Psychosocial factors associated with psychiatric morbidity in higher institution students in Nigeria

***Ogunmodede A.J,[1] Adegunloye O,[2] Oguntayo R[.3] Ajokpaniovo M,[4] Buhari O.I.N,[2]
Bolarinwa O.A,[5] Malomo S,[6] Oyeleke J[3]**

Abstract

Introduction: Mental health disorders in undergraduates are often undetected and may predispose to other academic and social complications. The objective of the study is to determine the prevalence of probable psychiatric morbidity among students of University of Ilorin, Nigeria and the psycho-social factors that are associated with psychiatric morbidity in them.

Methods: Socio-demographic questionnaire and the 12-item General health questionnaire (GHQ-12) were administered to 3,300 undergraduate students to assess psychosocial variables and psychiatric morbidity respectively.

Results: About 23.5% of respondents scored ≥3 using the GHQ-12 questionnaire, signifying a likehood of psychiatric morbidity**.** Students from polygamous families were 1.3 times more likely to have GHQ scores of ≥3 than those from monogamous (OR=1.276, P=0.026). Those who had unemployed fathers were twice more likely to have a GHQ ≥ 3 than those with employed fathers. (OR=2.084, P=0.005).Those who lived in houses with shared toilet facilities were 1.3 times more likely to have GHQ ≥3 (OR=1.310, P=0.028)

Conclusion: This study calls for a careful consideration and modification of the various psychosocial factors associated with pschiatric morbidity in order to ensure a mentally healthy and vibrant student community.

Keywords: Psychosocial factors, University undergraduate, Mental morbidity

*Corresponding author
Dr A.J. Ogunmodede
Email: busolajane@yahoo.com

[1]Department of Behavioural Sciences, University of Ilorin Teaching Hospital, Ilorin, Nigeria
[2]Department of Behavioural Sciences, University of Ilorin, Ilorin, Nigeria
[3]Department of Psychology, University of Ilorin, Ilorin, Nigeria
[4]Department of Counselor Education, University of Ilorin, Ilorin, Nigeria
[5]Department of Epidemiology and Community Health, University of Ilorin, Ilorin, Nigeria
[6]Department of Biochemistry, University of Ilorin, Ilorin, Nigeria

Facteurs psychosociaux associés à la morbidité mentale chez les étudiants d'un institution supérieure au Nigéria

Ogunmodede A.J,[1] Adegunloye O,[2] Oguntayo R,[3] Ajokpaniovo M,[4] Buhari O.I.N,[2] Bolarinwa O.A,[5] Malomo S,[6] Oyeleke J[3]

Résumé

Introduction: Les troubles de santé mentale chez les étudiants de premier cycle ne sont souvent pas détectés et peuvent prédisposer à d'autres complications scolaires et socials.

Objectif de l'étude: Déterminer la prévalence de la morbidité psychiatrique probable chez les étudiants de l'Université d'Ilorin, au Nigéria et les facteurs psychosociaux associés à la morbidité psychiatrique chez eux.

Méthode de l'étude: Le questionnaire socio-démographique et le questionnaire de santé générale en 12 points (QSG-12) ont été administrés à 3 300 étudiants de premier cycle pour évaluer respectivement les variables psychosociales et la morbidité psychiatrique.

Résultat de l'étude: Environ 23,5 % des répondants ont obtenu un score ≥3 en utilisant le questionnaire QSG-12, ce qui signifie une probabilité de morbidité psychiatrique. Les étudiants issus de familles polygames étaient 1,3 fois plus susceptibles d'avoir des scores QSG ≥3 que ceux issus de familles monogames **(OR = 1,276, P = 0,026)** . Ceux qui avaient des pères au chômage étaient deux fois plus susceptibles d'avoir un QSG ≥3 que ceux dont les pères travaillaient. (OR = **2,084, P = 0,005).** Ceux qui vivaient dans des maisons avec des toilettes partagées étaient 1,3 fois plus susceptibles d'avoir un QSG ≥3 **(OR = 1,310, P = 0,028)**

Conclusion: Cette étude appelle à un examen attentif et à la modification des divers facteurs psychosociaux associés à la morbidité psychiatrique afin d'assurer une communauté étudiante mentalement saine et dynamique.

Mots-clés: Facteurs psychosociaux, licence universitaire, morbidité mentale

*Corresponding author
Dr A.J. Ogunmodede
Email: busolajane@yahoo.com

[1]Department of Behavioural Sciences, University of Ilorin Teaching Hospital, Ilorin, Nigeria
[2]Department of Behavioural Sciences, University of Ilorin, Ilorin, Nigeria
[3]Department of Psychology, University of Ilorin, Ilorin, Nigeria
[4]Department of Counselor Education, University of Ilorin, Ilorin, Nigeria
[5]Department of Epidemiology and Community Health, University of Ilorin, Ilorin, Nigeria
[6]Department of Biochemistry, University of Ilorin, Ilorin, Nigeria

INTRODUCTION

Current research all over the world points to an increasing prevalence of psychiatric morbidity among students in higher institutions (1). These psychiatric illnesses range from anxiety, to depression, substance abuse disorders and suicidal behaviours (2,3). The situation in the Nigerian student population appears to be similar with this alarming worldwide trend. Tertiary institutions all over the world play host to large populations of young people most of whom are within the age range of 16 to 27years (4). This age bracket forms a unique stratum of the society consisting of young people who are forming identities, lifelong friendships, transitioning into adulthood and making important life decisions. This group is also made up of young students who are trying to choose a career path, learning how to withstand peer pressure as well as adjust to a new environment. All of these may form a template for psychological upheavals.

Several studies have highlighted other possible risk factors that may be responsible for an increase in mental health challenges in this group of young people (5,6,7,8) which include: young age, living away from home for the first time, having to handle finances alone and the stress of tertiary education training. Barry et al (9) reported that poor psychological well-being in university students is strongly related to other factors such as lower educational attainments, belonging to a minority ethnic group, substance abuse, history of violence, as well as poor reproductive and sexual health. Promoting mental wellness is important in these students as it dictates positive coping with the demands of tertiary education, academic performance as well as cordial relationships with fellow students as well as lecturers.

The literature on the enormity of psychological disorders in university students in different parts of the world is rapidly expanding. Stallman et al(10) who studied the prevalence of mental health problems among Australian undergraduates reported a 12month prevalence of mental disorders of 19.2% and a prevalence of 62.4% for students with sub-syndromal symptoms. Inam et al (11) reported that 60% of 113 medical students sampled had anxiety and depression. Adewuya et al. reported a prevalence of depression of 8.3% in a study done to assess the prevalence of depression among undergraduate students at the University of Lagos (12). In spite of the increased prevalence, there appears to be very few studies in this clime exploring the pattern of psychiatric morbidity in University students and the associated psychosocial factors (13). The objectives of the study were therefore to determine the prevalence of probable psychiatric morbidity among undergraduate students of the University of Ilorin, Nigeria and to determine the demographic, social, educational and psychological factors that predict psychiatric morbidity in the students.

MATERIALS AND METHODS
Study Setting:

The study was carried out at the University of Ilorin (Unilorin), one of the second generation public universities in Nigeria. It is located in Ilorin, Kwara State, North-Central Nigeria (14). The total undergraduate students' enrolment for the 2018/2019 academic session was 44,897(14). The compositions of the departments that make up each faculty can be found at the university website (15).

Study Design
This was a cross-sectional study.

Sample Size and Sampling Technique

This study was part of the preliminary phase of a multi-phase, funded institution-based study called the Tertiary Institution Mental Health Care (TIM-Care study) (16). The study protocol has been published (16). The UNODC recommended sample size of 2000- 3000 for drug related and addiction studies in students (irrespective of the population size) was used (17), because one of the objectives of the preliminary phase was substance use assessment. An attrition rate of 10% which was 300 then added to give the minimum representative sample size of 3300. Three thousand, three hundred (3,300) regular, fulltime undergraduate students were proportionately recruited from all faculties across various class levels in the University using a multi-staged sampling method.   The duration of study spanned December 2019 to February 2020. The total undergraduate students' enrolment for the year 2018/2019 academic session was 44, 897 into 15 faculties.

The different stages of the multi-stage method was as follows
Stage 1: Simple random sampling by balloting without replacement was done to select 2 departments from each faculty
Stage 2: Proportionate allocation (Sampling by size method) of students per department at all levels of study except 100 level students who had been excluded from the study. The formula for

proportionate sampling was as follows:

n/ N x ni

n = the total number of students at the specific department;

N = the total number of students at the faculty;

ni= the total sample size required for the study at the specific faculty

Stage 3: Systematic random sampling was used to select the predetermined number of students per department.

Questionnaires were administered in between lecture periods to avoid disruption of lecture activities. Selected regular, full-time undergraduate students studying for a degree or certificate course in theUniversity of Ilorin were included in the study, while undergraduate students (who had just resumed school) and those that were absent from classat time of administration of questionnaire, or too ill to participate in the study were excluded.

Study Instruments:

1. A SEMI-STRUCTURED QUESTIONNAIRE
An author-designed semi-structured, self-administered questionnaire containing five sections which included the socio-demographic information of participants, available social amenities in the respondents' residences and the social and educational support structure of the participants (such as tuition fees, scholarship access, funding for schooling). Other sections enquired about factors relating to the lifestyle of the respondents (such as time for leisure, frequency of leisure time,awareness and usage of available recreational facilities) and the relationships of the participants.

2. THE 12-1TEM GENERAL HEALTH QUESTIONNAIRE
The 12 item General health questionnaire (GHQ-12) was used in this study to screen for psychiatric morbidity (18). The GHQ-12 is popular self-administered screening questionnaire used for assessing psychological wellbeing and probable psychiatric morbidity in various populations including adolescents and young adults (18). The instrument has been found to have high validity, sensitivity and specificity rates (19). The most common scoring methods are bi-modal (0-0-1-1) and Likert scoring styles (0-1-2-3). The cut- off point of 3, is considered positive for probable psychiatric morbidity when the bi- modal method of scoring is used for community studies. (20).

Ethical Considerations

Ethical clearance was obtained from the Ethical Review Committee of the University of Ilorin (Protocol ID=UERC/EDU/383, Approval no: UERC/ASN/2020/2007 and informed consent obtained from every student participating in the study, after explaining the purpose and process of the study to the participants. Only students who gave their full written consent participated in the study. A contact note was provided for those who desired mental health consultation afterwards.

Data Analysis

The data generated from this study was analyzed using the Statistical Product and Service solution for Social Sciences (SPSS version 20). Descriptive statistics were used to summarize the data. Continuous variables were expressed as mean $\pm$ standard deviation, while frequencies of categorical variables were expressed as percentages. Student's independent t test was used to compare means of continuous variables. Chi square was used to compare proportions of categorical variables. Binary logistic regression was then used to identify predictors of Psychiatric morbidity. The significance level was set at $p<0.05$.

RESULTS

Of the 3,300 questionnaires distributed, 3,179 were completely filled (Response rate=96.33%). A total of 3179 questionnaires from students from different departments and between 200 level and 600 level were analysed. Table 1 shows that the mean age of all respondents was 20.6 ± 2.51years and majority of them (53.8%) were 19 to 21 years old. About half, 1610 (50.6%) were males, while 1569 (49.4%) were females. Majority (88%) were of Yoruba ethnicity.

Most of the respondents (96.7%) had both parents alive, while only 3.3% had either one or both parents deceased. Most students reported a satisfactory relationship with their mother and father and only 2% of all respondents had unemployed fathers, while 5.3% had unemployed mothers. More than 1400 of the 3179 (45.0%) respondents used private toilet facilities which they shared with other students, 30.1% of respondents had their own personal toilet facilities in their hostels, while 24.9% shared public toilet facilities with many other students in their hostels.

Concerning relationships, about 88% of these students were in amorous relationships, but

only 46.1% found such relationships very satisfactory. About 4.7% of respondents admitted to having suffered some form of abuse in the past, ranging from financial, emotional to sexual abuse and the most frequent of these three forms of abuse was the emotional abuse (68.7%). Only about 1% of respondents admitted to being abused in an on-going relationship and the victims responded to these abusive situations by seeking counseling (23.1%), reporting to family members(15.4%), praying about it(19.2%), reporting to law enforcement agents (15.4%), while about 23.1% did nothing about the abuse, even though it was still ongoing.

Concerning past medical and psychiatric history of respondents, only 8.2% admitted to having a previous history of psychological illnesses, with psychosis being the commonest.70.2% of those affected sought traditional and religious forms of treatment, while only 29.8% sought orthodox forms of treatment. Only 3.2% of respondents had chronic medical conditions for which they were receiving treatment, with more than half of those affected having sought orthodox forms of treatments.Satisfaction with course of study was also explored, with about 33.7% of these students were not satisfied with their course of study.

About 23.5% of respondents scored 3 and above using the GHQ-12 questionnaire, which signified a probable psychiatric morbidity, while 56.2% of the respondents were GHQ-negative. An exploration of the social, demographic, relationship and economic factors that were significantly associated with probable psychiatric morbidity in this study were shown in tables 2 and 3 as gender (p<0.001), year of study (p=0.0014), family structure (p=0.026), Relationship with father (p=0.006), Relationship with mother (P<0.001), Occupation of father (p=0.005), occupation of mother (p=0.026), number of children (p=0.008), type of social group (p=0.003)

Tables 4, 5, 6 show the factors strongly associated with psychaitric morbidity. The type of toilet facility used by the students in their residences was a predictor, with those who shared public toilet facilities with other students 1.3 times more likely to have GHQ scores of 3 and above than those who had their own personal toilets **(Odds ratio= 1.310, P= 0.028, CI=1.030-1.667).** The type of family setting of respondents was also predictive of probable psychiatric morbidity with students from polygamous family setting, about 1.3times more likely to have GHQ scores of three and above than those from

monogamous families**(Odds ratio= 1.276, P= 0.026, CI=1.030-1.581)**. The occupation of both the father and mother of respondents were found to be significantly associated with the GHQ scores ($x^2= 8.057$, P= 0.005, $x^2 = 4.925$, P= 0.026) and both remained as predictors of probable psychiatric morbidity on logistic regression. Also, respondents in this study who had unemployed father were about2 times more likely to have a GHQ score of 3 and above than those with employed fathers. (**Odds ratio= 2.084, P= 0.005, CI=1.242-3.497)**.

DISCUSSION

This study revealed that out 732 of the 3179, (23.5%) students who participated in the study had probable psychiatric morbidity, using the GHQ-12. This percentage is similar to those reported in other similar studies in Nigeria (21, 22).This may likely be attributed to the fact that studying in a Nigerian Universitywith very minimal social amenities and student support structures such as student loans and funding, incessant delays in the length of study due to lecturer's strikes among others may be stressful and may form a trigger for emotional upheavals and psychiatric morbidity in these students (23).

In this study, less than 10% of respondents admitted to having suffered a psychological disorder in the past and a large proportion of those who admitted this reported that they sought treatment from traditional and religious healers. This finding is so important and reflects the general perception of mental illness in the Nigerian society, as being of supernatural causation and so preferably treated by traditional methods or religious methods. This is in keeping with findings from previous studies which explored the attitude and perception of university students aboutmental illnesses and their treatments.(24, 25), this finding also highlights the urgent need for campus and institution based mental health literacy programmes and campaigns to help improve the knowledge of higher institution students,(and by extension, the general public) on the scientific basis of psychological disorders and the successes and need for orthodox treatment methods.

In this study, respondents who were less than 18 years had the highest percentage of students who were GHQ positive for probable psychiatric morbidity (27.1%), while students who were 25 years and above had the least percentage being GHQ positive. This finding is worthy of note, as it may reflect that older students may be used to the demands of

university life and may be psychologically and physically more matured to cope with the stress of studies in the university and so less likely to be psychologically distressed. This finding is in keeping with the study by other researchers in other parts of the world (26, 21), reported that younger students were more vulnerable to the possibility of the development of a psychiatric morbidity than older ones.

This study also showed that higher percentage of female students had higher GHQ scores indicating a positive probable psychiatric morbidity. This same trend has been reported by earlier workers who reported higher GHQ scores in female higher institution students and may possibly be attributed to the fact that females are generally more predisposed to neurotic psychiatric disorders and are more likely to report their symptoms (27)

Students who shared public toilets in their hostels had higher odds of having probable psychiatric morbidity than those who did not share toilet facilities at all or shared only private toilets. Although this particular social amenity may not have not been explored in relation to probable psychiatric morbidity in most similar researches, this finding stands to reason as poorer students may be the ones who may have to live in large clusters and therefore have to share toilet facilities. The relationship between low socio-economic status and mental illness has been explored by many researchers, with some studies showing psychiatric morbidity being positively correlated with low socioeconomic class. (28, 29) Additionally, in this study, a higher percentage of students who had no sanitation facilities in their places of residence had probable psychiatric morbidity using their GHQ scores. This is also most likely due to the fact that students from poor homes and very low economic status are likely to secure cheaper apartments, which may not have adequate sanitation facilities.

This study revealed that though not significant, the GHQ scores of students in the science courses were slightly higher than those in other courses, this finding is not surprising as students in science based courses are likely to have more tedious, time consuming schedules, with very rigorous lecture schedules and practical sessions. All of these may contribute to the stress of learning and hence increase the possibility of a mental illness. We also found that students from polygamous family settings had a higher likelihood of having a probable psychiatric morbidity than those from monogamous family settings. Although this factor has not been explored in many other similar studies, it may

likely be linked to the fact that in some polygamous homes in Africa, there may be internal tensions based on rivalry between children of the different mothers, quarrels and sometimes very keen competition for the available resources (29). This may generate significant emotional distress in students from such homes, thereby predisposing to psychological distress in them.

Students with unemployed fathers or mothers had significantly higher GHQ scores than those with employed parents. This finding is in keeping with that of other studies done which reported higher probability of psychiatric morbidity in students with unemployed parents (30). This finding is of significance, especially in a country like Nigeria, where many students are being sponsored through school fully by their parents, because of scarcity of scholarship opportunities in the country. The attendant financial difficulties from no or low earning parents may create serious emotional upheaval in these students and therefore a predisposition to mental illness.

It is also significant to note that in this study,students who had non-cordial relationships with either fellow students or their lecturers had GHQ positive scores. This is important, as it is a reflection of the importance of healthy relationships as a stabilizing factor for mental well-being and also underscores the dysfunction in relationships which may occur in the event of psychological disorders (31). Although this factor has not been directly explored by most researchers, a study done by Tran et al (32) revealed that students who had problems sustaining healthy family and school relationships were more predisposed to having psychiatric morbidity.

This study also found that a slightly higher proportion of students who were not studying their courses of choice had GHQ positive scores, this is possibly reflective of the attendant frustration and discouragement which may accompany a student being denied the preferred course of study in the university. Such students may also suffer from poor motivation and excessive worry concerning the different course given to them (33) Also, a significantly higher proportion of students who were not satisfied with their course of study (either it was originally preferred or not) had higher GHQ scores, signifying higher probability of psychiatric morbidity. This finding underscores the importance of inherent satisfaction and happiness with the course which higher institution students study in mental stability.

CONCLUSION

The contributors to psychiatric morbidity among students intertiary institutions are varied and include socio-economic factors such as parental income, quality of interaction with peers and parents as well as available social amenities. Health-related factors such as history of physical illnesses are also associated with the probability of a mental illness in these group of young people, among other factors. Therefore, moderating relevant socio-economic, health-related, and study-related variables may be helpful in guaranteeing a mentally healthy student population.

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Table 1: Socio-demographic characteristics of respondents

Variables	Frequency (%) N=3179
Age groups	
= 18	516 (16.2)
19 – 21	1710 (53.8)
22 – 24	701 (22.1)
= 25	252 (7.9)
Mean ± SD	**20.69 ± 2.51**
Gender	
Male	1610 (50.6)
Female	1569 (49.4)
Ethnicity	
Yoruba	2813 (88.5)
Hausa	182 (5.7)
Igbo	65 (2.0)
Nupe	27 (0.8)
Ebira	37 (1.2)
Others	55 (1.7)
Marital Status	
Single	3112 (97.9)
Married	67 (2.1)
Religion	
Christianity	1586 (49.9)
Islam	1590 (50.0)
Traditional	3 (0.1)
Year of study	
200 L	594 (18.6)
300 L	734 (23.1)
400 L	1197 (37.7)
500 L	505 (15.9)
600 L	149 (4.7)
Accommodation status	
On campus public	1146 (36.0)
On campus private	800 (25.2)
Off campus	1233 (38.8)

Table 2: Association between socio-demographic variables and GHQ (n = 3,179)

Variables	GHQ Negative (%) n=2430	Positive (%) N=749	χ^2/t	ρ
Age groups (years)				
= 18	376 (72.9)	140 (27.1)	6.433	0.092
19 – 21	1308 (76.5)	402 (23.5)		
22 – 24	543 (77.5)	158 (22.5)		
= 25	203 (80.6)	49 (19.4)		
Mean ± SD	20.74 ± 2.51	20.53 ± 2.50	1.959	0.050
Gender			24.597	**< 0.001***
Male	1290 (80.1)	320 (19.9)		
Female	1140 (72.7)	429 (27.3)		
Marital Status			0.875	0.350
Single	2382 (76.5)	730 (23.5)		
Married	48 (71.6)	19 (28.4)		
Year of study				
200 L	480 (80.8)	114 (19.2)	12.574	**0.014***
300 L	533 (72.6)	201 (27.4)		
400 L	913 (77.4)	284 (23.7)		
500 L	391 (77.4)	114 (22.6)		
600 L	113 (75.8)	36 (24.2)		
Accommodation status				
On campus public	873 (76.2)	273 (23.8)	1.911	0.385
On campus private	600 (75.0)	200 (25.0)		
Off campus	957 (77.6)	276 (22.4)		

Table 3: Relationship between parental information and GHQ (n =3,179)

Variables	GHQ Negative (%)	Positive (%)	χ^2	ρ
Parental status			1.801	0.180
Alive	2344 (76.3)	730 (23.7)		
Deceased	86 (81.9)	19 (18.1)		
Family structure			4.976	**0.026***
Monogamous	2059 (77.2)	609 (22.8)		
Polygamous	371 (72.6)	140 (27.4)		
Relationship with father			7.667	**0.006***
Satisfactory	2059 (75.6)	665 (24.4)		
Non satisfactory	371 (81.5)	84 (18.5)		
Relationship with mother			20.657	**< 0.001***
Satisfactory	2328 (77.2)	686 (22.8)		
Non satisfactory	102 (61.8)	63 (38.2)		
Occupation of father			8.057	**0.005***
Employed	2392 (76.7)	725 (23.3)		
Unemployed	38 (61.3)	24 (38.7)		
Occupation of mother			4.925	**0.026***
Employed	2312 (76.8)	697 (23.2)		
Unemployed	118 (69.4)	52 (30.6)		
Number of children			7.102	**0.008***
= 4	1342 (74.7)	455 (25.3)		
= 5	1088 (78.7)	294 (21.3)		
Member of any social group			0.668	0.414
Yes	2133 (76.7)	649 (23.3)		
No	297 (74.8)	100 (25.2)		
Type of social group			13.791	**0.003***
Student union	401 (75.5)	130 (24.5)		
Political group	1146 (78.9)	307 (21.1)		
Religious group	571 (74.2)	199 (25.8)		
Others	15 (55.6)	12 (44.4)		
Type of support			1.239	0.266
Financial	255 (79.7)	65 (20.3)		
Psychological	730 (76.70	222 (23.3)		
Frequency of support			2.691	0.260
Always	369 (78.5)	101 (21.5)		
Sometimes	571 (77.3)	168 (22.7)		
Rarely	40 (69.0)	18 (31.0)		

Table 4: Socio-demographic predictors of GHQ

Variables	β	p-value	Odd ratio	95% C I
Gender				
Male	(RC)			
Female	0.417	**0.001***	1.517	1.286 – 1.790
Year of study				
200	(RC)			
300	0.435	**0.001***	1.545	1.189 – 2.007
400	0.239	0.056	1.270	0.994 – 1.622
500	0.168	0.261	1.183	0.883 – 1.587
600	0.338	0.123	1.402	0.913 – 2.154

Table 5: Social amenities as predictors of GHQ

Variables	β	p-value	Odd ratio	95% C I
Water supply				
Pipe borne water	0.964	**< 0.001***	2.623	1.785 – 3.856
Borehole	0.391	**0.041***	1.478	1.016 – 2.149
Well	0.817	**< 0.001***	2.265	1.550 – 3.308
Tanker supply	(RC)			
Toilet facility				
Shared public	0.270	**0.028***	1.310	1.030 – 1.667
Shared private	0.014	0.895	1.014	0.823 – 1.249
Personal (Single user)	(RC)			
Sanitation facility				
Yes	-0.523	**< 0.001***	0.593	0.823 – 1.249
No	(RC)			
Presence of Common room				
Yes	0.386	**< 0.001***	1.470	1.232 – 1.755
No	(RC)			

Table 6: Relationships as predictors of GHQ

Variables	β	p-value	Odd ratio	95% C I
Family structure				
Monogamous	(RC)			
Polygamous	0.244	**0.026***	1.276	1.030 – 1.581
Relationship with father				
Satisfactory	(RC)			
Non satisfactory	0.355	**0.006***	1.426	1.108 – 1.836
Relationship with mother				
Satisfactory	0.740	**0.001***	2.096	1.514 – 2.902
Non satisfactory	RC			
Occupation of father				
Employed	(RC)			
Unemployed	0.734	**0.005***	2.084	1.242 – 3.497