwise, which are accessible and less stigmatising. It would therefore seem that universities are prime targets for facilitating these processes in young adults at the start of their academic careers.

The impetus for this study stemmed from the BMA's Working Party paper (1998) which identified the need for an open forum in which to discuss doctors' with drug and alcohol problems. The report identified "one in fifteen doctors in the UK may suffer from some form of dependence" (p3) and that there was a need for "recognition and management of drug and alcohol addiction to be highlighted in undergraduate... education programmes" (p6). Therefore, pertinent to this latter issue, was the identification of current poor education in this area, illustrated by the majority of 1<sup>st</sup> and 3<sup>rd</sup> year psychology and medical students not knowing the maximum recommended weekly levels for alcohol consumption. Furthermore, 8% of 5<sup>th</sup> year students, who were working within a clinical setting, did not know these maximum levels. Thus, not only are students drinking at harmful levels, the majority are not aware of what 'safe' drinking is. This is perhaps of more concern within the medical student population, as not only are these students unaware of harmful levels of drinking to themselves, but as future medical practitioners would be unaware of risks to others.

Therefore, it would seem that despite government objectives to reduce the number of adults aged 18+ drinking in excess of recommended weekly levels (Morgan and Ritson, 1998), health promotion campaigns are not filtering through to the student population. Indeed, although this study has only focused on undergraduates,

evidence also shows that binge drinking is most prevalent within the 18-24 year old age group (OPCS, 1991), illustrating that such drinking is not confined to university students. Thus not only are there clear educational needs for the university population, with regards to drinking but also for the wider population. Perhaps, educational programmes should therefore be directed at school-age children, in an attempt to educate and reinforce the need to adopt 'safe' drinking habits early on. Furthermore, undergraduate curriculum's need to directly teach students about the importance of 'safe' drinking and what the maximum recommended weekly levels for alcohol consumption are. Of particular note, is the need to address this within medical school, for not only is it important that medical students are aware of what 'safe' drinking is for their own health, but also for the health of their future patients.

Another important issue that this study raised was that of the perceived lack of support that final year students feel they have from academic institutions. As identified in this study, two-thirds of 3<sup>rd</sup> year psychology students and a third of 5<sup>th</sup> year medical were experiencing clinical levels of anxiety. Yet most of these students stated that they felt their tutors offered them "no advice" with respect to managing their stress. Clearly this study did not attempt to establish the accuracy of these responses. Nevertheless, the fact that final year students perceived this to be the case warrants concern. Academic institutions therefore need to be aware of this student group. Although, as seems to be indicated from this study, students are given advice at the start of their academic courses, emphasis should be placed on maintaining these messages throughout the period of study. Students should be

aware of what may help, what they should do and where they should go, at all times during their studies should they need support with their difficulties.

Specific alcohol skills training could also be introduced in an attempt to address the problems of high alcohol consumption within the student population. Although research is limited in this area with respect to the student population, Kivlahan et al. (1990) evaluated secondary prevention approaches in college students and found that even at a one-year follow-up, there was a significant reduction in levels of alcohol consumption.

Focusing ahead, with respect to why high levels of alcohol misuse are present within the medical profession, it is proposed that this may actually stem from patterns developed whilst at medical school. Although medical students do not necessarily differ in their level of alcohol consumption compared to other students, it may be the prolonged exposure to the student life that compounds undergraduate drinking habits into life-long drinking habits. Unlike psychology students, medical training within the university system is over a period of five years. It is therefore proposed that the additional two-year access to student facilities, (i.e. cheap drink and lots of bars) may result in these drinking habits being more heavily ingrained by time of graduation. This hypothesis would therefore support the findings that alcohol misuse is particularly common within the medical profession.

#### 4.11 Proposals for Future Research

The findings of this study suggest the need for further research into alcohol use and psychological well being of students within the university system. Clearly there is a need to fully establish the extent of alcohol use and misuse across faculties and across universities. With respect to psychology and medical students, drinking is a feature of student life. However, psychology and medical students may differ from other student groups. Previous research has focused on either medical students in isolation or on university groups as a whole and therefore, previous conclusions and recommendations may have been biased.

By focusing on university students and identifying specific student groups of need, the early identification of potential problems could be established. Furthermore, longitudinal studies in this area would help to firmly identify patterns of alcohol misuse as students' progress through their academic careers and beyond, into their professional lives. It may be assumed that student life should be a period when young adults can 'party' before settling down to careers. However, although this study did not examine whether drinking habits developed during student years persist post-graduation, limited longitudinal research does suggest that heavy drinking persists in a sizeable proportion of those identified in early adulthood (Donovan et al. 1983).

Therefore, indications of early alcohol misuse do suggest a longer-term problem in at least a proportion of the population and highlights the need for the development of early intervention programmes and an educational emphasis on preventative action.

With research highlighting growing health concerns, the attention of focus is turning towards the need for health-related policies and the presence of such policies within educational institutions. In particular, concerns have been raised by the lack of alcohol (and drug) policies at universities (Bhopal et al. 1994; Williams, 1999). It would seem that not only is there a need to develop effective health policies but also to ensure that these policies are implemented and evaluated to ensure their quality and effectiveness. It is therefore proposed that research into a comprehensive approach towards health promotion may lead to a reduction in levels of alcohol consumption and increase the likelihood of healthier lifestyles.

#### 4.12 <u>CONCLUSION</u>

This research has identified that within the medical and psychology student population, a large proportion of students are drinking at levels that are hazardous to their health. Furthermore, a significant proportion of students are experiencing levels of psychological distress and anxiety. This study has raised a number of clinical and educational implications that need to be addressed, with an emphasis on preventative action and health promotion.

Whilst it is acknowledged that the findings of this research are of significant concern, it should also be recognised that university life is not only about studying, but provides an opportunity for students to enjoy a 'carefree' lifestyle before facing up to the harsh reality of life. This study has illustrated a number of factors that should be considered in order to address high levels of alcohol use, in addition to promoting

psychological well being. Such factors should be considered carefully, to ensure that a balance between the 'pleasures' of drinking and the promotion of 'safe' drinking is achieved.

#### **APPENDICES**

Appendix 1 : Ethical Approval



# The University College London Hospitals

# The Joint UCL/UCLH Committees on the Ethics of Human Research

Committee Alpha Chairman: Professor André McLean

<u>Please address all correspondence to:</u> Iwona Nowicka Research & Development Directorate 9th Floor, St Martin's House 140 Tottenham Court Road, LONDON W1P 9LN Tel. 0171- 380 9579 Fax 0171-380 9937 e-mail: i.nowicka@academic.uclh.nthames.nhs.uk

Dr V Curran Reader in Clinical Psychology Sub-department of Clinical Health Psychology UCL 1-19 Torrington Place

May 18, 1999

Dear Dr Curran

# Study No:99/0116 (Please quote in all correspondence)Title:Examining alcohol use in British Medical Students

I see no objections on the grounds of the ethics to your project. The project can go ahead. It will be presented to the full Committee for ratification.

As a comment allow me to say that I find that the male medical students are frequently an irreverent lot and may wish to pull your leg either by swearing total abstinence or continuous drunkenness.

Please note that it is important that you notify the Committee of any adverse events or changes (name of investigator etc) relating to this project. You should also notify the Committee on completion of the project, or indeed if the project is abandoned. Please remember to quote the above number in any correspondence.

Yours sincerely

1 houdi

Professor André McLean, BM BCh PhD FRC Path Chairman

University College London Hospitals is an NHS Trust incorporating The Eastman Dental Hospital, The Hospital for Tropical Diseases, The Middlesex Hospital, The National Hospital for Neurology & Neurosurgery, The United curl8may/ijn/MEy1280eth Garrett Anderson Hospital and Hospital for Women, Soho, and University College Hospital.

#### Appendix 2: Copy of Speech

This speech was repeated in all lectures to  $1^{st}$  and  $3^{rd}$  year medical and psychology students.

My name is Hayley Pattinson and I am currently studying for my Doctorate in Clinical Psychology at UCL. I am carrying out research into alcohol use among undergraduate students. My research has been approved by Professor Souhami/ Professor Braddick. Furthermore, the Medical Council on Alcoholism has shown much interest in this piece of research as a study such as this has not been carried out on the British undergraduate population. I would therefore greatly appreciate your participation in my research, which will require about 10 - 15 minutes of your time to complete a questionnaire.

The data gathered is anonymous and confidentiality is guaranteed. It is important that should you agree to participate, you answer all of the relevant questions. The questionnaires are applicable to both drinkers and non-drinkers. I will collect the questionnaires once you have completed them here today. Please do not hesitate to ask if you have any questions or would like further details about this study.
## **Royal Free and University College Medical School** UNIVERSITY COLLEGE LONDON

## FACULTY OF LIFE SCIENCES

Gower Street London WC1E 6BT

 Switchboard:
 0171-387
 7050

 Direct Line:
 0171-209
 6321

 Fax:
 0171-209
 6345

Dear Colleague,

## **Examining Alcohol Use Among Students**

The enclosed questionnaire is to examine alcohol use among British medical students. We are surveying both medical and non-medical students to examine whether alcohol use patterns are similar in each of the populations.

In 1999 the BMA published a report that recommended the need for early recognition of alcohol misuse in doctors and emphasised the need for specific attention of research within the undergraduate medical population. This report was written in response to the seriousness of this issue within the medical population, having identified a significant proportion of doctors suffering with some form of alcohol dependence.

This study is supported by the Dean of Royal Free and University College Medical School (Professor Souhami) and the Sub-Department of Clinical Health Psychology (UCL) and has been funded by the Graduate School. The research aims to establish whether medical students have similar patterns to those identified within doctors and if these drinking patterns are similar to those of other students. The results of this research may have implications for education programmes at an undergraduate level and may be significant with respect to the development of early intervention programmes for doctors.

We hope that you share the importance we feel about this research, which involves the completion of the enclosed questionnaire. It will involve 10-15 minutes of your time. The questionnaires are completed anonymously and confidentiality is guaranteed. We have enclosed a pre-paid envelope for the return of completed questionnaire.

If you would like any further information regarding this piece of research please do not hesitate to contact either Hayley Pattinson (0171-530-3666) or Maeve Ennis (0171-504-5949).

Thank-you for your assistance.

Yours faithfully,

Hayley Pattinson Psychologist in Clinical Training

Maeve Ennis Assistant Faculty Tutor Lecturer in Psychology Applied to Medicine



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# **APPENDIX 4 : QUESTIONNAIRE** A SURVEY OF ALCOHOL USE AMONG STUDENTS • The aim of this study is to investigate patterns of alcohol use among undergraduate students. The study will involve the completion of this questionnaire. • You do not have to take part in this study if you do not want to. Your participation is voluntary. The questionnaires are completed anonymously and the confidentiality of information provided is guaranteed. + If you require further information, please feel free to ask me directly or contact me by phone on 0171-530-3666 • All proposals for research involving human participation are reviewed by an ethics committee before they can proceed. This proposal was reviewed by Joint UCL/UCLH Committee on the Ethics of Human Research (studyNo: 99/0116) + If you decide to participate in this study, please complete the following questionnaires as openly and honestly as possible. It is important that you try to answer ALL the questions. 1) Do you drink alcohol? $\Box_1$ Yes $\Box_2$ No If NO please go to <u>question 9</u> (page 3) If YES please go to question 2 2) When do you usually drink alcohol (please tick)? Th a) During Lunch-time b) During Evening 3) Do you think that you drink too much (please tick)? **Probably** No No **Possibly Definitely** 4) Are you worried about your current level of drinking (please tick)? No. **Possibly Probably D**<sub>3</sub> Definitely 5) Reasons for drinking - please list top three reasons (1,2,3) starting with 1= most important Pleasure...... To increase confidence..... Because it's expected of you...... Overcome hangover....... To be sociable with friends...... Other (describe)

6)	Has alcohol ha	s ever affected your a	cademic performa	nce?				
	• No	<b>Occasionally</b>	2 Sometimes	3 Ofte	n	□ ₄ V	ery Often	
In	what way has	it been affected?					•••	
							•••••	
7a)	If you were at Please list top th	a party on a Saturda hree reasons (1, 2, 3) st	y night, what wou tarting with 1 = mos	ld make you t likely?	stop drii	nking?		
	Alcohol suppli	es run out 🛄 1.	Feeling drunk					
	Knowing I've	had enough 2.	I had previously I'm watching m	y planned to l v weight	imit my	drinking	L7.	
	Having other	things to do	Collapsing/Falli	ng over / Bla	cking-ou	1 <b>t</b>		
	Vomiting	····· 5.	Knew I had to g	et up early n	ext day.	· · · · · · · · · · · · · · · · · · ·	[] 10.	
7b)	If you were at Please list top th	a pub/bar on a weeko	day evening, what	would make	you stop	drinking	g?	
	Please list top three reasons $(1, 2, 3)$ starting with $1 = most inkely?$ Money							
				Never	Monthly	Fortnightly	Weekly	Daily/ Almost Daily
8) •	In the last term Been hung-over	<u>m</u> have you (please tie er?	ck):					
•	Missed a day	off college due to a ha	ngover?					
٠	Left college/v	vork early to go out dri	inking?			2	<b></b> ] 3	□ ₄
٠	Gone out spec	cifically for a night of	social drinking?			□ <sub>2</sub>	□ ₃	
٠	Gone out to s	pecifically get drunk?.	-		<b>1</b>	2	3	
٠	Vomited follo	wing a drinking bout?	,			<b>2</b>	<b>3</b>	
٠	Used drink to	<b>U</b>						
	•••••	'get through' an occas	sion?	0	<b>1</b>	2	3	
٠	Performed wo	'get through' an occas	sion? drinking during rev			2 2 2	3 3	

	PLEASE ANSWER ALL OF THE FOLLOWING QUESTIONS WHETHER YOU DRINK ALCOHOL OR NOT.						
9) M	) Medical students drink large amounts of alcohol. Do you agree with this statement?						
10) Do	you think that me	dical student No	ts drink more alo	cohol than other	students do	)?	
If	yes, why do you thi	nk that med	ical students dri	nk more?			
11) Do alo	11) Do you feel that the 'culture' of medical schools encourages/discourages medical students use of alcohol?						
W	'hy do you think thi	s?					
12) Do	) you smoke cigaret	tes? 🔲	1. Yes	No			
13) W	hat are the maximu	ım recomme	nded weekly int	ake of alcohol lev	vels for :	Men Women	
14) Be - p	eing a student can b lease rate in order of	e stressful. importance (	How do you cop where 1 = most in	e with stress? nportant and 10 =	least impo	rtant)	
Tal	k to friend/partner/	parent L	Have an alc	oholic drink			
Exe	ercise		Meditate or	engage in specif	ic relaxatio	n	
Gu Eat	to pub	······	Seek profess	sional advice (e.g	Counsello	nr. Nightline)	
Sme	oke cigarettes		Use drugs				
Wa	tch TV	·····	Other (desc	ribe)		12.	
15) He	ow do your friends	advise you to	o cope with stres	s?			
16) He	16) How do your tutors advise you to cope with stress?						
17) Is	any member of you	ır family a m	nedical doctor?				
[	L Yes . No If yes, what relation are they to you?						
18) Can you describe your parents' typical drinking patterns per week (please circle)?							
	Non-drinker	Low	Moderate	Fairly High	High	Very High	
Mothe	r: 1	2	3	4	5	6	
Father	: 1	2	3	4	5	6	

## Please read this carefully.

We should like to know if you have had any medical complaints and how your health has been in general, over the last few weeks. Please answer ALL the questions simply by underlining the answer, which you think most nearly, applies to you. Remember that we want to know about present and recent complaints, not those that you had in the past.

Have you recently....

1.	been able to concentrate on whatever you're doing?	Better than usual	Same as usual	Less than usual	Much less than usual
2.	lost much sleep over worry?	Not at all	No more than usual	Rather more than usual	Much more than usual
3.	felt that you are playing a useful part in things?	More so than usual	Same as usual	Less useful than usual	Much less useful
4.	felt capable of making decisions about things?	More so than usual	Same as usual	Less so than usual	Much less than usual
5.	felt constantly under strain?	Not at all	No more than usual	Rather more than usual	Much more than usual
6.	felt you couldn't overcome your difficulties?	Not at all	No more than usual	Rather more than usual	Much more than usual
7.	been able to enjoy your normal day-to-day activities?	More so than usual	Same as usual	Less so than usual	Much less than usual
8.	been able to face up to your problems?	More so than usual	Same as usual	Less so than usual	Much less able
9.	been feeling unhappy and depressed?	Not at all	No more than usual	Rather more than usual	Much more than usual
10.	been losing confidence?	Not at all	No more than usual	Rather more than usual	Much more than usual
11.	been thinking of yourself as a worthless person?	Not at all	No more than usual	Rather more than usual	Much more than usual
12.	been feeling reasonably happy, all things considered?	More so than usual	About same as usual	Less so than usual	Much less than usual

# <u>Please complete this section only if you drink alcohol</u>. This questionnaire contains questions about the use of alcoholic beverages during the past year. Please read each question carefully and place a tick in the appropriate response box.

- How often do you have a drink containing alcohol?
  - $\square_0$  Never
  - $\square_1$  Monthly or less
  - $\square_2$  2 to 4 times a month
  - 3 2 to 3 times a week
  - 4 or more times a week
- How many drinks containing alcohol do you have on a typical day when you are drinking?
  - □ 1 or 2
  - 1 3 or 4
  - 🗀 2 5 or 6
  - 🗔 3 7 or 9
  - □ 10 or more
- How often do you have six or more drinks on one occasion?
  - 🗀 . Never
  - $\square_1 < monthly$
  - 2 Monthly
  - J 3 Weekly
  - ☐ ₄ Daily or almost daily
- How often during the last year have you found that you were not able to stop drinking once you had started?
  - 🗆 。 Never
  - $\square_1 < \text{monthly}$
  - 2 Monthly
  - 3 Weekly
  - Daily or almost daily
- How often during the last year have you failed to do what was normally expected from you because of drinking?
  - 🗀 . Never
  - $\square_1 < monthly$
  - 2 Monthly
  - \_\_\_\_ 3 Weekly
  - Daily or almost daily

- How often in the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?
  - Never
  - $\square_1$  < monthly
  - 2 Monthly
  - 3 Weekly
  - ☐ 4 Daily or almost daily
- How often during the last year have you had a feeling of guilt or remorse after drinking?
  - 🗀 . Never
  - \_\_\_\_\_ 1 < monthly
  - 2 Monthly

  - Daily or almost daily
- How often during the last year have you been unable to remember what happened to you the night before because you had been drinking?
  - 🗆 。 Never
  - $\square_1 < monthly$
  - 2 Monthly
  - 3 Weekly
  - Daily or almost daily
- Have you or someone else been injured as a result of your drinking?
  - 🗖 No
  - Yes, but not in the last year
  - Yes, during the last year
- Has a relative or friend or a doctor or another health worker been concerned about your drinking or suggested you cut down?

□ • No

- $\square^2$  Yes, but not in the last year
- Yes, during the last year

TOTAL

This questionnaire is designed to look at how you have been feeling in the <u>past week</u>. Read each item and place a firm tick in the box opposite the reply which comes closest to how you have been feeling in the past week.

Don't take too long over your replies: your immediate reaction to each item will probably be more accurate than a long thought-out response.

1) I feel tense or 'wound up':
Most of the time $\square_3$
A lot of the time $\square_2$
Time to time, Occasionally $\square_1$
Not at all
2) I still enjoy the things I use to enjoy:
Definitely as much
Not quite as much
Only a little 2
Hardly at all
3) I get a sort of frightened feeling as if something
awful is about to happen:
Very definitely and quite badly
Yes, but not too badly $\square_2$
A little, but it doesn't worry me $\square_1$
Not at all
4) I can laugh and see the funny side of things:

4)	) I can laugh and see the funny side of a	mings
	As much as I always could	<b>—</b> •
	Not quite so much now	<b></b>
	Definitely not so much now	<b>2</b>
	Not at all	]3

#### 5) Worrying thoughts go through my mind:

A great deal of the time	<b>3</b>
A lot of the time	<b>2</b>
From time to time but not too often	ים
Only occasionally	<b>•</b>

## 6) I feel cheerful:

Not at all	$\square_3$
Not often	
Sometimes	$\Box_{i}$
Most of the time	□,

#### 7) I can sit at ease and feel relaxed:

Definitely	□.
Usually	
Not often	
Not at all	<b>3</b>

te reaction to each item will probably	be
8) I feel as if I am slowed down: Nearly all of the time Very often Sometimes Not at all	3 2 1 1
9) I get a sort of frightened feeling lik	e
<b>'butterflies' in the stomach:</b> Not at all Occasionally Quite often Very often	0 1 2 3
<ul> <li>10) I have lost interest in my appearan Definitely</li> <li>I don't take so much care as I should</li> <li>I may not take quite as much care</li> <li>I take just as much care as ever</li> </ul>	<b>ce:</b> 3 2 1 •
11) I feel restless as if I have to be on the Very much indeedQuite a lotNot very muchNot at all	<b>ne move:</b> <b>3</b> <b>2</b> <b>1</b> <b>0</b>
12) I look forward with enjoyment to the As much as ever I did	hings:
13) I get sudden feelings of panic: Very often indeed Quite often Not very often Not at all	
14) I can enjoy a good book or radio o programme:         Often         Sometimes         Not often         Very seldom	r TV

D =

Please complete the following details:

Male / Female

Age:....

- Year of Study:....
   Intercalated Subject.....
- Religion: .....
- Which ethnic group do you consider you belong to (please circle):
  - a) Bangladesh
  - b) Black-African
  - c) Black-Caribbean
  - d) Black other (describe)
  - e) Chinese
  - f) Indian
- Sport

Please circle one sports activity that you play the most:

- a) Football
- b) Hockey
- c) Tennis
- d) Rugby
- e) Squash

- f) Netball
- g) Cricket
- h) Aerobics
- i) Other (describe)
- j) I do not play any sport

#### THANK-YOU FOR TAKING THE TIME TO COMPLETE THIS QUESTIONNAIRE.

Hayley Pattinson Maeve Ennis

Sub-Dept of Clinical Health Psychology 0171- 504-5949

i) White - English/Scottish/Welsh j) White - other (describe) k) Any other group (describe)

g) Pakistani

h) White - Irish/Northern Ireland

References

#### **REFERENCES**

American Medical Association Council on Mental Health. (1973). The sick physician; Impairment by psychiatric disorders, including alcoholism and drug dependence. *JAMA*, 223, 684-687.

Ashead, F. and Clare, A. (1980). Doctors double standards on alcohol. British Medical Journal, 293, 1590-1591.

Ashton, CH. and Kamali, F. (1995). Personality, lifestyles, alcohol and drug consumption in a sample of British medical students. *Medical Education*, 29, 187-192.

Baldwin, DC., Hughes, PH., Conard, SE., Storr, CL. and Sheehan, DV. (1991). Substance use among senior medical students: A survey of 23 medical schools. *JAMA*, 265, 2074-2078.

Banks, MH., Clegg, CW., Jackson, PR., Kemp, NJ., Stafford, EM. and Wall, TD. (1980). The use of the GHQ as an indicator of mental health in occupational studies. *Journal of Occupational Psychology*, 53, 187-194.

Bewley, B. (1990). Doctors as an example: Smoking and drinking. *Health Trends*.22, 45.

Bhophal, R., White, M. and Crombie, AL. (1994). Health policies in British medical schools. *British Medical Journal*, 308, 1044.

Birch, D., Ashton, H and Kamali, F. (1998). Alcohol, drinking, illicit drug use and stress in junior house officers in north-east England. *Lancet*, 352, 785.

BMA - Working Group on the Misuse of Alcohol and Other Drugs by Doctors.(1998). The Misuse of Alcohol and Other Drugs by Doctors. BMA, London.

BMA (1992). Stress and the Medical Profession. BMA, London.

Booth, PG. (1997). Psychologists and drinking problems at work. Clinical Psychology Forum, 106, 25-28.

Breeze, E. (1985). Women and Drinking. HMSO, London.

Brewster, JM. (1986). Prevalence of alcohol and other drug problems among physicians. JAMA, 255, 1913-1920.

Brooke, D. (1996). Editorial: Why do some doctors become addicted? Addiction, 91, 317-319.

Brooks, A. and Scholar, C. (1998). Many junior doctors misuse drugs and drink excessively. *Student BMJ*, 6, 359.

Cochrane, R. and Bal, S. (1990). The drinking habits of Sikh, Hindu, Muslim and white men in the West Midlands: a community survey. *British Journal of Addiction*, 85, 759-769.

Collier, DJ. and Beales, ILP. (1989). Drinking among medical students: A questionnaire survey. *British Medical Journal*, 299, 19-22.

Conigrave, KM., Saunders, JB. and Reznik, BB. (1995). Predictive capacity of the Alcohol Use Disorders Identification Test questionnaire for alcohol-related harm. *Addiction*, 90, 1479-1485.

Croen, LG., Woesner, M., Herman, M. and Reichgott, M. (1997). A longitudinal study of substance use and abuse in a single class of medical students. *Academic Medicine*, 72 376-381.

Daily Mail. (1998). Fear over the Young Doctors on Drugs. Sept. 5, 35.

Department of Health - DoH. (1995). Sensible Drinking: The Report of an Interdepartmental Working Group. DoH, London.

Department of Health - DoH. (1992). The Health of the Nation: a strategy for health in England. CM 1986, HMSO, London.

Donovan, JE., Jessor, R. and Jessor, L. (1983). Problem drinking in adolescence and young adulthood: A follow-up study. *Journal of Student Alcohol.* 44, 109-137.

Duncan-Jones, P., Grayson, DA. and Moran, PAP. (1986). The utility of latent trait models in psychiatric epidemiology. *Psychological Medicine*, 16, 391-405.

Flaherty, JA. and Richman, JA. (1993). Substance use and addiction among medical students, residents and physicians. *Recent Advances in Addictive Disorders*. 16, 189-197.

File, SE., Mabbutt, PS. and Shaffer, J. (1994). Alcohol consumption and lifestyle in medical students. *Journal of Psychopharmacology*, 8, 22-26.

Firth-Cozens, J. (1998). Individual and organisational predictors of depression in General Practitioners. *British Journal of General Practitioners*, 48, 1647-1651.

Firth-Cozens, J. (1990). Sources of stress in women junior house officers. British Medical Journal, 301, 89-91.

Firth-Cozens, J. (1987). Emotional distress in junior house officers. British Medical Journal, 295, 533-536.

Flaherty, JA. and Richman, JA. (1991). Risk factors for substance use in medical students. Presented at the Annual Meeting of the American Medical Association, New Orleans.

Gaughran, F., Dinned, S., Dinned, M., Cole, YM. and Dally, RJR. (1997). Stress in medical students. *Irish Medical Journal*, 90, 1-7.

Ghodse, AH. and Howse, K. (1994). Substance use of medical students: A nationwide survey. *Health Trends*, 26, 85-88.

Glass, I. (1989). Undergraduate training in substance abuse in UK. British Journal of Addiction, 84, 197-202.

Glass, IB. and Strang, J. (1991). Professional training in substance abuse: The UK experience. In IB. Glass (ed.) *The International Handbook of Addiction Behaviour*. pp333-340. Routledge, London.

Glatt, MM. (1982). Alcoholism. Chapter 11, pp232-245. Hodder & Stoughton.

Goldberg, DP. (1972). The Detection of Psychiatric Illness by Questionnaire. Maudsley Monograph No. 21. Oxford University Press, London.

Goldberg, D. and Williams, P. (1988). User's Guide to the General Health Questionnaire. NFER-Nelson, Basingstoke.

Guthrie, EA., Black, D., Shaw, CM., Hamilton, J., Creed, FH. and Tomenson, B. (1995). Embarking upon a medical career: Psychological morbidity in first year students. *Medical Education*. 29, 337-341.

Hatcher, M. (1998). The junkie will see you now. Independent - Wednesday Review, Sept. 9, 1. Health Education Authority - HEA. (1997). Health Update - Alcohol. Health Education Authority, London.

Hughes, PH., Conard, SE., Baldwin, DC., Storr, CL. and Sheehan, DV. (1991). Resident physician substance use in the United States. *JAMA*, 265, 2110-2111.

Hsu, K. and Marshall, V. (1987). Prevalence of depression and distress in a large sample of Canadian residents, interns and fellows. *American Journal of Psychiatry*, 144, 1561-1566.

Institute of Alcohol Studies (1999). Factsheet: The Nature and Prevalence of Alcohol Problems. www.ias.org.uk/factsheets/medsoc1.htm

Institute of Alcohol Studies (1999). Factsheet: Alcohol and Employment. www.ias.org.uk/factsheets/medsoc6.htm

Kemm, J. (1997). Alcohol and the health of doctors. Alcoholism, 16, 1.

Kitchens, JM. (1994). Does this patient have an alcohol problem? JAMA, 272, 1782-1787.

Kivlahan, DR., Marlatt, GA, Fromme, K., Coppel, DB. and Williams, E. (1990). Secondary prevention with college drinkers: evaluation of an alcohol skills training program. *Journal of Consulting Clinical Psychology*, 58, 805-10. MacKenzie, D., Langa, A. and Brown, T. (1996). Identifying hazardous alcohol use in medical admissions. *Alcohol and Alcoholism*, 31, 591-599.

Mayfield, DG., McLeod, G. and Hall, P. (1974). The CAGE questionnaire: Validation of a new alcoholism-screening instrument. *American Journal of Psychiatry*, 131, 1121-1123.

McAuliffe, WE., Rohman, M., Fishman, P., Wechsler, H., Soboroff, SH., Toth, D. and Friedman, R. (1984). Psychoactive drug use by young men and future physicians. *Journal of Health and Social Behaviour*, 25, 35-54.

Moore, L. (1994). Binge Drinking: Prevalence Patterns and Policy. Health Education Research. pp497-505.

Morgan, MY. and Ritson, B. (1998). Medical Students' Handbook: Alcohol and Health. Medical Council on Alcoholism, London.

Murray, RM. (1974). Psychiatric illness in doctors. Lancet, 1, 1211-1213.

Office for National Statistics (1998). Living in Britain: Results of the 1996 General Household Survey. HMSO, London.

Office of Population Censuses and Surveys -OPCS (1995). Occupational Health - a decennial supplement. pp71-72. HMSO, London.

Office of Population Censuses and Surveys -OPCS (1994). The Prevalence of Psychiatric Morbidity among Adults aged 16 to 64 Living in Private Households in Great Britain. HMSO, London.

Office of Population Censuses and Surveys -OPCS (1991). Drinking in England and Wales in the late 1980's. HMSO, London.

Paget, J. (1869). What becomes of medical students? Saint Bartholomew's Hospital reports, 5, 238-242.

Piccinelli, M., Tessari, E., Bortolomasi, M., Piasere, O., Semenzin, M., Garzotto, N. and Tansella, M. (1997). Efficacy of the Alcohol Use Disorders Identification Test as a screening tool for hazardous alcohol intake and related disorders in primary care: A validity study. *British Medical Journal*, 314, 420-431.

Pickard, M., Bates, L., Dorian, M., Greig, H. and Saint, D. (2000). Alcohol and drug use in second year medical students at the University of Leeds. *Medical Education*. 34, 148-150.

Plant, M. (1987). Drugs in Perspective. Hodder snd Stoughton, London.

Pols, RG. and Hawkes, DV. (1991). Is there a safe level of daily alcohol consumption for men and women? Recommendations Regarding Responsible Drinking Behaviour ( $2^{nd}$  edition). Australian Goverment Publishing Service, Canberra.

Radanovic, Z. and Eric, LJ. (1983). Validity of the GHQ in a Yugoslav student population. *Psychological Medicine*, 13, 205-207.

Report of Working Party (Chair: M. Shock). (1996). Taking care of doctors' health. Provincial Hospitals Trust, Nuffield, London.

Rodolfa, S. Chavoor, J. and Velasquez, M. (1995). Counselling services at the university of California: Helping medical students cope. *JAMA*, 274, 1396.

Robins, LN., Helzer, JE. and Przybeck, TR. (1988). Alcohol disorders in the community: A report from the epidemiologic catchment area. In R. Rose and J. Barret (eds.) *Alcoholism: Origins and Outcomes*. Raven, New York. pp15-29.

Rogers, L. (1998). Alcoholic Surgeon Sued over Deaths. Sunday Times, May 31, 4.

Rosenhan, DL. and Seligman MEP. (1989). Abnormal Psychology- second edition, WW Norton and Company, London

Royal College of Physicians, Psychiatrists and General Practitioners. (1995). Alcohol and the heart in perspective: Sensible limits reaffirmed. *Report of a Joint Working Group*. Chameleon Press, London.

Saunders, JB., Aasland, OG., Babor, TF., de la Feuente, JR. and Grant, M. (1993). Development of the Alcohol Use Disorders Identification Test (AUDIT); WHO collaborative project on early detection of person's with harmful alcohol consumption - II. *Addiction*, 88, 791-804.

Selzer, ML. (1971). The Michigan Alcohol Screening Test (MAST) - The quest for a new diagnositic instrument. *American Journal of Psychiatry*, 127, 1653-1658.

Snaith, RP. And Zigmond, AS. (1994). The Hospital Anxiety and Depression Scale Manual. NFER-Nelson, Oxford.

Sharkey, JJ. and Patterson, D. (1997). Intake of and attitudes to alcohol & alcoholism : A questionnaire survey among future doctors. *Psychiatric Bulletin*, 21, 16-18.

Special Committee of the Royal College of Psychiatrists. (1986). Alcohol: Our Favourite Drug. Tavistock publications, London.

Strang, J., Wilks, M., Wells B., and Marshall J. (1998). Editorial – Missed problems and missed opportunities for addicted doctors : We need a special service for doctors addicted to drugs or alcohol. *British Medical Journal*, 316, 405-406.

Talbot, GD., Galligos, KV., Wilson, PO. and Porter, TL. (1987). The medical association of Georgia's impaired physician program - Review of the first 1000 physicians. *JAMA*, 257, 2927-2930.

References

Talbott, K. (1989). The medical profession has achieved major changes in its smoking behaviour; How might undergraduate medical education achieve a similar change in doctors' drinking habits? *Alcohol and Alcoholism*, 24, 339-345.

Thomas, M., Walker, A., Wilmot, A. and Bennet, N. (1998). Living in Britain: Results from 1996 General Household Survey. Office for National Statistics Social Survey Division, HMSO, London. pp180-184.

Valliant, GE., Sobowale, NC. and McArthur, M. (1972). Some psychological vunerabilities of physicians. *New England Journal of Medicine*, 287, 372-375.

Varga, M. and Buris, L. (1994). Drinking habits of medical students call for better integration of teaching habits about alcohol into the medical curriculum. *Alcohol and Alcoholism*, 29, 591-596.

Varma, S. (1998). Alcoholism in doctors: Its causes and solutions. Medical; Council on Alcoholism Annual Report, 34.

Volk, RJ., Steinbauer, JR., Cantor, SB. and Holzer, CE. (1997). The Alcohol Use Disorders Identification Test (AUDIT) as a screen for at-risk drinking in primary patients of different racial/ethnic backgrounds. *Addiction*, 92, 197-206.

Webb, E., Ashton, H., Kelly, P. and Kamali, F. (1998). An update on British medical students' lifestyles. *Medical Education*. 32, 325-331.

Webb, E., Ashton, H., Kelly, P. and Kamali, F. (1996). Alcohol and drug use in UK students. *Lancet*, 348, 922-925.

World Health Organisation - WHO (1992). The ICD-10 classification of mental and behavioural disorders - Clinical descriptions and diagnostic guidelines. WHO, Geneva.

Williams, DF. (1999). Letter to BMJ: Drug and alcohol policies are rare at medical schools in UK. *British Medical Journal*, 319, 123.

Zigmond, AS. and Snaith, RP. (1983). The Hospital Anxiety and Depression Scale. *Acta Psychiatrica Scandinavia*, 67, 361-370.