

## **The mental health of university students in the United Kingdom**

MACASKILL, Ann <<http://orcid.org/0000-0001-9972-8699>>

Available from Sheffield Hallam University Research Archive (SHURA) at:

<http://shura.shu.ac.uk/6449/>

---

This document is the author deposited version. You are advised to consult the publisher's version if you wish to cite from it.

### **Published version**

MACASKILL, Ann (2012). The mental health of university students in the United Kingdom. *British Journal of Guidance and Counselling*, 41 (4), 426-441.

---

### **Copyright and re-use policy**

See <http://shura.shu.ac.uk/information.html>

**University student mental health in crisis: A United Kingdom perspective.**

Ann Macaskill (In Press) *British Journal of Guidance and Counselling*, 2012.

*Sheffield Hallam University, Sheffield, United Kingdom*

Correspondence concerning this article to Professor Ann Macaskill,

Psychology Research Group, Unit 1 Science Park, Howard Street, Sheffield S1 2WB, UK.

Tel: +44 (0)114 2254604 Fax: +44 (0)114 2256152

E-mail: [a.macaskill@shu.ac.uk](mailto:a.macaskill@shu.ac.uk)

Biographical Note:

**Ann Macaskill** is Professor of Health Psychology at Sheffield Hallam University, a Practitioner Health Psychologist (Health Professions Council), trained in counselling and CBT. Her main academic role is university Head of Research Ethics. Her research interests focus on health and well-being, forgiveness, positive psychology, personality and psychometrics.

**University student mental health in crisis: A United Kingdom perspective**

## Abstract

There are increasing concerns globally about the mental health of students (Kadison, & Digeronimo, 2004). In the UK, the actual incidence of mental disturbance is unknown, although university counselling services report increased referrals (Association of University & College Counselling, 2011). This study assesses the levels of mental illness in undergraduate students to examine whether widening participation in education has resulted in increases as hypothesized by the UK Royal College of Psychiatrists (2003, 2011). Patterns of disturbance across years are compared to identify where problems arise. Students ( $N = 1197$ ) completed the General Health Questionnaire-28 either on day one at university or midway through the academic year for first, second and third year students. Rates of mental illness in students equalled those of the general population but only 5.1% were currently receiving treatment. Second year students reported the most significant increases in psychiatric symptoms. Factors contributing to the problem are discussed.

Keywords: counselling services; mental health; psychiatric caseness; student mental health crisis; university students

## **Introduction**

The mental health of university students is of increasing concern globally. In the United States writers such as Kadison and Digeronimo (2004) have suggested that there is a crisis in mental health care in colleges. In response, the American Psychiatric Association set up a Task Force on College Mental Health in 2005 to provide advice, encourage research and treatment programs. It continues to be an issue in the United States, with a national epidemiological study reporting that almost half the college students surveyed met the criteria for a psychiatric disorder in the past year although less than 25% sought treatment, and that the rate for college students was not significantly different from non-students (Blanco et al., 2008).

In the United Kingdom, the UK Psychiatric Morbidity Survey reported significant increases in anxiety and depression in young people aged 16-24 but could not identify the students in this population (Singleton, Bumpstead, O'Brien, Lee, & Meltzer, 2001). The UK Royal College of Psychiatrists (2003, 2011) predicted that the level of mental health problems in students would increase because of the British government encouraging more students from a wider sector of society to attend university and increasing financial pressures on students associated with reductions in government funding to support them while they study. The UK Royal College of Psychiatrists suggested that historically, UK students attending university tended to be an academic elite, coming from economically privileged backgrounds, with more assured levels of family support all of which decreased their vulnerability to develop mental health problems at university. Widening participation in university education has changed this.

Similar concerns about student mental health have been reported in Canada (Adlas, Gliksman, Demers, & Newton-Taylor, 1998), Australia (Stallman, 2008), Turkey (Guney, Kalafat, & Boysan, 2010) and a range of other countries (Karam, Kypri, & Salamoun, 2007).

A meta-analysis by Storrie, Ahern, and Tuckett (2010) identified 572 articles on the topic between 2000-2009 but of these only 11 included primary research, focusing on either understanding the reluctance of students to utilize university support, or examining how academic performance and other personality factors related to mental health. There was a marked lack of data on actual incidence of psychiatric disturbance in the UK student population and a follow-up report by the Royal College of Psychiatrists (2011) confirmed this. However, UK university counseling services report dealing with an increasing number of students with severe mental health problems (Association of University & College Counselling, 2011).

### **Mental health risk factors in students**

There are complex genetic, biomedical and social factors that influence whether someone develops a mental illness. Diathesis-stress models (e.g., Ingram & Luxon, 2005) outline the ways in which genetic, biological, psychological, and cultural vulnerabilities interact with stressors to increase the probability of occurrence of mental illness. However, protective factors may modify how individuals cope with the stressors they encounter and these protective factors help prevent the development of a mental disorder even in the presence of diathesis (Rutter, 2001, 2007). Protective factors include personal attributes such as high self-esteem, academic achievement, intelligence, temperament as well as experiential factors such as a supportive family, friendships and good social and emotional support networks.

Age is undoubtedly an important factor in explaining the increase in students with severe mental health problems attending university counselling as the peak onset for mental health problems is before the age of 24 years (Kessler et al., 2007) so university students are a high risk group. During this time, the developmental challenge of transition to adulthood occurs (Hunt & Eisberg, 2010). The stresses associated with the transition to university add additional risk factors (e.g. Bryde & Milburn, 1990; Chemers, Hu, & Garcia, 2001; Gall,

Evans, & Bellerose, 2000; Montgomery & Côté, 2003). This frequently involves living away from home for the first time, having to make new friends, handle finances, adjusting to new learning regimes, and creating a new identity as a student (Scanlon, Rowling, & Weber, 2010).

In addition in the UK, the growth in student numbers and cuts in university funding have changed the student experience in ways that may contribute to the problem by removing some of the protective factors. Students are now taught in larger groups, which can make it more difficult to make friends and develop a sense of belonging. There are more demands on academic staff time so personal support may be more difficult to obtain. Funding of support services such as counselling has also not kept pace with the growth in student numbers. The UK Royal College of Psychiatrists (2011) report that access to mental health services in the National Health Service (NHS) has progressively narrowed in recent years to focus on those with the severest problems meaning that students with moderate mental health problems do not fit the criteria so do not receive treatment. Continuity of care is also difficult for students who do get help, given that many return home in the holidays. All of these circumstances may be contributing to increases in student mental health problems but epidemiological data is lacking. If students are experiencing psychological problems, they are unlikely to achieve their full potential and universities need to have appropriate support systems in place.

This is an exploratory study carried out in a post-92 university, that is, one of the universities that were polytechnics till 1992. The university has engaged actively with the government's widening participation agenda, where the aim is to foster equality of access to education particularly encouraging students from groups within the population that have traditionally been under-represented in higher education such as those from socio economic groups III-V; specific ethnic minorities and individuals with disabilities. It is this act of widening participation that the UK Royal College of Psychiatrists (2003, 2011) has predicted

will result in increases in mental illness closer to general population levels in university students as discussed earlier.

In summary the aims of the study are to:

- Compare the incidence of psychiatric caseness in students with that of the general population in the region.
- Ascertain the incidence of psychiatric caseness in the student sample in each year of study and by sex.
- Compare students' scores on somatic symptoms, anxiety, social dysfunction, and depression across the years of university study to compare patterns of disturbance and identify where problems seem to arise.
- Compare the total symptomatic mental health scores across each year group.

## **Method**

### *Design*

A cross-sectional design was appropriate for this study as it is an exploratory descriptive study (Coolican, 2009). In the absence of existing statistics on mental health in UK students, it allowed students' mental health to be assessed relatively quickly across all the years of university study and initial statistics to be produced and comparison to be made across the years of study. Data obtained from students at entry to university is compared with data collected from first, second, and third year students half way through each academic year.

### *Participants*

In total 1,197 undergraduate students in a very large modern university in the north of England participated. The courses they were studying included law, criminology, sociology, politics, psychology, business, built environment, food sciences, engineering, and management studies. From the admission group of 227 students 201 (159 women and 42

men, mean age = 18.76 years,  $SD = 2.79$ ,  $CI_{95}$  18.37, 19.15), 188 white British, four British Asians, eight Chinese and one Black British completed the survey, giving a response rate of 89.55%. From the first year group of 314 students, 260 students (205 women and 55 men, mean age = 19.03 years,  $SD = 3.18$ ,  $CI_{95}$  18.64, 19.42), 248 white British, eight British Asians, two Chinese and two Black British provided data, a response rate of 82.18%. In the second year group of approximately 600 students contacted, 489 students responded, a response rate of 81.5%, (406 women and 83 men, mean age = 20.42 years,  $SD = 4.28$ ,  $CI_{95}$  19.99, 20.84), 467 white British, 13 British Asians, two Chinese, four Black British, and three Yemeni. From a third year group of 320, 247 students responded, a response rate of 77.19%, (160 women and 87 men, mean age = 21.90 years,  $SD = 5.69$ ,  $CI_{95}$  21.18, 22.61), 235 were white British, six British Asians, two Chinese, three Black British, and one Yemeni.

### ***Measures***

Demographic information on age, gender, race, year of study was collected and whether they were currently receiving treatment for mental health problems. Students completed the General Health Questionnaire-28 (Goldberg & Williams, 1991), a measure of symptomatic mental health designed for use in general population surveys. It consists of four 7-item scales measuring somatic symptoms, (e.g., 'Been feeling run down and out of sorts '), anxiety and insomnia, (e.g., 'Been feeling scared or panicky for no good reason'), social dysfunction, (e.g., 'Been able to enjoy your normal day-to-day activities') and depression, (e.g., 'Been thinking of yourself as a worthless person'). There are four possible answers to each question (less than usual, no more than usual, rather more than usual, much more than usual). The total score provides a self-assessed measure of symptomatic mental health. Higher scores indicate poorer mental health. All four subscales have high internal consistency with Cronbach's alpha coefficients between .85 and .91 in a series of studies. The split-half reliability was 0.83 and test-retest reliability was 0.73 (Goldberg & Williams, 1991). The GHQ is a very reliable

measure when judged against clinical interviewing it provides 79.7% sensitivity in terms of detecting change between individuals and across time and 79.2% specificity, in terms of successfully identifying individuals with a current diagnosis of depression, generalised anxiety disorder, somatisation disorder, and panic disorder amongst others. There are no reported age, gender or education influences on the measure (Goldberg et al., 1997). The GHQ28 has been used to measure mental health in students in several studies (Nerdrum, Rustøen, & Rønnestad, 2006; Yusoff, 2011; Yusoff, Rahim, & Yaacob, 2011). The GHQ can be used as a screening tool to detect psychiatric caseness, that is, it can be used to identify the clinical level at which professional treatment is appropriate. For screening purposes the responses were scored 0,0,1,1, according to the manual instructions. While the GHQ Manual (Goldberg & Williams, 1991) suggests 4/5 as a cut off for caseness, a more conservative score of  $\geq 6$  was taken based on UK data from a North of England sample in a World Health Organization study validating GHQ scores against systematic clinical interviewing (Goldberg et al., 1997). To allow comparison of scores across years on the subscales, responses were scored using a Likert scale of 0-3 as this produces a less skewed distribution (Goldberg & Williams, 1991).

### ***Procedure***

At an induction programme on the first day of university, students were given an information sheet describing the study and asking for their participation. If willing to participate they could collect a paper version of the questionnaire, complete it between timetabled sessions and return it in a sealed envelope to the researcher. Using paper questionnaires was the only way that data could be collected at entry to university as students had not received access to the university email at this point. All the other samples completed an electronic online questionnaire. With the permission of course leaders on a range of courses, first, second, and third year students were emailed an information sheet and their participation was requested.

The email information sheet included an electronic link which took them directly to the online survey which was hosted on a university-owned survey tool that allows for the anonymous collection of data. It was made clear to all participants in the study information sheet, paper or email, that returning the completed questionnaire in the envelope provided (paper version) or pressing the "submit" button was equivalent to providing informed consent. This was considered by the ethical committee in terms of current practice to be a more secure way of gaining informed consent when data was being collected anonymously. Students were told that they could choose not to answer any questions or decide not to return the questionnaire. For the online data collection, participants were told that they could log off at any point before pressing the submit button and no data would be collected. A representative range of courses was covered but courses which already included health screening were excluded. All the data were collected anonymously. Data collection occurred half-way through the academic year for each group. The electronic questionnaire was live for one month, but most responses occurred in the first two weeks. The study received ethical approval from a university ethics committee.

## **Results**

### ***Psychiatric caseness in total sample***

The overall incidence of psychiatric caseness in the total sample was 17.3%. This compares with an estimated general population incidence in the United Kingdom of 17.6% (McManus, Meltzer, Brugha, Bebbington, & Jenkins, 2009). However the incidence of caseness varied across years. At admission it was 12.9%, six months into the first year of study it was 11.9%, mid second year it was 23.1%, and mid third year was 18.6%. These differences in caseness across years were significant,  $\chi^2(3) = 13.62, p < .01$ , although the effect size was small, Cramer's  $V = .11, p < .01$ . The caseness for women was 24.2% while for men it was 12.56%, a significant difference,  $\chi^2(1) = 13.52, p < .001$ , Cramer's  $V = .11, p < .001$ . There was no

significant effect of course being studied. Examining the caseness data set separately for anxiety and depression showed that for anxiety, 97.1% (n=201) of the total overall GHQ cases met anxiety caseness criteria, while the figure was lower for depression with 46.4% of the total overall GHQ caseness scores meeting depression caseness criteria (n = 96). The proportion of the sample receiving treatment for their psychological problems was 5.1% overall (n = 61) and although this varied across years with 4% having treatment at entry, 3.1% in first year, 6.5% in second year and 5.3% in third year, these differences were not statistically significant using a chi-squared test.

### ***Comparisons of subscales of the GHQ by year of study***

Table 1 about here

The descriptives for all the scales using Likert scaling as recommended by Goldberg & Williams (1991) are in Table 1. An alpha level of 0 .05 was used for the statistical tests. To compare the scores on each subscale of the GHQ between admission, years 1, 2, and 3 a MANOVA was computed. The total GHQ scores were not included in the analysis to avoid multicollinearity; instead, they were analyzed separately. As the sizes of the year groups were unequal, Pillai's Trace was the statistic selected. Overall there was a statistically significant multivariate difference between the scores at the four measurement points,  $F(12, 3576) = 8.07, p < .001, \eta_p^2 = .86$ . Thus the year of study had a significant effect on student scores on the GHQ subscales. The differences in each subscale across the four measurement points were then tested using univariate analysis on the corrected model. There were significant differences in student scores between the years for the somatic scale,  $F(3, 1193) = 15.45, p < .001, \eta_p^2 = .04$ ; the anxiety scale  $F(3, 1193) = 3.00, p = .03, \eta_p^2 = .01$ ; the social dysfunction scale  $F(3, 1193) = 17.60, p < .001, \eta_p^2 = .04$ ; and the depression scale  $F(3, 1193) = 10.80, p < .001, \eta_p^2 = .03$ . This analysis only reports that there are significant differences in the scores that students record on each of the four scales over the four measurement points.

To locate exactly where the differences in GHQ scores occurred on each subscale mean differences were computed. As the numbers of students in each year group were different, Hochberg criteria was the appropriate statistic to use with a confidence interval of 95%. The mean scores obtained on each of the GHQ subscales by each year of students are presented graphically in figures 1 to 4. All the mean scores are provided in Table 1.

Figure 1 about here

For the somatic scale, displayed in figure 1, the increase in mean scores recorded for somatic symptoms between entry level and second year was significant, (SE =.35,  $p < .001$ , CI<sub>95</sub> 2.43, 0.60) as was the increase between first and second year means (SE =.32,  $p < .001$ , CI<sub>95</sub> 2.83, 1.15) and the increase between first and third year means (SE =.37,  $p < .001$ , CI<sub>95</sub> 2.35, 0.40). The second year somatic scores were not statistically different from the third year scores nor were the entry scores significantly different from the third year scores. Somatic scores are highest in second year, although the increase from entry level to third year scores is not significant.

Figure 2 and figure 3 about here

The mean scores for each year for the anxiety scale are displayed in figure 2. The only statistically significant difference is between the first year mean score and the second year mean score (SE =.37,  $p = .03$ , CI<sub>95</sub> 1.97, 0.07) with the second year scores being higher. This suggests that anxiety levels are highest in second year students in this sample. The mean scores for the social dysfunction scale for each year are displayed in figure 3. The difference between the mean score of entry students and that of second year students was significant (SE =.25,  $p < .001$ , CI<sub>95</sub> 1.75, 0.42) with the second year mean being higher. The increase between first year and second year mean scores was significant (SE =.23,  $p < .001$ , CI<sub>95</sub> 2.19, 0.98). The between first and third year mean scores was also significant (SE =.27,  $p < .01$ , CI<sub>95</sub> 1.59, 0.18). The second year student mean score on social dysfunction was significantly

higher the third year student mean scores ( $SE = .23, p < .05, CI_{95} 0.82, 1.13$ ). Thus the second year means for social dysfunction were significantly higher than the means of all the other years.

Figure 4 about here

The mean scores for depression for each year are shown in figure 4. The increase in mean scores between entry and second year is significant ( $SE = .31, p < .001, CI_{95} 2.34, 0.66$ ).

There is also a significant increase between the mean for depression for the entry group and the third year mean ( $SE = .36, p < .01, CI_{95} 2.12, 0.24$ ). The difference between first and second year mean scores on depression is significant ( $SE = .29, p < .001, CI_{95} 1.97, 0.45$ ) with the second year mean being higher. The differences between the first year mean and third year mean is significant with third year scores being higher ( $SE = .33, p < .05, CI_{95} 1.76, 0.01$ ). The decrease in depression scores between second and third years is not significant.

For the depression subscale, the second year mean score is highest overall. Third year students are scoring significantly higher on the depression subscale compared to students at admission to university.

### ***Comparisons of the total GHQ scores by year of study***

To compare the overall differences in the mean scores on the total GHQ measure, a one-way ANOVA was computed. The results indicated that there were differences in total GHQ scores between the years and that these differences were statistically significant,  $F(3, 1193) = 16.77, p < .001, \eta^2 = .04$ , a small effect suggesting that only 4% of the total variation in scores can be explained by membership of a particular year group. To see exactly where these differences were located in the year groups further analysis was undertaken to compare the means scores on the total GHQ for each year. To do this post hoc comparison analysis was undertaken. As the group sizes were unequal Hochberg criteria were used and a confidence interval of 95%. The mean scores on the total GHQ for each year are presented

graphically in figures 5. The increase between the entry level mean ( $M = 21.49$ ,  $SD = 9.97$ ) and second year mean ( $M = 26.09$ ,  $SD = 11.88$ ) was significant, ( $SE = .98$ ,  $p < .001$ ,  $CI_{95} 7.19, 2.01$ ). The second year GHQ total mean ( $M = 26.09$ ,  $SD = 11.88$ ), was also significantly higher than the first year mean ( $M = 20.27$ ,  $SD = 11.31$ ), ( $SE = .90$ ,  $p < .001$ ,  $CI_{95} 8.19, 3.44$ ). The increase between the first year total GHQ mean ( $M = 20.27$ ,  $SD = 11.31$ ) and the third year mean ( $M = 24.36$ ,  $SD = 13.16$ ) was significant ( $SE = 1.04$ ,  $p < .001$ ,  $CI_{95} 6.84, 1.34$ ). The differences between entry and first year, entry and third year and second and third year were not significant. Second year students had the highest mean score on the total GHQ score.

### **Discussion**

The first aim was to compare the incidence of psychiatric caseness in students in a university that has engaged with widening participation with that of the general population. The incidence of psychiatric caseness in the student population in this sample is comparable to that of the general population (McManus et al., 2009), thus confirming the predictions made by the Royal College of Psychiatrists (2003, 2011). One result of widening participation in education to include groups that were traditionally under-represented is that the student population has become more similar to the general population. This as predicted by the College has resulted in the incidence of mental health in students becoming closer to that of the general population whereas historically mental illness was low in student populations. While the incidence is not as high as that reported in the United States (Blanco et al., 2008), it is a serious concern, especially given that a relative small proportion of students are receiving professional help. These results are in line with findings from other countries like the United States (Blanco et al., 2008), Canada (Adlas et al., 1998), Australia (Stallman, 2008), and Turkey (Guney et al., 2010).

The second aim was to compare the incidence across each year of study and to ascertain whether there are any sex differences. The reported incidence was not consistent across years, with significant increases mainly in the second year and a slight reduction in the third year. While this age group is known to be at high risk for the onset of mental health problems (Kessler et al., 2007), the transition to university co-occurring with the transition to adulthood are additional risk factors (Bryde & Milburn, 1990; Chemers et al., 2001; Gall et al., 2000; Montgomery & Côté, 2003). There are additional factors related to the growth in student numbers, such as larger class sizes and increased staff workload as discussed in the introduction, which make it more difficult for students to make friends, develop support networks and access academic support (Greenbank, 2007), all of which are protective factors in diathesis-stress models (e.g., Ingram & Luxon, 2005). It seems as if the stressors have increased with the additional financial pressures on students for example, while the opportunities to develop protective factors have declined, thereby putting students more at risk of developing psychological problems. Caseness was much higher proportionately in women than in men and this corresponds with previous research on students (Fisher & Hood, 1988; Grant, 2002; Surtees & Miller, 1990; Surtees, Wainwright, & Pharoah, 2000; Tyrell, 1992). Anxiety caseness occurred more frequently than depression, although the two tend to co-occur with depression.

The third aim was to compare student scores on the subscales of the GHQ by year of study. Differences in GHQ subscales across the years are found. Anxiety levels at entry were not significantly different from anxiety levels in the third year; the only significant increase was between first and second year students. While it is reassuring to observe that anxiety levels do not increase between the admissions group and the third year group, the peak in anxiety in second year students is of concern and requires further research. Depression scores were significantly higher by the end of the course than at entry or first year which is of

concern. The increase in depression scores between entry and first year was not significant, but the depression scores increased significantly between these groups and second and third year students. Again with depression the highest mean score is in second year students. Third year somatic scores were higher than first year scores but not significantly higher than at entry which again is reassuring. However, scores on the somatic scale increased significantly between entry and second year and between first and second year. Again the highest level of somatic symptoms is being reported in second year students. Social dysfunction scores were not significantly higher in the third year group than in the admission group which was reassuring. However the mean was significantly higher in second year compared to entry and first year scores and third year scores were significantly higher than first year scores but were lower than second year scores. This pattern of no significant differences in scores between entry and six months into first year and an increase in symptomatology in second year, sometimes with a slight reduction in third year scores is reflected in the overall GHQ scores, suggesting that the second year of study is particularly problematic in terms of student mental health and needs further consideration.

UK universities have responded to the risks associated with the transition to university, by providing high levels of structured support for students in their first year to try to ensure that they make friends, feel supported by staff and settle into their new environment (Nelson, Quinn, Marrington, & Clarke, 2012). The data here suggest that this may be helpful in aiding student adjustment at the transition and promoting their well-being given that levels of psychological symptoms do not increase over the first six months of university attendance. However, there does appear to be an issue with students in their second year where levels of symptoms are significantly higher. Entry to second year for many students involves significant change (Maunder, Gingham, & Rogers, 2010). Many have to leave university accommodation, which tends to prioritize first year students and set up. home with

housemates they may not have lived with previously. This can result in significant tensions. Students generally have fixed tenancy agreements for their accommodation and that makes it difficult to move house even if they are experiencing problems with housemates.

The university induction and support systems for second year students tend to be less structured and less intense, the assumption being that students will have made friends and settled in during the first year ((Maunder et al., 2010). However, they may be studying different modules from the friends they made in first year or be in different seminar and tutorial groups. Their lecturers and support tutors are also likely to have changed. The compensatory exciting novelty value of university and independent living are likely to have dissipated by second year and student debt will have become a reality for many students. Student debt has been shown to be a significant stressor that impacts negatively on health in previous research (Adams & Moore, 2007). In many universities, only second and third year marks contribute to the final degree classification, introducing a new additional pressure on second year students to perform well.

In this study, when students were being recruited, many course leaders responded to the request to access their students by saying that mental illness was not an issue for their students but the figures suggest otherwise. University lecturers may not be sufficiently sensitized to these issues as previous research suggested (Stanley & Manthorpe, 2001). Here, counselling services may have an additional role to play in developing awareness of the mental health needs of students in academic staff. There appears to be reluctance amongst students to seek treatment given the small proportion of students that were receiving help and this is in accordance with previous research (Royal College of Psychiatrists, 2011). The significant increases in psychological symptoms in second year students suggest that universities may need to review the support they have in place for these students given that

counseling service provision has not kept pace with the increases in student numbers in UK universities over recent years.

There are some limitations to the study. The data is cross sectional and require replication across different types of universities although the UK universities counseling service figures suggest that there is likely to be little difference in terms of severity or incidence of mental disorder (Association of University & College Counselling, 2011). More detailed longitudinal studies tracking students across their course and examining the effects on performance are necessary and are being planned to provide more detail of how mental illness impacts on university students and their future employability on different courses and types of university. Many more females than males volunteered to participate in the study and while the statistics compensate for this inequality, in future studies including courses such as engineering that attract more male students might result in a more equal balance of males and females.

The questionnaire was administered in a pen-and-paper version to the admissions group and online to the other groups. Several studies have evaluated the reliability and validity of online and pen-and-paper delivery of measures and have found no significant differences in terms of internal consistency, test-retest reliability across the two modalities (Buchanan & Smith, 1999; Denscombe, 2006; Herrero & Menese, 2006; Ritter, Lorig, Laurent, & Mathews, 2004; Vallejo, Jordan, Diaz, Comech, & Ortega, 2007). Whitehead (2007) has argued that internet recruitment results in sampling bias, however his work refers to recruitment via the world web rather than through a university network where all students are computer literate with good access to email as in this study. Being introduced to the research via an email as in this study has also been shown to encourage participation (Birnbaum, 2004).

### **Conclusions and implications**

Despite these limitations the study provides data on the actual incidence of psychiatric caseness which demonstrate that UK universities need to be as concerned about the mental health of their students as universities in other countries are about their students. The mental health issue is one largely unacknowledged aspect of widening participation. Changes in financial support to universities have resulted in students having to fund their studies, and this is an additional stressor. All this occurs at what is arguably a difficult time for young people, with the transition to adulthood and independent living. They are also at the age where the risk of developing mental health problems is greatest.

Mental illness is costly to individuals, their families, communities and the economy Royal College of Psychiatrists (2010). The evidence suggest that with young people, early intervention can play a crucial role in outcome (Kosky & Hardy, 1992) so universities need to make it easier for students to access specialist treatment by ensuring they provide adequately resourced services. University counselling services also need to work with their local NHS mental health services to improve access for students. Students also need to be encouraged to seek treatment. Universities owe their students a duty of pastoral care. They need to make the well-being of their students a priority and ensure that the support services provided are sufficient to deal with the increased students numbers. Students need to be psychologically healthy if they are to get the most out of their education and move confidently into employment.

**References**

- Adams, T., & Moore, M. (2007). High-risk health and credit behavior among 18 to 25 year old college students. *Journal of American College Health, 56*, 101-108.
- Adlas, E. M., Gliksman, L., Demers, A., & Newton-Taylor, B. (2001). The prevalence of elevated psychological distress among Canadian undergraduates: findings from the 1998 Canadian Campus Survey. *Journal of American College Health, 50*, 67-72.
- Association of University & College Counselling, (2011). *Annual survey of counselling in further and higher education, 2006/07*. Rugby: British Association of Counselling and Psychotherapy.
- Birnbaum, M. H. (2004). Methodological and ethical issues in conducting social psychology research via the Internet. In C. Sansone, C.C. Morf, & A. T. Panter (Eds.), *Handbook of methods in social psychology* (pp. 359-382)
- Blanco, C., Okuda, M., Wright, C., Hasin, D. S. Grant, B. F., Liu, S., & Wolfson, M. (2008). Mental health of college students and their non-college attending peers. *Archives of General Psychiatry, 65*, 1429-1437.
- Bryde, J. F., & Milburn, C. M. (1990). Helping to make the transition from school to college. In R. L. Emans (Ed.), *Understanding undergraduate education* (pp. 203-213). Vermillion, SD: University of South Dakota Press.
- Buchanan, T., & Smith, J. L. (1999). Using the internet for psychological research: personality testing on the World-Wide Web. *British Journal of Psychology, 90*, 125-144.
- Chemers, M. M., Hu, L., & Garcia, B.F. (2001). Academic self-efficacy and first-year college student performance and adjustment. *Journal of Educational Psychology, 93*, 55-64.
- Coolican, H., (2009). *Research methods and statistics in psychology*. London: Hodder Education.

- Denscombe, M. (2006). Web-based questionnaires and the mode effect: An evaluation based on completion rates and data contents of near-identical questionnaires delivered in different modes. *Social Science Computer Review*, 24 (2), 246-254.
- Gall, T. L., Evans, D. R., & Bellerose, S. (2000). Transition to first-year university: Patterns of change in adjustment scores across life domains and time. *Journal of Social and Clinical Psychology*, 19, 44-67.
- Fisher, S., & Hood, B. (1987). The stress of transition to university: A longitudinal study of the vulnerability to disturbance and homesickness. *British Journal of Psychology*, 78, 425-441.
- Goldberg, D., & Williams, P. (1991) *A user's guide to the General Health Questionnaire*. London: NFER, Nelson.
- Goldberg, D. P., Gater, R., Sartorius, N., Ustun, T. B., Piccinelli, M., Gureje, O., & Rutter, C. (1997). The validity of two versions of the GHQ in the WHO study of mental illness in general health care. *Psychological Medicine*, 27, 191-197.
- Grant A. (2002). Identifying and responding to students' concerns: A whole institutional approach. In: N. Stanley & J Manthorpe (Eds.), *Students' mental health needs: Problems and responses* (pp. 83-105). London: Jessica Kingsley Publishers.
- Greenbank, P. (2007). From foundation to honours degree: the student experience. *Education and Training*, 49, 91-102.
- Guney, S., Kalafat, T., & Boysan, M. (2010). Dimensions of mental health: Life satisfaction, anxiety, and depression: A preventive mental health study in Ankara University student population. *Procedia Social and Behavioral Sciences*, 2, 1210-1213.
- Herrero, J., & Menese, J. (2006). Short Web-based versions of the perceived stress (PSS) and Center for Epidemiological Studies-Depression (CESD) Scales: A comparison to

pencil and paper responses among Internet users. *Computers in human Behaviour*, 22, 830-846.

Hunt, J., & Eisenberg, D. (2010). Mental health problems and help-seeking behavior among college students. *Journal of Adolescent Health* 46, 3-10.

Ingram, R. E., & Luxon, D. D. (2005). Vulnerability-stress models. In B. J. Hankin & J. R. Z. Abela (Eds.), *Development of psychopathology: A vulnerability-stress perspective* pp. 32-46). Thousand Oaks, CA: Sage.

Kadison, R., & Digeronimo, T. F. (2004). *College of the overwhelmed: The campus mental health crisis and what to do about it*. San Francisco, CA: Jossey-Bass.

Karam, E., Kypri, K., & Salamoun, M. (2007). Alcohol use among college students: An international perspective. *Current Opinion in Psychiatry*, 20, 213-221.

Kessler, R. C., Angermeyer, M., Anthony, J. C., De Graaf, R., Demyttenaere, K., Gasque, I., et al. (2007). Lifetime prevalence and age-of-onset distributions of mental disorders in the World Health Organization's World Mental Health Survey Initiative. *World Psychiatry*, 6, 168-76.

Kosky, R., & Hardy, J. (1992). Mental health: Is early intervention the key? *Medical Journal of Australia*, 3, 47-58.

Maunder, R. E., Gingham, J., & Rogers, J. (2010). Transition in higher education: exploring the experiences of first and second year psychology undergraduate students. *Psychology of Education Review*, 34. (1), 50-54.

McManus, S., Meltzer, H., Brugha, T., Bebbington, P., Jenkins, R. (2009). *Adult psychiatric morbidity in England, 2007: Results of a household survey*. London: National Centre for Social Research.

- Montgomery, M. M., & Côté, J. E. (2003). College as a transition to adulthood. In G. R. Adams & M. D. Berzonsky (Eds.), *Blackwell handbook of adolescence* (pp. 149-172). New York: Blackwell Publishing.
- Nelson, K. J., Quinn, C., Marrington, A., & Clarke, J. A. (2012). Good practice for enhancing the engagement and success of commencing students. *Higher Education*, 63, 83-96.
- Nerdrum, P., Rustøen, T., & Rønnestad, M. H. (2006). Student Psychological Distress: A psychometric study of Norwegian 1st-year undergraduate students. *Scandinavian Journal of Educational Research*, 50(1), 95-109.
- Ritter, P., Lorig, K., Laurent, D., & Mathews, K. (2004). Internet versus mailed questionnaires: A randomized comparison. *Journal of Medical Internet Research*, 6 (3). Retrieved August 7<sup>th</sup> 2012 from <http://www.jmr.org/2004/3/e29html>.
- Royal College of Psychiatrists (2003). *The mental health of students in higher education*. London: Royal College of Psychiatrists.
- Royal College of Psychiatrists (2010). *No health without public mental health: The case for action. Position statement PS4/2010*. London: Royal College of Psychiatrists.
- Royal College of Psychiatrists (2011). *The mental health of students in higher education*, London: Royal College of Psychiatrists.
- Rutter, M. (2001). Resilience reconsidered: Conceptual considerations, empirical finding and policy implications. In J. P. Shonkoff & S. J. Meisels (Eds.), *Handbook of early childhood intervention* (2<sup>nd</sup> ed., pp. 651-682). New York: Cambridge University Press.
- Rutter, M. (2007). Resilience, competence, and coping. *Child Abuse and Neglect*, 31(3), 205-209.

- Scanlon, L., Rowling, L., & Weber, Z. (2010). 'You don't have an identity... you are just lost in a crowd': Forming a student identity in the first-year transition to university. *Journal of Youth Studies, 10*, 223-241.
- Singleton, N., Bumpstead, R., O'Brien, M., Lee, A., & Meltzer, H. (2001). *Psychiatric morbidity among adults living in private household, 2000*. London: The Stationary Office.
- Stallman, H. M. (2008). Prevalence of psychological distress in university students: Implications for service delivery. *Australian Family Physician, 37*, 673-677.
- Stanley, N., & Manthorpe, J. (2001). Responding to students' mental health needs: Impermeable systems and diverse users. *Journal of Mental Health, 10* (1), 41-52.
- Storrie, K., Ahern, K., & Tuckett A. (2010). A systematic review: Students with mental health problems - A growing problem. *International Journal of Nursing Practice, 16*, 1-6.
- Surtees, P. G., & Miller, P. M. (1990). The Interval General Health Questionnaire, *British Journal of Psychiatry, 157*, 679-686.
- Surtees, P., Wainwright, N., & Pharoah, P. (2000). *Student mental health, use of services and academic attainment. Report to the Review Committee of the University of Cambridge Counselling Service*. Cambridge: Cambridge University Press.
- Tyrrell, J. (1992). Sources of stress among psychology undergraduates. *The Irish Journal of Psychology, 13*(2), 184-192.
- Vallejo, M. A., Jordan, C. M., Diaz, M. I., Comech, M. I., & Ortega, J. (2007). Psychological assessment via the Internet: A reliability and validity study of Online (vs paper-and pencil) versions of the General Health Questionnaire-28 (GHQ-28). *Journal of Medical Internet Research, 9* (1). Retrieved August 7<sup>th</sup> 2012 from <http://www.jmr.org/2007/1/e2html>.

Whitehead, L. C. (2007). Methodological and ethical issues in internet-mediated research in the field of health: An integrated review of the literature. *Social Science and Medicine*, 65, 782-791.

Yusoff, M. S. B (2011). Impact of summative assessment on first year medical students' mental health. *International Medical Journal*, 18 (3), 172-175.

Yusoff, M. S. B., Rahim, A. F. A., & Yaacob, M. J. (2011). The prevalence of final year medical students with depressive symptoms and contributing factors. *International Medical Journal*, 18 (4), 305-309.

Table 1. *M*, *SD* and *CI* for Men, Women, Total Sample and the GHQ Subscales

	Somatic	Anxiety	Social	Depression	GHQ Total
Entry (n = 201)					
Mean	6.38	6.69	7.01	1.40	21.49
<i>SD</i>	3.69	4.71	2.18	2.59	9.97
CI <sub>95</sub>	5.87,6.89	6.04,7.35	6.70,7.31	1.04,1.76	20.14,22.87
Year 1 (n = 260)					
Mean	5.90	6.17	6.50	1.70	20.27
<i>SD</i>	3.88	4.79	3.28	2.97	11.31
CI <sub>95</sub>	5.43,6.38	5.58,6.75	6.10,6.90	1.33,2.06	18.89, 21.65
Year 2 (n= 489)					
Mean	7.90	7.19	8.10	2.90	26.09
<i>SD</i>	4.41	4.53	3.01	4.11	11.88
CI <sub>95</sub>	7.51,8.29	6.79,7.60	7.82,8.36	2.54, 3.27	25.03,27.14
Year 3 ( n =247)					
Mean	7.28	7.11	7.39	2.58	24.36
<i>SD</i>	4.20	5.15	3.20	4.46	13.16
CI <sub>95</sub>	6.75,7.80	6.47,7.76	6.99,7.79	2.02, 3.13	22.71, 26.01
Total ( n= 1,197)					
Mean	7.08	6.88	7.42	2.32	23.69
<i>SD</i>	4.21	4.77	3.05	3.79	11.97
CI <sub>95</sub>	6.84,7.32	6.60,7.14	7.25,7.60	2.11,2.54	23.02,24.37

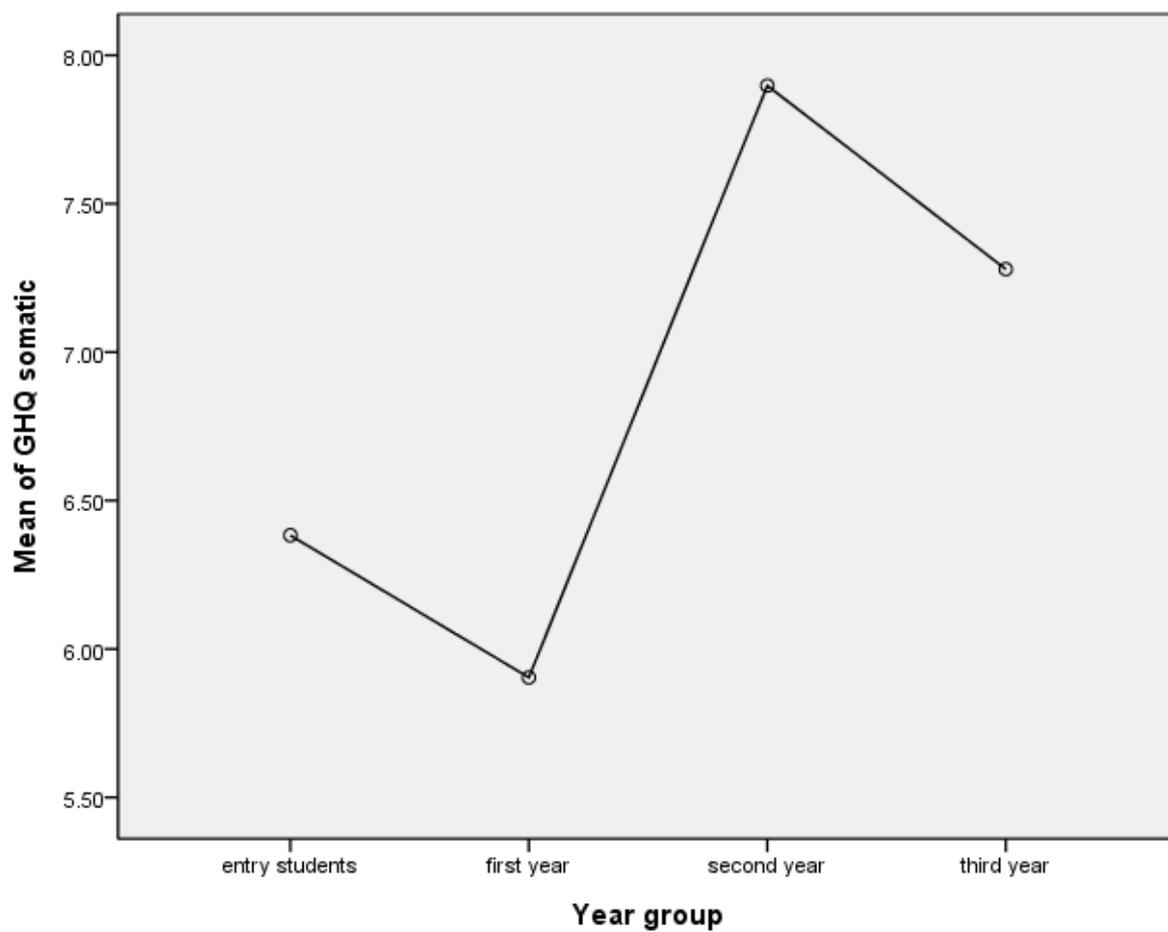


Figure 1. Means for GHQ Somatic Subscale for each year group of students

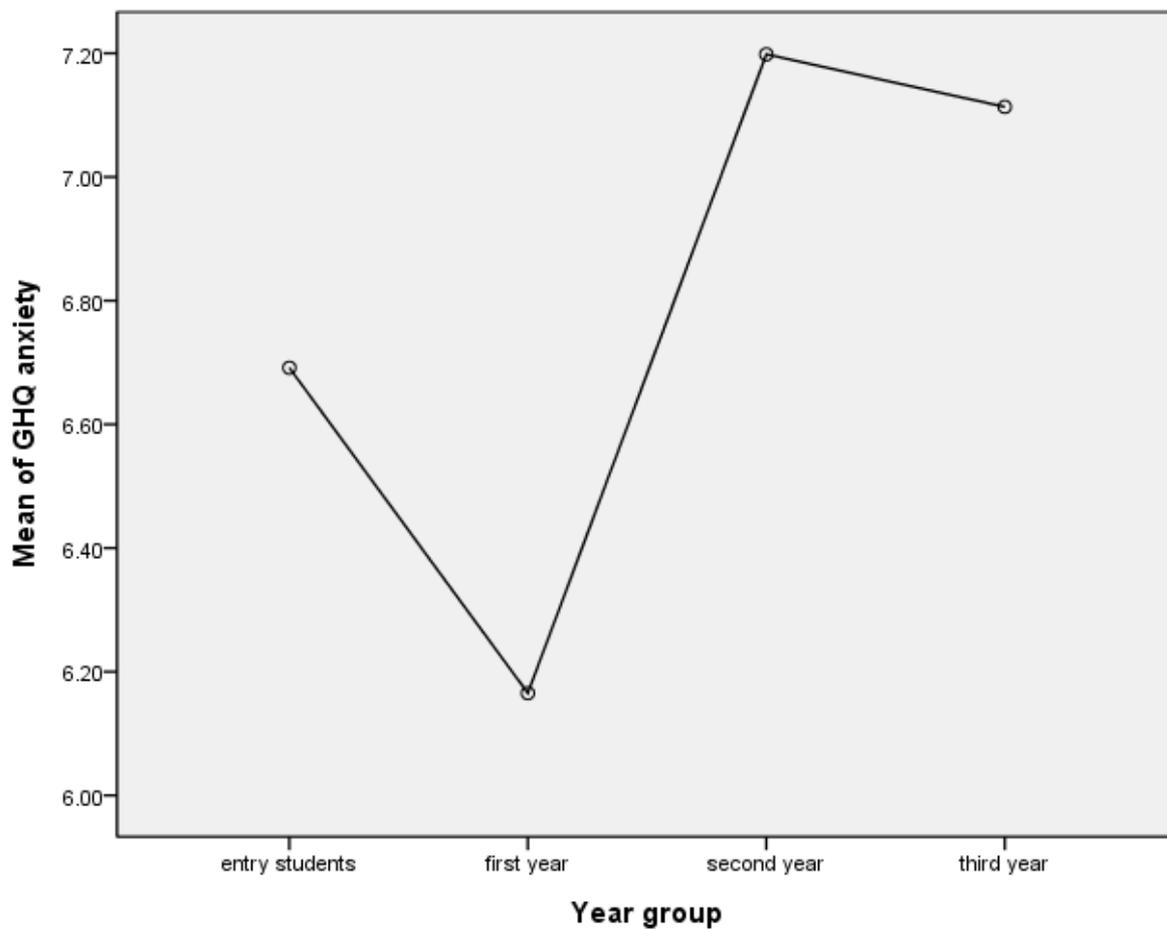


Figure 2. Means for GHQ Anxiety Subscale for each year group of students

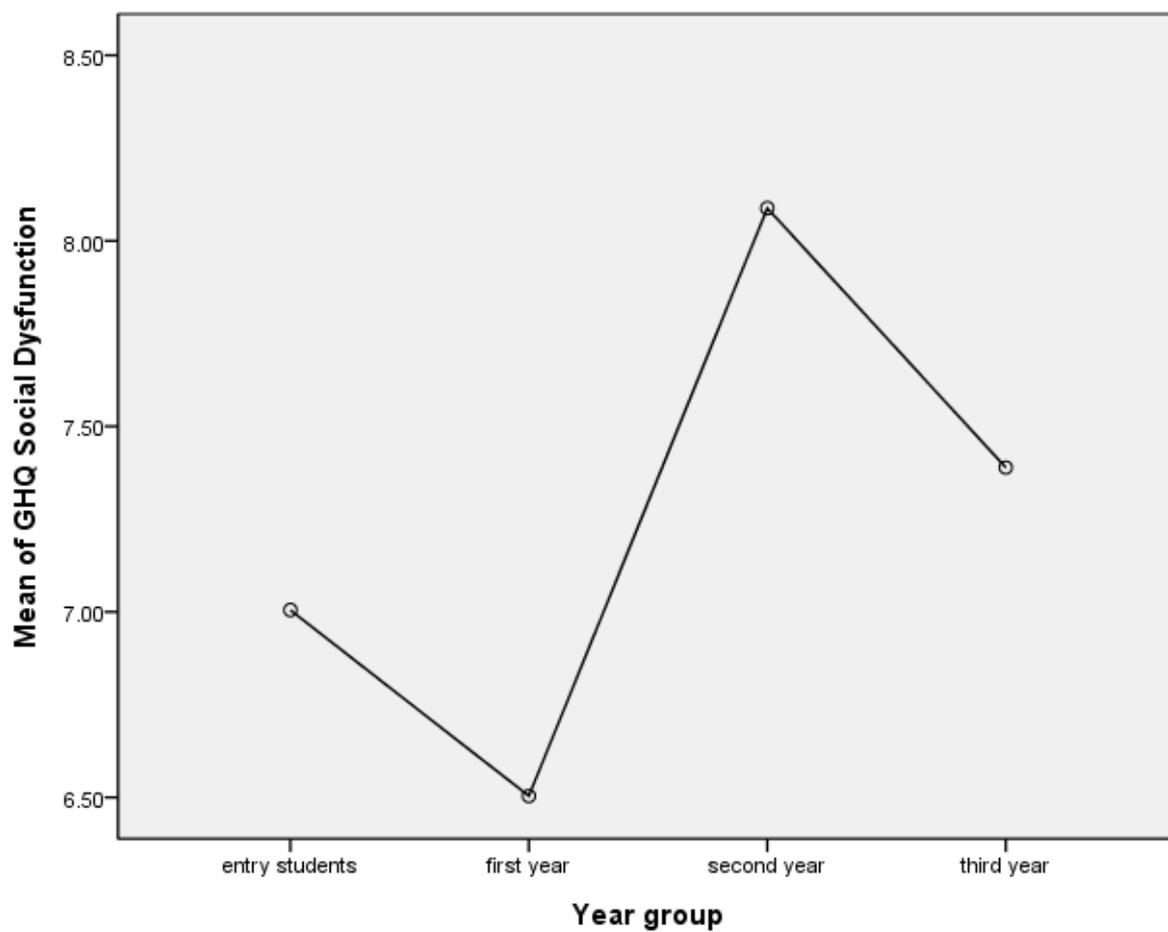


Figure 3. Means for GHQ Social Dysfunction Subscale for each year group of students

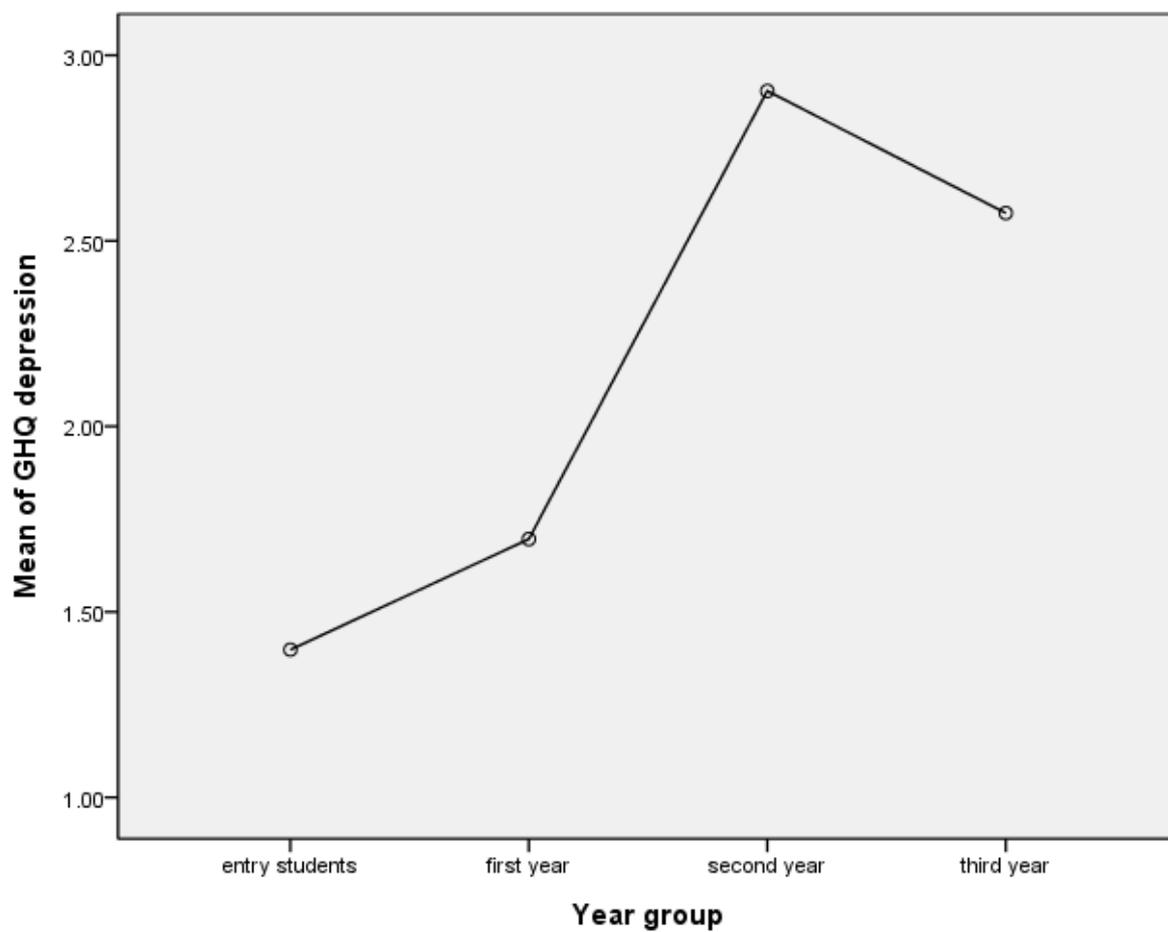


Figure 4. Means for GHQ Depression Subscale for each year group of students

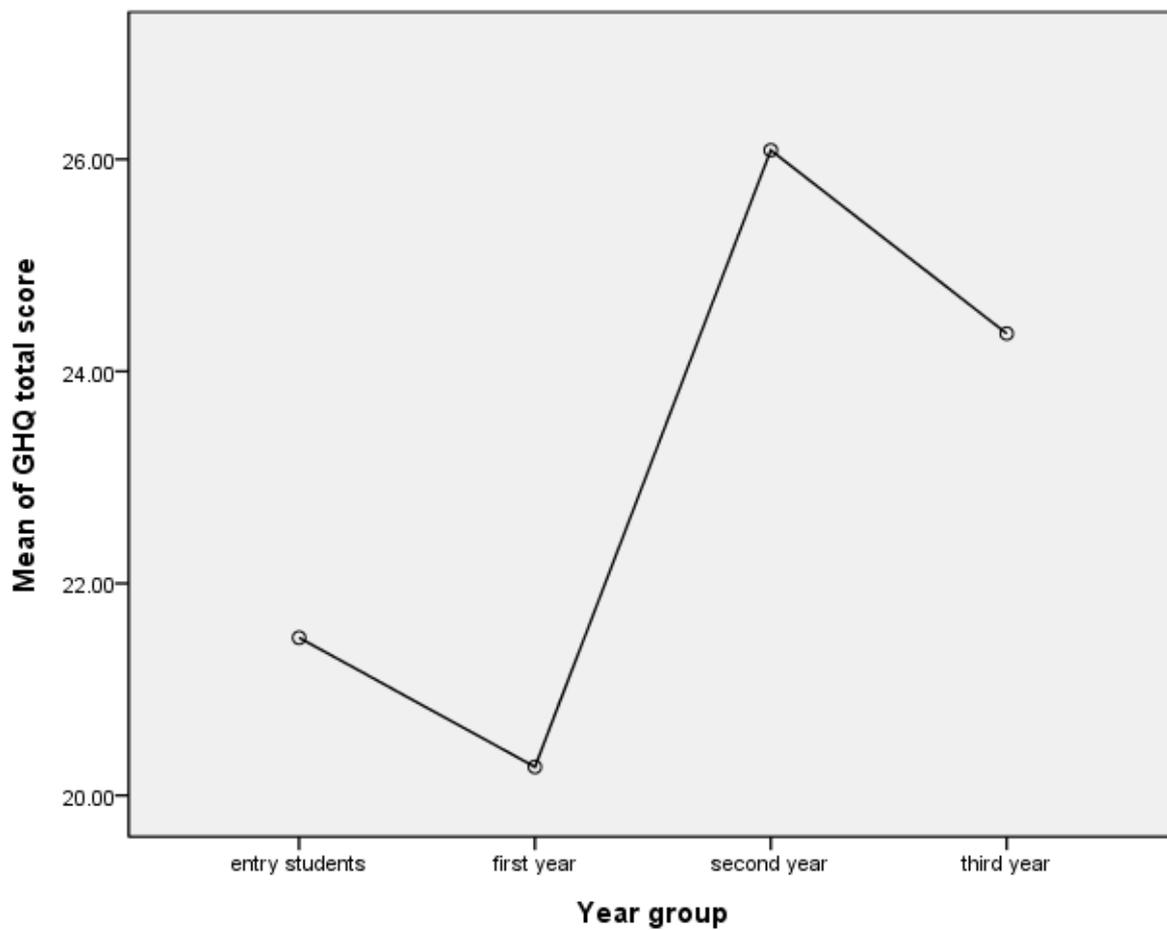


Figure 5. Means for Total GHQ scores for each year group of students