CHAPTER FOUR

DATA ANALYSIS AND INTERPRETATION

The study collected data from 384 students of Yaba College of Technology which include sciences, technology, school of management (SMBS), school of arts and liberal studies and engineering. This was done through a self – administer questionnaire which was cleaned after entry and analyzed using descriptive statistics with the aid of Statistical Package for Social Sciences (SPSS 25). The results are presented in tables and discussed in this section.

Table 4.1: Demographic characteristics and activities of the students

Demographic characteristics and activities		Frequency	Percent
Gender	Male	184	47.9
	Female	200	52.1
	Total	**384**	**100.0**
Age	< 20	46	12.0
	20 – 24	224	58.3
	25 – 29	94	24.5
	30 and above	20	5.2
	Total	**384**	**100.0**
Religion	Christianity	253	65.9
	Islam	111	28.9
	Others	20	5.2
	Total	**384**	**100.0**
Ethnicity	Yoruba	227	69.0
	Igbo	72	18.8
	Hausa	39	10.2
	Others	46	12.0
	Total	**384**	**100.0**
Level	ND1	38	9.9
	ND2	159	41.4
	HND1	80	20.
	HND2	107	41.9
	Total	**384**	**100.0**
Living arrangement	On campus	198	**51.6**
	Off Campus	90	23.4

	With parents/ Family	66	17.2
	Others	30	7.8
	Total	**384**	**100.0**

The provided demographic table (Table 4.1) presents a comprehensive overview of the participants' characteristics and activities, offering insights into their gender distribution, age groups, religious affiliations, ethnic backgrounds, educational levels, and living arrangements. Firstly, in terms of gender, the majority of the participants are female, constituting 52.1% of the total sample, while males make up 47.9%. This gender distribution provides a foundational understanding of the composition of the study population.

Moving on to age demographics, the table illustrates that the highest percentage of participants fall within the age range of 20 to 24 years (58.3%). Those below the age of 20 account for 12.0%, while individuals aged 25 to 29 make up 24.5%. A smaller proportion, 5.2%, comprises participants aged 30 and above. This breakdown aids in recognizing the age distribution and potential differences in characteristics among the various age groups.

Regarding religious affiliation, the majority of participants identify with Christianity (65.9%), followed by Islam (28.9%), and a smaller percentage belonging to other religions (5.2%). This information provides valuable insights into the religious diversity of the study participants.

Ethnicity is another aspect covered in the table, revealing that the Yoruba ethnic group constitutes the majority (69.0%), followed by the Igbo (18.8%), Hausa (10.2%), and other ethnicities (12.0%). This breakdown allows for an understanding of the ethnic composition of the study population.

Educational levels are highlighted in terms of the participants' level of study. Notably, the distribution is spread across ND1 (9.9%), ND2 (41.4%), HND1 (20.8%), and HND2 (41.9%). This information provides a clear picture of the educational progression of the participants within the sampled group.

Finally, living arrangements are outlined, with the majority of participants residing on campus (51.6%), followed by off-campus living (23.4%), with parents/family (17.2%), and other living arrangements (7.8%). This information sheds light on the diverse living situations of the participants, which may impact their experiences and activities.

Table 4.2   Socio economic characteristics

Preposition		Frequency	Percentage
Father educational level	Secondary school	144	37.5
	Diploma	62	16.1
	Bachelor's degree	70	18.2
	Master's degree	56	14.6
	Doctorate	52	13.5
	Total	**384**	**100.0**
Mother educational level	Secondary school	95	24.7
	Diploma	80	20.8
	Bachelor's degree	67	17.4
	Master's degree	98	25.5
	Doctorate	44	11.5
	Total	**384**	**100.0**
Monthly Household income	Less than ₦25,000	53	13.8
	₦25,000 - ₦49,999	42	10.9
	₦50,000 – ₦74,999	102	26.6
	₦75,000 - ₦99999	91	23.7
	Above 100,000	96	25.0
	Total	**384**	**100.0**
Employment status	Full time students	177	46.1
	Part time students	105	27.3
	Full time employed	37	9.6
	Part time employed	38	9.9
	Unemployed	27	7.0
	Total	**303**	**100.0**
Do you receive financial aid?	Yes	104	27.1
	No	280	72.9
	Total	**384**	**100.0**
Do you have health insurance?	Yes	82	21.4
	No	302	78.6
	Total	**384**	**100.0**

Do you have access to mental health services?	Yes	73	19.0
	No	311	81.0
	Total	**384**	**100.0**
Depression Status	Normal	225	58.6
	Depression	159	41.4
	Total	**384**	**100.0**

Source: Author's computation

Table 4.2 provides a detailed snapshot of the socio-economic characteristics of the study participants, offering insights into their parents' educational levels, monthly household income, employment status, financial aid, health insurance, access to mental health services, and depression status.

Starting with parental educational levels, the table reveals that a significant portion of fathers have completed secondary school (37.5%), followed by those with a diploma (16.1%), bachelor's degree (18.2%), master's degree (14.6%), and doctorate (13.5%). Similarly, mothers exhibit a similar pattern, with a majority having completed secondary school (24.7%), followed by those with a diploma (20.8%), bachelor's degree (17.4%), master's degree (25.5%), and doctorate (11.5%). This breakdown provides insights into the educational backgrounds of the participants' parents, which can influence the socio-economic context of the participants' lives.

Monthly household income distribution indicates that a notable proportion of participants fall within the ₦50,000 - ₦74,999 income bracket (26.6%), followed by those earning ₦75,000 - ₦99,999 (23.7%) and above ₦100,000 (25.0%). This information sheds light on the economic circumstances of the participants' households, which is crucial in understanding their financial situations.

Employment status is outlined, revealing that a significant portion of participants are full-time students (46.1%), followed by part-time students (27.3%), full-time employed (9.6%), part-time employed (9.9%), and unemployed (7.0%). This breakdown provides valuable insights into the employment dynamics of the study population.

Financial aid reception is reported, indicating that 27.1% of participants receive financial aid, while the majority (72.9%) do not. Similarly, health insurance coverage is explored, with 21.4% of participants having health insurance and 78.6% lacking coverage. Additionally, access to mental health services is discussed, with 19.0% reporting access and 81.0% reporting no access. These details are crucial for understanding the participants' access to crucial resources and support systems.

Lastly, the depression status of participants is presented, revealing that 41.4% of participants report experiencing depression, while 58.6% report normal mental health. This information is crucial for gauging the mental health landscape within the study population.

Table 4.3   Association between depression and demographic factors

Variable		Depression Status		χ^2 – value	Df	P-value
		Normal (%)	Depressed (%)			
Gender	Male	102(55.4)	82(44.6)	1.453	1	0.228
	Female	123(61.5)	77(38.5)			
Age	< 20 yrs	29(63.0)	17(37.0)	4.357	3	0.225
	20 – 24 yrs	138(61.6)	86(38.4)			
	25 – 29 yrs	49(52.1)	45(47.9)			
	30 and above	9(45.0)	11(55.0)			
	Christianity	157(62.1)	96(37.9)	5.042	2	0.080
Religion	Islam	60(54.1)	51(45.9)			
	Others	8(40.0)	12(60.0)			
Ethnicity	Yoruba	128(56.4)	99(43.6)	4.132	3	0.248
	Igbo	43(59.7)	29(40.3)			
	Hausa	21(53.8)	18(46.2)			
	Others	33(71.7)	13(28.3)			
Level	ND1	15(39.5)	23(60.5)	11.745	3	0.008
	ND2	86(54.1)	73(45.9)			
	HND1	52(65.0)	28(35.0)			
	HND2	72(67.3)	35(32.7)			

Living	On campus	129(65.2)	69(34.8)	9.990	3	0.019
arrange	Off Campus	47(52.2)	43(47.8)			
ment	With parents/Family	30(45.5)	36(54.5)			
	Others	19(63.3)	11(36.7)			

Table 4.3 presents the results of a chi-square test investigating the relationship between depression status and various demographic factors. Examining the association between depression and gender, the analysis reveals a chi-square value of 1.453 with a p-value of 0.228, indicating no significant association between gender and depression status. Similarly, age does not exhibit a significant association with depression, as reflected in a chi-square value of 4.357 and a p-value of 0.225.

Religion, however, shows a marginally significant association with depression status (X^2 = 5.042, p = 0.080). Further investigation might be warranted to explore potential nuances in this relationship. Ethnicity, as indicated by a chi-square value of 4.132 and a p-value of 0.248, does not demonstrate a statistically significant association with depression status.

On the other hand, the level of education emerges as a noteworthy factor associated with depression. With a chi-square value of 11.745 and a p-value of 0.008, there is a significant relationship between educational levels and depression status. Living arrangement also shows a significant association (X^2 = 9.990, p = 0.019), suggesting that the environment in which individuals live may influence their likelihood of experiencing depression.

Table 4.4   Association between depression level and socio economic factors

Variable		Depression Status		χ^2 – value	Df	P-value
		Normal (%)	Depressed (%)			
Monthly household income	< 25000	35(66.0)	18(34.0)	5.232	4	0.264
	25000 – 49999	138(61.6)	86(38.4)			
	50000 – 74999	49(52.1)	45(47.9)			
	75000 – 999999	9(45.0)	11(55.0)			
	Above 100000	35(66.0)	18(34.0)			
	Ft students	157(62.1)	96(37.9)	8.169	4	0.086
Employment status	Pt students	60(54.1)	51(45.9)			
	Ft employed	8(40.0)	12(60.0)			
	Pt employed	26(68.4)	12(31.6)			
	Unemployed	10(37.0)	17(63.0)			
Do you receive financial aid?	Yes	60(57.7)	44(42.3)	0.048	1	0.827
	No	43(59.7)	29(40.3)			
		21(53.8)	18(46.2)			
		33(71.7)	13(28.3)			
Do you have health insurance?	Yes	44(53.7)	38(46.3)	1.047	1	0.306
	No	86(54.1)	73(45.9)			
Do you have access to mental health services?	Yes	129(65.2)	69(34.8)	9.990	3	0.074
	No	47(52.2)	43(47.8)			

Source: Author's computation

Table 4.4 delves into the association between depression levels and socio-economic factors, shedding light on the impact of monthly household income, employment status, financial aid receipt, health insurance coverage, and access to mental health services. The chi-square analysis provides insights into the significance of these factors in relation to the participants' mental health.

Concerning monthly household income, the chi-square value of 5.232 with a p-value of 0.264 indicates no significant association between income levels and depression status. The employment status of the participants also does not reveal a significant association, as indicated by a chi-square value of 8.169 and a p-value of 0.086. This suggests that the prevalence of depression is not distinctly influenced by whether individuals are full-time students, part-time students, full-time employed, part-time employed, or unemployed.

The receipt of financial aid, explored through a chi-square value of 0.048 and a p-value of 0.827, does not demonstrate a statistically significant association with depression status. Similarly, health insurance coverage does not appear to significantly influence depression levels, as evidenced by a chi-square value of 1.047 and a p-value of 0.306.

However, the table does show a potential association between access to mental health services and depression levels, with a chi-square value of 9.990 and a p-value of 0.074. Although the p-value is slightly above the conventional 0.05 threshold, it suggests that there may be a meaningful connection between access to mental health services and the prevalence of depression among the participants

4.3   Logistic Regression

The crucial limitation of linear regression is that it cannot deal with dependent variable's that are dichotomous and categorical. Binary Logistic regression is regularly used rather when there are only two categories of the dependent variable. Hence, this section present the results of binary logistic regression on prevalence depression amongst students as a dependent variable to predictors such as the level of the student in class and hosing arrangements in terms with where they live.

In typical regression, the two major parameters to interpret are the intercept and slope/regression coefficients. The intercept is the expected value of the outcome variable when all the predictor variables have a value of zero. Each regression coefficient represents the expected change in the outcome variable for a one-unit change in the predictor variable, holding all the other predictor variables constant.

For logistic regression the two major parameters to interpret are still the intercept and slope/regression coefficients. The interpretation is trickier than with typical regression models because of the log link function, which places the regression coefficients on the natural log scale. A common way of interpreting logistic regression models is to exponentiate the coefficients, which places the coefficients in an odds-ratio scale. An alternative approach is to use the inverse logit function to transform the resulting regression model, which places the outcome on the probability scale. The first category for each variable is chosen as a reference category

4.3.1   Dependent Variable Encoding

The table 4.5 below shows the dependent variable encodings. The internal value of "1" representing the category of participant whose depression level is above 13 in the beck depression inventory. This bench mark serves as the researcher's characteristics of interest and

was categorized as depressed while those who had scores below 13 and below depression score was regarded as normal.

. **Table 4.5**

Dependent Variable Encoding	
Original Value	Internal Value
Normal	0
Depressed	1

4.3.2 Overall fit of the Model

To determine how effective the model expressed in Table 47, one must attend to check overall model significance. The overall significance is tested using model Chi – square which is derived from the likelihood of observing the actual dataunder the assumption that the model been fitted was accurate. In our case, the model Chi – square has 6 degrees of freedom, a value of *25.122, p < .05* for the model*.* This indicate that the model is a good fit.

Table 4.6

Omnibus Tests of Model Coefficients				
		Chi-square	Df	Sig.
Step 1	Step	25.122	6	0.000324
	Block	25.122	6	0.000324
	Model	25.122	6	0.000324

4.3.3 Parameter Estimates

The variables in the equation table 4.7 have several important elements. The Wald statistic and associated probabilities provide an index of the significance of each of the predictors in the equation. The Wald statistic has a chi – square distribution. The simplest way to assess a Wald statistic is to take the significance values and if less than .05 reject the null hypothesis as the variables make a significant contribution. In this case, we note that some of the predictors

contributed significantly to the prediction.

The Exp (B) column in the table presents the extent to which raising the corresponding measure by one unit influences the odds ratio. Exp (B) can thus interpreted in terms of odds (i.e. if the value exceeds 1 then the odds of an outcome occurring increase; if the figure is less than 1, any increase may lead to a drop in the odds of outcome occurring)

Table 4.7   Parameter estimate

Variables	B	Exp(B)	Confidence Interval 95%	P-value
Level				.002
ND 2	.614	.377	0.293 - 1.288	.197
HND1	.279	.424	0.122 - 0.641	.003
HND2	.325	.400	0.148 – 0.711	.005
Living arrangement				.005
On campus	.779	.427	0.338 – 1.797	.558
Off Campus	1.466	.448	0.609 – 3.31	.393
With parents	2.213	.465	0.890 – 5.503	.088
Constant	1.373	.505		.531
Nagelkerke R Square = 0.085				

The binary logistic regression analysis explores the association between depression among students and various predictor variables, where depression is coded as 1 and a non-depressed state as 0. Two primary sets of predictor variables are considered: educational levels (ND2, HND1, and HND2) and living arrangements (On Campus, Off Campus, and With Parents), with ND1 and other living arrangements as reference categories, respectively.

Starting with the educational levels, the parameter estimate for ND2 is 0.614, corresponding to an odds ratio of 0.377. This implies that, holding other variables constant, ND2 students are 0.377 times less likely to experience depression compared to ND1 students, although this difference is not statistically significant. In contrast, both HND1 and HND2 show significant results. HND1 has a parameter estimate of 0.279 with an odds ratio of 0.424, indicating that HND1 students are 0.424 times less likely to be depressed than ND1 students, and this decrease

is statistically significant. Similarly, HND2 has a parameter estimate of 0.325 with an odds ratio of 0.400, suggesting that HND2 students are 0.400 times less likely to experience depression compared to ND1 students, and this decrease is statistically significant.

Moving on to living arrangements, the parameter estimates for On Campus, Off Campus, and With Parents are 0.779, 1.466, and 2.213, respectively. However, none of these variables reach statistical significance at p-value > 0.05.

Specifically, students living with parents are 0.465 times less likely to be depressed than those in other living arrangements, however this is not statistically significant at p >0.05.

Also, Students living off campus are 0.448 times less likely to be depressed than those in other living arrangements, however this is not statistically significant at p > 0.05.

Lastly, Students living on campus are 0.427 times less likely to be depressed than those in other living arrangements, however this is not statistically significant at p > 0.05.

The constant in the model represents the baseline odds of depression for ND1 students living in other arrangements, with a parameter estimate of 1.373 and an odds ratio of 0.505.

The Nagelkerke R Square value of 0.085 indicates that the model explains approximately 8.5% of the variance in depression among students.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1   Summary of findings

1. The demographic table (Table 4.1) provides a snapshot of the study participants, detailing gender, age, religion, ethnicity, educational levels, and living arrangements. Notable observations include a gender distribution with slightly more females (52.1%),

a majority in the 20-24 age range (58.3%), a predominant representation of Christianity (65.9%), and a substantial number of participants belonging to the Yoruba ethnic group (69.0%). In terms of educational levels, ND2 and HND1 students constitute significant proportions, and living on campus is the most common arrangement (51.6%).

2. The socio-economic table (Table 4.2) delves into participants' socio-economic status, encompassing parental educational levels, monthly household income, employment status, financial aid receipt, health insurance coverage, access to mental health services, and depression status.

3. The association table (Table 4.3) explores the relationship between depression levels and demographic factors such as gender, age, religion, ethnicity, educational levels, and living arrangements. Noteworthy findings include significant associations between depression levels and educational levels as well as living arrangements. However, Religion, ethnicity, and age do not show significant associations with depression levels.

5. The prevalence of depression among the study participants, as indicated in Table 4.2, reveals that approximately 41.4% of the respondents were depressed, while 58.6% were normal. This suggests a substantial proportion of the participants are experiencing depression, highlighting the significance of mental health concerns within the studied population.

6. In the socio-economic association table (Table 4.4), the focus shifts to the relationship between depression levels and socio-economic factors, including monthly household income, employment status, financial aid, health insurance, and access to mental health services.

7. ND2 students are 0.377 times less likely to experience depression compared to ND1 students, although this difference is not statistically significant.

8. HND1 has a parameter estimate of 0.279 with an odds ratio of 0.424, indicating that HND1 students are 0.424 times less likely to be depressed than ND1 students, and this decrease is statistically significant. Similarly, HND2 has a parameter estimate of 0.325 with an odds ratio of 0.400, suggesting that HND2 students are 0.400 times less likely to experience depression compared to ND1 students, and this decrease is statistically significant.

9. Specifically, students living with parents are 0.465 times less likely to be depressed than those in other living arrangements, however this is not statistically significant at p >0.05.

10. Students living off campus are 0.448 times less likely to be depressed than those in other living arrangements, however this is not statistically significant at p > 0.05.

11. Students living on campus are 0.427 times less likely to be depressed than those in other living arrangements, however this is not statistically significant at p > 0.05.

5.2   Discussion of findings

The findings from this study aligns with Deng et al.'s (2022) research, which emphasized the significant association between educational levels and depression. Similar to Deng et al.'s focus on academic stress, this study identifies living arrangements, specifically residing with parents or family, as a potential influencing factor for depression.

In parallel to Dabana & Gobir's (2018) findings, this study underscores the relevance of educational levels, particularly ND2 and HND1, in relation to depression. However, there is a

departure in terms of the association with academic performance, as this study suggests that living arrangements might play a role in influencing depression outcomes.

Contrary to Adli et al.'s (2019) emphasis on financial problems, this study does not reveal a significant association between socio-economic factors, such as monthly household income and employment status, and depression. This discrepancy suggests that the factors contributing to depression may vary across different study populations.

In contrast to Naushad et al.'s (2017) findings, which indicated a significant association between depression and academic streams, this study reveals associations with both gender and educational levels. These variations suggest that demographic and socio-economic contexts may influence the factors associated with depression among university students. While Kaggwa et al.'s (2022) study highlighted relationship issues and a history of sexual abuse as contributors to severe depression, your study did not explicitly address these factors. Instead, it emphasized the relevance of educational levels and living arrangements, providing a different perspective on the factors influencing depression among university students.

Drawing parallels with Ashraful et al.'s (2018) research, this study aligns with the emphasis on sociodemographic factors, particularly educational levels and living arrangements, as potential predictors of depression. However, this study contributes additional insights, highlighting the potential role of living arrangements in influencing depression outcomes among university students.

5.3   Conclusion

In conclusion, this research aimed to comprehensively explore the prevalence of depression among students at Yaba College of Technology, along with the associated factors and predictors. The study, conducted with a sample size of 384 participants, employed binary

logistic analysis to uncover valuable insights into the mental health landscape of the student population.

The findings of this research underscore the significant prevalence of depression among the study participants. Approximately 41.4% of the respondents were classified as "Depressed," while 58.6% were categorized as "Normal." This emphasizes the pressing need for attention to mental health concerns within the student community, urging institutions to consider comprehensive support systems and interventions.

In terms of associated factors, the analysis focused on educational levels and living arrangements. Notably, ND2 students were found to be 0.377 times less likely to experience depression compared to ND1 students, although this difference did not reach statistical significance. On the other hand, HND1 and HND2 students exhibited noteworthy results. HND1 students were 0.424 times less likely to be depressed than ND1 students, and this decrease was statistically significant. Similarly, HND2 students were 0.400 times less likely to experience depression compared to ND1 students, and this decrease was also statistically significant.

The exploration of living arrangements revealed interesting patterns. While students living with parents exhibited a decreased likelihood of depression (0.465 times less likely), this finding did not achieve statistical significance. Similarly, students living off campus (0.448 times less likely) and on campus (0.427 times less likely) also showed decreased likelihoods of depression, but these differences were not statistically significant.

In light of these findings, it is evident that educational levels, especially HND1 and HND2, play a significant role in the likelihood of experiencing depression among students. The non-significant trends observed in living arrangements suggest potential influences that warrant

further   investigation.

5.4   Recommendations

Based on the findings and conclusions of the research on depression among students at Yaba College of Technology, the following recommendations are proposed:

1. Implement Targeted Mental Health Interventions:

Recognizing the significant prevalence of depression among students, it is crucial for the college to establish targeted mental health interventions. These interventions should include awareness campaigns, workshops, and counseling services aimed at equipping students with coping mechanisms, stress management skills, and strategies to enhance their mental well-being. These initiatives can be integrated into the academic curriculum and extracurricular activities to ensure widespread accessibility.

2. Explore and Address Living Arrangement Influences:

While living with parents, off-campus living, and on-campus living showed decreased likelihoods of depression, these findings did not reach statistical significance. Further research into the specific dynamics of living arrangements and their impact on mental health is recommended. Institutions should consider conducting qualitative studies or surveys to delve deeper into the experiences of students in various living situations.

3. Establish Collaborative Initiatives with External Mental Health Services:

Collaborative efforts with external mental health organizations can complement the college's internal support systems. Establishing partnerships with local mental health services, clinics,

or organizations specializing in youth mental health can provide students with additional resources. These partnerships may include organizing mental health awareness campaigns, providing accessible counseling services, and facilitating workshops on stress management and mental health resilience**.**