CHAPTER ONE

INTRODUCTION

1.0 Background to the Study

This research focuses on the use of statistical techniques of sample survey to study undergraduate students engaged in sports betting in the Faculty of Engineering, University of Lagos, Akoka, Nigeria.

Gambling is the wagering of money or something of value on an event with an uncertain outcome with the primary intent of winning money or material goods. Sports betting is the activity of predicting sports results and placing a wager on the outcome, it is one of the various means of gambling.

Before the measure of the sports betting habit amongst undergraduates in the Faculty of Engineering can be determined, a survey has to be carried out. This survey will help in collecting data as well as analyzing the data. This is usually done to extract some social and scientific information about the population under study.

A Population is the aggregate of all units in a target geographical area. Due to the variable characteristics among elements in the population, researchers apply scientific sample survey design selection process to reduce the risk of a distorted view of the population and they make the population based on the information from the sample survey data.

1.1 Study Aims and Objectives

Research is usually done with a purpose and before embarking on the research, its aims and objectives must be stated clearly.

The main objective of this study is to analyze the sport betting habit among undergraduates in the Faculty of Engineering, their addiction towards sports betting and how it affects their behavior and academic results. Besides this, an attempt was made to investigate the following as stated below:

1. To determine the proportion of students in the faculty of Engineering who engage in sports betting.
2. To determine how if sports betting have positive/negative impact on students' academic performance.
3. To determine if engagement in sports betting is dependent on age, level, gender, religion and weekly allowance.
4. To examine prevalence of sports betting among the students in the Faculty of Engineering.
5. To establish the motivation of sports betting among the students in the Faculty of Engineering.
6. To establish the influence of sports betting on the Faculty of Engineering students' behavior.

1.2 General Overview

Sampling is a valuable tool in data collection for planning and decision making. I t also entails selecting a subset of individuals from within a statistical population to estimate characteristics of

the whole population. This subset is called sample. Thus research involves the selection of sample from the undergraduate students in the Faculty of Engineering, University of Lagos, Akoka, Lagos, Nigeria.

In recent times, student rate of engagement in sports betting has increased. This research will help us in determining the proportion of male and female undergraduates that engage in sports betting and its effect on their behavior and academic life.

A sample was selected from the entire population of undergraduate students of the Faculty of Engineering and administered questionnaire. A questionnaire is medium of collecting information from respondents through interview schedule. The information obtained from the questionnaire was analyzed and reasonable conclusions were drawn from results and it was extended to the entire population of the undergraduate students, based on the assumption that the sample represents the entire population.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction and Conceptual framework

Esan (1994) defined a sample as a subset (part) of a population which is selected according to a well-defined probability law: - the probability law defining membership of the sample must be capable of producing a representative sample. He further explained that such probability laws make judicious use of known and readily available pieces of information about the units in the population. The following are some commonly used sampling methods: simple random sampling, stratified sampling, systematic sampling, and cluster sampling.

Higher prevalence of sports betting among university students may be experience, in part, by their psychological developmental stage. A theory proposed by Jeffery Arnett (2000) places university students in “emerging adulthood”, a transitory period in which they experience independence for the first time, yet having fewer responsibilities than adults. Emerging adulthood is associated with sensation-seeking and risk-taking behavior, which may contribute to and partially explain increased engagement in sports betting amongst university students.

College life may encourage this discrepancy because the freedom students receive from parental supervision provides them the opportunity to experiment and thus become more susceptible to gambling (Engwall, et al., 2004).

LaBrie, et al. (2003) collected data from students at 120 colleges from across the United States and found 42% of all respondents gambled in the past academic year with males (52%) gambling at a higher rate than females (33%).

The internet, for example, provides college students with easy access to a plethora of online gambling sites. A majority of these sites are offshore, making them legal entities. Darden and Rockey (2006) attributed much of gambling and problem gambling's growth to the popularity and ease of the internet. Darden and Rockey (2006) also showed the recent commercialization of gambling in the media (e.g. ESPN and Bravo Channel) helped strengthen this activity as large payouts, celebrities, and entertaining production make it an attractive and credible activity.

2.1 Research Questions

1. What is the average age of female and male students in the Faculty of Engineering?
2. What is the proportion of students in the Faculty of Engineering who engage in sports betting?
3. What is the proportion of students that have ever done sports betting to cater for their academic needs?
4. Is the largest amount of money earned on a single bet in the past 12 months independent on the largest amount placed on a single bet in the past 12 months?
5. Is range of weekly allowance independent of whether one play sports betting or not?
6. Is the number of people one know that does sports betting independent of whether one plays sports betting or not?
7. Is CGPA (Cumulative Grade Point Average) independent of how often one plays sports betting?
8. Is the largest amount of money (or valuables) one place on a single bet independent of how long one has been playing sports betting?
9. Is Engagement in sports betting independent of religious affiliations.

10. Is Engagement in sports betting independent of Range of Weekly Allowance, Religion, and Number of people you know that do sports betting?

2.2 Transforming of Research Questions into Hypothesis Testing

Null hypothesis (H_0): It is a claim or statement about the population parameter that is assumed to be true.

Alternative hypothesis (H_1): It is a suspicion about the population parameter or a statement that contradicts the null hypothesis.

1. To test if the average age of female students is greater than the average age of male students in the Faculty of Engineering.

   Let $\bar{Y}_F$ be the average age of female students in the Faculty of Engineering.

   Let $\bar{Y}_M$ be the average age of male students in the Faculty of Engineering.

   $H_0 : \bar{Y}_F = \bar{Y}_M$

   $H_1 : \bar{Y}_F > \bar{Y}_M$

2. To test if the proportion of students in the Faculty of Engineering who engage in sports betting is greater than the proportion of students who do not engage in sports betting in the Faculty of Engineering.

   Let P_0 be the proportion of students in the Faculty of Engineering who engage in sports betting.

   $H_0 : P_0 = 0.5$

$H_1 : P_0 > 0.5$

3. To test if the proportion of students in the Faculty of Engineering who have ever done sports betting to cater for their academic need is greater than the proportion of students in the Faculty of Engineering who have never done sports betting to cater for their academic need.

   Let P_s be the proportion of students in the Faculty of Engineering who have ever done sports betting to cater for their academic need.

   $H_0 : P_s = 0.5$

   $H_1 : P_s > 0.5$

4. To test if the largest amount of money earned on a single bet in the past 12 months independent on the largest amount of money placed on a single bet in the past 12 months.

   $H_0 : P_{ij} = P_{i.} \times P_{.j}$

   $H_1 : P_{ij} \neq P_{i.} \times P_{.j}$

   Where,

   P_{ij} is the probability that a student of the Faculty of Engineering is in the (i, j)th cell of the contingency table formed by crossing the categories of largest amount of money earned on a single bet in the past 12 months and largest amount of money placed on a single bet in the past 12 months.

$P_{i.}$ is the probability in the population that a student of the Faculty of Engineering is found in the ith marginal row of largest amount of money earned on a single bet in the past 12 months.

$P_{.j}$ is the probability in the population that a student of the Faculty of Engineering is found in the jth marginal column of largest amount of money placed on a single bet in the past 12 months.

5. To test if the range of weekly allowance is independent of whether one play sports betting or not.

   $H_0 : P_{ij} = P_{i.} \times P_{.j}$

   $H_1 : P_{ij} \neq P_{i.} \times P_{.j}$

   Where,

   P_{ij} is the probability that a student of the Faculty of Engineering is in the (i, j)th cell of the contingency table formed by crossing the categories of range of weekly allowance and engagement in sports betting.

   $P_{i.}$ is the probability in the population that a student of the Faculty of Engineering is found in the ith marginal row of range of weekly allowance.

   $P_{.j}$ is the probability in the population that a student of the Faculty of Engineering is found in the jth marginal column of engagement in sports betting.

6. To test if the number of people one know that does sports betting is independent of whether one plays sports betting or not.

   $H_0 : P_{ij} = P_{i.} \times P_{.j}$

$H_1 : P_{ij} \neq P_{i.} \times P_{.j}$

Where,

P_{ij} is the probability that a student of the Faculty of Engineering is in the (i, j)th cell of the contingency table formed by crossing the categories of number of people one knows that does sports betting and engagement in sports betting.

$P_{i.}$ is the probability in the population that a student of the Faculty of Engineering is found in the ith marginal row of number of people one knows tah does sports betting.

$P_{.j}$ is the probability in the population that a student of the Faculty of Engineering is found in the jth marginal column of engagement in sports betting.

7. To test if CGPA (Cumulative Grade Point Average) is independent of how often one plays sports betting.

$H_0 : P_{ij} = P_{i.} \times P_{.j}$

$H_1 : P_{ij} \neq P_{i.} \times P_{.j}$

Where,

P_{ij} is the probability that a student of the Faculty of Engineering is in the (i, j)th cell of the contingency table formed by crossing the categories of CGPA and how often one plays sports betting.

$P_{i.}$ is the probability in the population that a student of the Faculty of Engineering is found in the ith marginal row of CGPA.

$P_{.j}$ is the probability in the population that a student of the Faculty of Engineering is found in the jth marginal column of how often one plays sports betting.

8. To test if the largest amount of money (or valuables) one earn on a single bet is independent of how long one has been playing sports betting.

   $H_0 : P_{ij} = P_{i.} \times P_{.j}$

   $H_1 : P_{ij} \neq P_{i.} \times P_{.j}$

   Where,

   P_{ij} is the probability that a student of the Faculty of Engineering is in the (i, j)th cell of the contingency table formed by crossing the categories of largest amount of money (or valuables) one place on a single bet and how long one has been playing sports betting.

   $P_{i.}$ is the probability in the population that a student of the Faculty of Engineering is found in the ith marginal row of largest amount of money (or valuables) one place on a single bet.

   $P_{.j}$ is the probability in the population that a student of the Faculty of Engineering is found in the jth marginal column of how long one has been playing sports betting.

9. To test if Engagement in sports betting is independent of religious affiliations.

   $H_0 : P_{ij} = P_{i.} \times P_{.j}$

   $H_1 : P_{ij} \neq P_{i.} \times P_{.j}$

   Where,

   P_{ij} is the probability that a student of the Faculty of Engineering is in the (i, j)th cell of the contingency table formed by crossing the categories of Engagement in sports betting and religious affiliations.

$P_{i.}$ is the probability in the population that a student of the Faculty of Engineering is found in the ith marginal row of Engagement in sports betting.

$P_{.j}$ is the probability in the population that a student of the Faculty of Engineering is found in the jth marginal column of religious affiliations.

CHAPTER THREE

SURVEY DESIGN AND METHODOLOGY

3.0 Survey Design

Survey is a method for collecting information or data as reported by individuals while Survey design is defined as a procedure drawn up before data is collected to obtain sample from a given population. This includes questionnaire design, pilot survey, sample size determination, sampling plan, etc.

3.1 Subjects

The study was carried out in the Faculty of Engineering, University of Lagos, Akoka, Lagos, Nigeria. There are five levels of study with a total of 3179 students and a total of 10 departments which are Mechanical Engineering, Electrical Engineering, Petroleum & Gas Engineering, Chemical Engineering, Systems Engineering, Civil Engineering, Met & Mat Engineering, Surveying & Geo-Informatics, Biomedical Engineering and Computer Engineering.

3.2 Collection of Background Data

The background data was meant to be gotten from Center for Information Technology System (CITS), University of Lagos but due to discrepancies on the part of the CITS, the data was gotten from the past reports given to us by our supervisor and we added 10% to the population size. The data consist of the total number of registered undergraduate students of the Faculty of Engineering, University of Lagos for 2015/2016 session, also including the total number of male and female students in the Faculty of Engineering at each level.

3.3 Questionnaire Design

In 1966, Zarkovich said “One of the most important tools in statistical work is the Questionnaire Design”.

A questionnaire is a research instrument consisting of series of carefully prepared questions aimed at collectively providing answers to questions in the aims and objectives. The most important component of an accurate sample survey is a properly designed questionnaire. Before the questionnaire was drafted, several meetings were held with my supervisor to discuss how best to design the questionnaire, corrections were made before it was used in the main survey. The questionnaire was carefully constructed to encourage participation by the students and control the non-sampling errors that may occur.

3.4 Pilot Survey

A pilot survey is necessary before the main survey is carried out. This is a small part of the main survey which was conducted on some unis in the population. The aim of the pilot survey is to detect possible faults in the questionnaire and discover things that could hinder the success of the survey. A sample size of 50 students was considered adequate by my supervisor. Completed questionnaires were scrutinized carefully to see that it was filled out correctly. Detected faults were appropriately adjusted in readiness for the takeoff of the main survey.

3.5 Sample size determination

Sample size determination is key in any study,

Let P be the proportion in the population that possesses a characteristic of interest.

Let $\hat{P}$ be the proportion of respondents in the sample that possesses a characteristic of interest

Y_i has 2 possible values; 0, if the respondent doesn't possess the characteristic and 1, if the respondent does.

P = $\frac{\sum_{i=1}^{N} y_i}{N}$ =$\bar{Y}$, population mean ……(1)

$\hat{P}$ = $\frac{\sum_{i=1}^{N} y_i}{N}$ =$\hat{\bar{Y}}$, sample mean ……..(2)

Where, n is the sample size

N is the population size

Population variance S^2 defined by:

$S^2 = \frac{1}{N-1}\sum_{i=1}^{N}(y_i - \bar{Y})^2$

$S^2 = \frac{1}{N-1}(\sum_{i=1}^{N} {y_i}^2 - \frac{1}{N}(\sum_{i=1}^{N} y_i)^2)$ ……..(3)

Since, y_i assumes either values 0 and 1, from (1)

$\sum_{i=1}^{N} y_i = \sum_{i=1}^{N} {y_i}^2$ = NP

(3) becomes,

$S^2 = \frac{1}{N-1}(NP - \frac{N^2P^2}{N})$

$S^2 = \frac{NP-NP^2}{N-1}$

$S^2 = \frac{NP(1-P)}{N-1}$ …….....(4)

S^2 = is estimated by the sample variance $s^2 = \frac{n\hat{p}(1-\hat{p})}{n-1}$

$\text{Var}(\hat{\bar{Y}}) = (\frac{N-n}{N})\frac{S^2}{n}$

From (4)

$\text{Var}(\hat{\bar{Y}}) = (\frac{N-n}{N})\ \frac{NP(1-P)}{n(N-1)}$

$\text{Var}(\hat{\bar{Y}}) = (1 - f)\ \frac{NP(1-P)}{n(N-1)}$, where $f = \frac{n}{N}$

To estimate the sample size, consider the $(1 - \alpha)100\%$ for $\hat{P}$

$\hat{P} \pm Z_{\alpha/2}\sqrt{var(\hat{P})}$

If we choose the width of the confidence interval to have an upper bound B

Therefore,

$L\left(\hat{P} + Z_{\alpha/2}\sqrt{var(\hat{P})}, \hat{P} - Z_{\alpha/2}\sqrt{var(\hat{P})}\ \right) = 2\ Z_{\alpha/2}\sqrt{var(\hat{P})}$

$2Z_{\alpha/2}\sqrt{var(\hat{P})} \leq B$

Squaring both sides

$4Z^2_{\alpha/2}\ \text{Var}(\hat{P}) \leq B^2$

$\text{Var}(\hat{P}) \leq \frac{B^2}{4Z^2_{\alpha/2}}$ …….....(5)

Since, $\hat{P} = \hat{\bar{Y}}$

Then, $\text{Var}(\hat{P}) = \text{Var}(\hat{\bar{Y}}) = (1 - f)\ \frac{NP(1-P)}{n(N-1)}$

(5) Becomes, $f = \frac{n}{N}$

$(1 - f)\ \frac{NP(1-P)}{n(N-1)} \leq \frac{B^2}{4Z^2_{\alpha/2}}$

$(\frac{1-f}{f})\ \frac{P(1-P)}{(N-1)} \leq \frac{B^2}{4Z^2_{\alpha/2}}$

$\frac{1}{f} - 1 \leq \frac{B^2(N-1)}{4Z^2_{\frac{\alpha}{2}}P(1-P)}$

$\frac{1}{f} \leq \frac{B^2(N-1)}{4Z^2_{\frac{\alpha}{2}}P(1-P)} + 1$

Recall, f = $\frac{n}{N}$

$\frac{N}{n} \leq \frac{B^2(N-1)}{4Z^2_{\frac{\alpha}{2}}P(1-P)} + 1$

$n \geq N(\frac{B^2(N-1)}{4Z^2_{\frac{\alpha}{2}}P(1-P)} + 1)^{-1}$ …….....(6)

n is the sample size

N is the population size

B is the set width of the confidence interval of $\hat{P}$

P is the proportion of students of the Faculty of Engineering who engage in sports betting.

$Z^2_{\alpha/2}$ is the value of the Z distribution corresponding to 95% (from pilot survey), B = 0.1

$n \geq 3179(1 + \frac{0.11^2(3179-1)}{4\times1,96^2\times0.8\times0,2})^{-1}$

$n \geq 191$

3.6 Sampling Method

There are mainly five sampling types in probabilistic sampling scheme namely: simple random sampling, stratified random sampling, nested sampling, cluster sampling, systematic sampling. The method used for this research work is stratified random sampling. Quota sampling is a non-probabilistic scheme with no definite probability law associated with the selection procedure providing some balance in selected sample.

The quota sampling is based on gender of students. This method was used due to complexity of using stratified sampling which require proper identification.

3.7 Proportional Allocation

Sample size was allocated to the various strata in such a way that the total unit from all strata correspond to the sample size.

Table 3.1: Distribution of Population according to Gender and Level

LEVEL	MALE	FEMALE	TOTAL
100	385	63	448
200	638	123	761
300	502	82	584
400	422	78	500
500	486	400	886
TOTAL	2433	746	3179

N = Population size = 3179

100 level male students – stratum 1

100 level female students – stratum 2

200 level male students – stratum 3

200 level female students – stratum 4

300 level male students – stratum 5

300 level female students – stratum 6

400 level male students – stratum 7

400 level female students – stratum 8

500 level male students – stratum 9

500 level female students – stratum 10

Let N_h denote the population size of each stratum

n_h denote the sample size of each stratum

$n_h = \frac{N_h}{N} n$

n_1 = 100 level male students = $\frac{N_1}{N} n = \frac{385}{3179}(191) = 23.1315 \approx 23$

n_2 = 100 level female students = $\frac{N_2}{N} n = \frac{63}{3179}(191) = 3.7851 \approx 4$

n_3 = 200 level male students = $\frac{N_3}{N} n = \frac{638}{3179}(191) = 38.3322 \approx 38$

n_4 = 200 level female students = $\frac{N_4}{N} n = \frac{123}{3179}(191) = 7.5901 \approx 8$

n_5 = 300 level male students = $\frac{N_5}{N} n = \frac{502}{3179}(191) = 30.1611 \approx 30$

n_6 = 300 level female students = $\frac{N_6}{N} n = \frac{82}{3179}(191) = 4.9267 \approx 5$

n_7 = 400 level male students = $\frac{N_7}{N} n = \frac{422}{3179}(191) = 25.3545 \approx 25$

n_8 = 400 level female students = $\frac{N_8}{N} n = \frac{78}{3179}(191) = 4.6864 \approx 5$

n_9 = 500 level male students = $\frac{N_9}{N} n = \frac{486}{3179}(191) = 29.1997 \approx 29$

n_{10} = 500 level female students = $\frac{N_{10}}{N} n = \frac{400}{3179}(191) = 24.0327 \approx 24$

$\sum_{h=1}^{10} n_h = 191$

Table 3.2: Distribution of Sample according to Gender and Level

LEVEL	MALE	FEMALE	TOTAL
100	23	4	27
200	38	8	46
300	30	5	35
400	25	5	30
500	29	24	53
TOTAL	145	46	191

3.8 Main Survey

The result of the pilot survey was used to calculate the sample size. A total of 191 questionnaires were printed and given to the designated students in the Faculty of Engineering. Each returned questionnaire was carefully checked and analyzed.

3.9 Data Processing

The analysis of the data starts with the coding of data from the questionnaire into the system using the statistical packages for social sciences (SPSS 20.0). Questions were coded in the variable view while the data were entered using data view. The frequency table and cross tabulation were also obtained and used to estimate parameters and test for independence

3.10 Problems encountered during survey

1. It was quite challenging locating some of the students as most of the students in 400 level were on IT.
2. Some of the students felt filling my questionnaire is a complete waste of time as they thought they won't be benefitting anything from the research.
3. Some felt shy about revealing some personal information like age and CGPA
4. Some students didn't want to fill because there were no incentives but I was able to convince them eventually.
5. Getting data was the most challenging problem we encountered. A letter was sent to the office of the Dean of the Faculty of Engineering for the gender distribution across all levels but we were directed to CITS as they said they didn't have the data. With the help of our supervisor and the influence of the HOD another letter was sent to CITS but all was in vain as we were not able to get data needed for this research.

3.11 Theories of Estimation and Hypothesis Testing

In the study, estimates will be obtained using methods that are independent of sampling plan.

3.11.1 Estimation of the Mean of Grouped Data

As stated earlier, the objective of the sampling survey is to draw inference about a population from information contained in the sample. One way to make these inferences is to estimate certain parameters by utilizing the sample information. The objective of a sample survey is often to estimate a population mean, denoted by $\bar{Y}$.

The estimation of mean in a frequency table format is

$$\hat{\bar{Y}} = \frac{\sum fY}{\sum f} \quad \text{.....(1)}$$

$$S^2 = \text{Var}(Y) = \frac{\sum fY^2 - \frac{(\sum fy)^2}{\sum f}}{\sum f} \quad \text{.....(2)}$$

Where, f is the frequency

Y is midpoint

$\hat{\bar{Y}}$ is the estimated mean

The estimate of the variance of the estimated mean is given by,

$$\hat{V}(\hat{\bar{Y}}) = (\frac{N-n}{N})\frac{S^2}{n} = (1 - f)\frac{S^2}{n} \quad \text{.....(3)}$$

Where, f = $\frac{n}{N}$ is sampling fraction

N is population size

n is sample size

S^2 is variance of Y

3.11.2 Test of Hypothesis on the Mean of a Population

To test the hypothesis on $\hat{\bar{Y}}_1$, the test statistic is

$$Z = \frac{\hat{\bar{Y}} - \bar{Y}}{\sqrt{\hat{V}(\hat{\bar{Y}})}} \quad \text{.....(4)}$$

3.11.3 Test of Hypothesis on Difference between two Population Means

To test the hypothesis on the difference of two means, for example

Let $\overline{Y_1}$ be the mean of male students in the Faculty of Engineering with estimator $\widehat{\overline{Y_1}}$

Let $\overline{Y_2}$ be the mean of female students in the Faculty of Engineering with estimator $\widehat{\overline{Y_2}}$

To test hypothesis on the difference between $\overline{Y_1}$ and $\overline{Y_2}$, the test statistic is

$$Z = \frac{\hat{\bar{Y}} - \bar{Y}}{\sqrt{\hat{V}(\hat{\bar{Y}})}}$$

$$Z = \frac{\hat{\bar{Y}} - \bar{Y}}{\sqrt{\hat{V}(\widehat{\overline{Y_1}} - \widehat{\overline{Y_2}})}} \quad \text{.....(5)}$$

3.11.4 Test of Hypothesis on Single Population Proportion

To test hypothesis on a single population proportion

$H_0 : P = P_0$

$H_1 : P \neq P_0$

Since P_0 is the hypothesis value of P, the test statistic is

$$Z = \frac{\hat{P} - P_0}{\sqrt{\hat{V}(\hat{P})}} \quad \text{.....(6)}$$

Where, $\hat{P} = \frac{n'}{n}$ is the estimated value of P

n' is the number of respondents who have the characteristics under investigation

N is the total number of respondents

$\hat{P}$ is the proportion of the respondents who have the characteristic under investigation.

$_{Var(P)}$ is estimated by

$\hat{V}(\hat{P}) = (1 - f)\frac{\hat{P}\hat{Q}}{n-1}$

Where,

$f = \frac{n}{N}$ is sampling fraction

$\hat{Q} = 1 - \hat{P}$ is the proportion of respondent who do not have the characteristics under Investigation

N is population size

n is sample size

3.11.5 Test of Hypothesis on difference between two Population Proportions

$H_0 : P_m = P_f$

$H_1 : P_m \neq P_f$

We estimate $P_f = \widehat{P_f} = \frac{n'_f}{n_f}$, $P_m = \hat{P}_m = \frac{n'_m}{n_m}$

Where,

n'_f - Number of female respondents who have the characteristics under investigation.

n'_m - Number of male respondents who have the characteristics under investigation.

$\widehat{P_f}$ - Proportion of female respondents who have the characteristics under investigation.

$\hat{P}_m$ - Proportion of male respondents who have the characteristics under investigation.

n_f - Total number of female respondents.

n_m - Total number of male respondents.

$\hat{V}(\hat{P}_m) = (1 - f_m)\frac{\hat{P}_m\hat{Q}_m}{n_m-1}$ ……..(8)

$\hat{V}(\hat{P}_f) = (1 - f_f)\frac{\hat{P}_f\hat{Q}_f}{n_f - 1}$ ……..(9)

Where,

$f_m = \frac{n_m}{N_m}$ and $f_f = \frac{n_f}{N_f}$

n_f – Number of female students in the sample

n_m – Number of male students in the sample

N_f – Number of female students in the population

N_m – Number of male students in the population

$\hat{Q}_m$ – Proportion of male respondents who do not have the characteristic under investigation

$\hat{Q}_f$ – Proportion of female respondents who do not have the characteristic under investigation

Thus, the test statistic is

$$Z = \frac{\hat{P}_m - \hat{P}_f}{\sqrt{\hat{V}(\hat{P}_m - \hat{P}_f)}}$$

3.11.6 The Theory of the Test of Independence in a two Dimensional Contingency Table

$H_0 : P_{ij} = P_{i.} \times P_{.j}$

$H_1 : P_{ij} \neq P_{i.} \times P_{.j}$ $i = 1,2,3,\ldots,r$ $j = 1,2,3,\ldots,c$

Where,

P_{ij} – Probability that an individual is in the (i, j)th cell of the contingency table

$P_{i.}$ – Probability that an individual is found in the ith marginal row

$P_{.j}$ – Probability that an individual is found in the jth marginal column

H_0 – Hypothesis of Independence

$P_{i.}$ is estimated by $\hat{P}_{i.} = \frac{n_{i.}}{n_{..}}$

$P_{.j}$ is estimated by $\hat{P}_{.j} = \frac{n_{.j}}{n_{..}}$

Where,

$n_{i.}$ – Number of individuals in the ith marginal row

$n_{.j}$ – Number of individuals in the jth marginal column

$n_{..}$ – Number of individuals in the r × c contingency table

O_{ij} – Observed values of individuals in the ith row and jth column

$E_{ij} = \frac{n_{i.} \times n_{.j}}{n_{..}}$ – expected values of the individuals in the ith row and jth column.

The test of independence is a chi – squared (χ^2) test.

$$\chi^2 = \sum_{i=1}^{r} \sum_{j=1}^{c} \frac{(Oij - Eij)^2}{Eij} \quad \text{.....(11)}$$

The χ^2 value with low probability leads to the rejection of the null hypothesis, while others lead to the acceptance of the null hypothesis. (r – 1)(c – 1) is used to determine the degrees of freedom, and all testing in this study can be carried out at the 5% level of significance.

3.12 Logistic Regression

In statistics, logistic regression is a type of regression analysis used for predicting the outcome of a categorical dependent variable (a dependent variable that can take on a limited number of values, whose magnitude are not meaningful but whose ordering of magnitude may or may not be meaningful) based on one or more predictor variables. That is, it is used in estimating empirical values of the parameters in qualitative response model. The probabilities describing the possible outcomes of a single trial are modeled, as a function of the explanatory (predictor) variables, using a logistic function.

Logistic regression equation involves fitting an equation of the form:

Logit(p) = a + b_1x_1+ b_2x_2 + b_3x_3 + … to the data

Frequently, logistic regression is used to refer specifically to the problem in which the dependent variable is binary – that is, the number of available categories is two, often referred to as binomial logistic regression, and problems with more than two categories are referred to as multinomial logistic regression or, if the multiple categories are ordered, as ordered logistic regression.

Logistic regression measures the relationship between a categorical dependent variable and one or more independent variables, which are usually (but not necessarily) continuous, by using probability scores as the predicted values of the dependent variables.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND RESULTS

4.0 Data Analysis

The analysis started with the coding of the data from the questionnaire to data entry into the system, using data entry software known as Statistical Package for Social Scientist (SPSS). Since SPSS is flexible and a comprehensive statistical analysis and data management program, it was used to analyze the frequency tables, cross tables and the contingency tables, which were used in the reports.

4.1 Estimation and Testing of Hypothesis

Table 4.1: Distribution of Population according to Gender and Level.

LEVEL	MALE	FEMALE	TOTAL
100	385	63	448
200	638	123	761
300	502	82	584
400	422	78	500
500	486	400	886
TOTAL	2433	746	3179

Table 4.2: Distribution of Sample according to Gender and Level

LEVEL	MALE	FEMALE	TOTAL
100	23	4	27
200	38	8	46
300	30	5	35
400	25	5	30
500	29	24	53
TOTAL	145	46	191

4.2 Estimation of Mean of Grouped Data

1. To test if the average age of female students is greater than the average age of male students in the Faculty of Engineering.

To test,

$H_0 : \bar{Y}_{F=} \bar{Y}_M$

$H_{1:} \bar{Y}_{F>} \bar{Y}_M$

$\bar{Y}_F$ is the average age of females

$\bar{Y}_M$ is the average age of males

Table 4.3: Frequency Table of Age of Female Students

AGE RANGE	MIDPOINT (Y)	FREQUENCY (F)	FY	Y^2	FY^2
16 – 20	18	18	324	324	5832
21 – 25	23	24	552	529	12696
26 – 30	28	3	84	784	2352
Above 30	30	0	0	0	0
TOTAL	99	45	960	1637	20880

Mean = $\hat{\bar{x}}_f = \frac{960}{45} = 21.33$

Hence the average age of female students in the Faculty of Engineering is 21 years old.

Table 4.4: Frequency Table of Age of Male Students

AGE RANGE	MIDPOINT (Y)	FREQUENCY (F)	FY	Y^2	FY^2
16 – 20	18	75	1350	324	24300
21 – 25	23	55	1265	529	29095
26 – 30	28	16	448	784	12544
Above 30	30	0	0	0	0
TOTAL	99	146	3063	1637	65939

Mean = $\hat{\bar{x}}_m = \frac{3063}{146} = 20.97$

Hence the average age of male students in the Faculty of Engineering is 21 years old.

4.3 Estimation and Test of Hypothesis on difference between two Populations

Test of hypothesis to determine if the average age of the female students of the Faculty of Engineering is greater than the average age of male in the Faculty of Engineering.

$H_0 : \bar{Y}_f = \bar{Y}_m$

$H_1 : \bar{Y}_f > \bar{Y}_m$

$Var(\hat{\bar{Y}}_f) = (1 - f_f)\frac{S^2}{n} = (1 - \frac{n_f}{N_f})\frac{S_f^2}{n_f}$

$Var(\hat{\bar{Y}}_m) = (1 - f_m)\frac{S^2}{n} = (1 - \frac{n_m}{N_m})\frac{S_m^2}{n_m}$

$S^2 = Var(Y) = \frac{\sum fY^2 - \frac{(\sum fy)^2}{\sum f}}{\sum f}$

$S_f^2 = \frac{20880 - \frac{960^2}{45}}{45} = 8.88$

$S_m^2 = \frac{65939 - \frac{3063^2}{146}}{146} = 11.50$

$\text{Var}(\hat{\bar{Y}}_f) = (1 - \frac{46}{746})\frac{8.88}{46} = 0.1811$

$\text{Var}(\hat{\bar{Y}}_m) = (1 - \frac{145}{2433})\frac{11.5}{145} = 0.0746$

$Z = \frac{|21.33 - 20.97|}{\sqrt{0.1811+0.0746}} = 0.7119$

From the Standard Normal Table

$Z_{tab} = Z_0 = 1.645$

Interpretation of Result:

Since the value of Z_{cal} (0.7119) is less than Z_{tab} (1.645), we therefore fail to reject the null hypothesis. Hence we conclude that the average age of female students and average age of male students in the Faculty of Engineering are equal.

2. To test if the proportion of students in the Faculty of Engineering who engage in sports betting is greater than the proportion of students who do not engage in sports betting in the Faculty of Engineering.

Let P represent the proportion of the entire population of students in the Faculty of Engineering who engage in sports betting.

$H_0 : P_0 = 0.5$

$H_1 : P_0 > 0.5$

The estimate of p is $\hat{p}$

$\hat{p} = \frac{n'}{n}$

Where,

$\hat{p} = \frac{n'}{n}$ is the estimated value of P

$\hat{p}$ is the proportion of the respondents who have the characteristic under investigation.

n' is the number of respondents who have the characteristics under investigation

n is the total number of respondents

Therefore,

$\hat{p} = \frac{120}{191} = 0.6283$

Then the variance, $\hat{V}(\hat{p}) = (1 - f)\frac{\hat{p}\hat{q}}{n-1}$

(1 – f) = the finite population correction factor; and $f = \frac{n}{N}$

N is population size

n is sample size

$f = \frac{191}{3179} = 0.0601$

$\hat{p} = 0.6283$

$\hat{q} = 1 - \hat{p} = 1 - 0.6283$

$= 0.3717$

Therefore,

$\text{Var}(\hat{p}) = (1 - 0.0601)\frac{0.6283 \times 0.3717}{191-1}$

$= 0.9399 \times 0.001229$

$= 0.0012$

The test statistic is

$$Z_0 = \frac{\hat{p} - p_0}{\sqrt{var(p)}}$$

$$= \frac{|0.6649 - 0.5|}{\sqrt{0.0012}} = 4.76$$

From the statistical table,

$$Z_\alpha = Z_{0.05} = 1.64$$

$$Z_0 = 4.76 > Z_{0.05} = 1.64$$

Interpretation of Result:

Since the calculated (4.76) value is greater than the tabulated value (1.64), we reject H_0.

Hence, we conclude that the proportion of students who engage in sports betting is greater than the proportion of those who do not engage in sports betting in the Faculty of Engineering.

3. To test if the proportion of students in the Faculty of Engineering who have ever done sports betting to cater for their academic need is greater than the proportion of students in the Faculty of Engineering who have never done sports betting to cater for their academic need.

Let P_s represent the proportion of the entire population of students in the Faculty of Engineering who have ever done sports betting to cater for their academic need.

$H_0 : P_s = 0.5$

$H_1 : P_s > 0.5$

The estimate of p is $\hat{p}$

$$\hat{p} = \frac{n'}{n}$$

Where,

$\hat{p} = \frac{n'}{n}$ is the estimated value of P

$\hat{p}$ is the proportion of the respondents who have the characteristic under investigation.

n' is the number of respondents who have the characteristics under investigation

n is the total number of respondents

Therefore,

$\hat{p} = \frac{37}{119} = 0.3109$

Then the variance, $\hat{V}(\hat{p}) = (1 - f)\frac{\hat{p}\hat{q}}{n-1}$

(1 – f) = the finite population correction factor; and $f = \frac{n}{N}$

N is population size

n is sample size

$f = \frac{191}{3179} = 0.0601$

$\hat{p} = 0.3109$

$\hat{q} = 1 - \hat{p} = 1 - 0.3109$

$= 0.6891$

Therefore,

$\text{Var}(\hat{p}) = (1 - 0.0601)\frac{0.3109 \times 0.6891}{191-1}$

$= 0.9399 \times 0.001128$

$= 0.00106$

The test statistic is

$$Z_0 = \frac{\hat{p} - p_0}{\sqrt{var(p)}}$$

$$= \frac{|0.2147 - 0.5|}{\sqrt{0.00106}} = 8.76$$

From the statistical table,

$Z_\alpha = Z_{0.05} = 1.64$

$Z_0 = 8.76 > Z_{0.05} = 1.64$

Interpretation of Result:

Since the calculated (8.76) value is greater than the tabulated value (1.64), we reject H_0

Hence, we conclude that the proportion of students who have ever done sports betting to cater for their academic needs is not greater than the proportion of students in the Faculty of Engineering who have never done sports betting to cater for their academic needs.

4.4 Test of Independence

4. To test if the largest amount of money earned on a single bet in the past 12 months independent on the largest amount of money placed on a single bet in the past 12 months.

$H_0 : P_{ij} = P_{i.} \times P_{.j}$

$H_1 : P_{ij} \neq P_{i.} \times P_{.j}$

From the table below,

Since p = 0.000 (Asymptotic Significance or p-value of the chi-square) is less than $\alpha = 0.05$

i.e. $p = 0.000 < 0.05 = \alpha$. Thus, we can say there is a statistically significant relationship between the two variables. This means that the relationship between the largest amount of money earned in the past 12 months and largest amount of money placed on a single bet in the past 12 months is significant.

Table 4.5: Cross-tabulation of Largest amount of money placed on a single bet in the past 12 months and Largest amount of money earned on a single bet in the past 12 months

		Largest amount of money earned on a single bet in the past 12 months					Total
		I have not gambled in the past 12 months	Below 1001	1001 - 3000	3001 - 5000	> 5000	
Largest amount of money placed on a single bet in the past 12 months	I have not gambled in the past 12 months	8	0	2	0	1	11
	Below 1001	2	9	11	9	22	53
	1001 - 3000	0	6	2	4	5	17
	3001 - 5000	0	8	1	6	6	21
	> 5000	0	0	2	0	15	17
Total		10	23	18	19	49	119

Table 4.6: Chi-Square Tests for Largest amount of money placed on a single bet in the past 12 months and Largest amount of money earned on a single bet in the past 12 months.

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	95.169[a]	16	.000
Likelihood Ratio	74.095	16	.000
Linear-by-Linear Association	13.818	1	.000
N of Valid Cases	119		

a. 18 cells (72.0%) have expected count less than 5. The minimum expected count is .92.

5. To test if the range of weekly allowance is independent of whether one play sports betting or not.

$H_0 : P_{ij} = P_{i.} \times P_{.j}$

$H_1 : P_{ij} \neq P_{i.} \times P_{.j}$

From the table below,

Since p = 0.005 (Asymptotic Significance or p-value of the chi-square) is less than $\alpha = 0.05$

i.e. $p = 0.005 < 0.05 = \alpha$. Thus, we can say there is a statistically significant relationship between the two variables. This means that the relationship between the range of weekly allowance and whether one play sports betting or not is significant.

Table 4.7: Cross-tabulation of Do you play Sports Betting and Range of Weekly Allowance

		Range of Weekly Allowance					Total
		Below N1001	N1001 - N2000	N2001 - N3000	N3001 - N4000	N4001 - N5000	
Do you play Sports Betting	No	5	3	10	28	25	71
	Yes	4	11	7	28	70	120
Total		9	14	17	56	95	191

Table 4.8: Chi-Square test of Do you play Sports Betting and Range of Weekly Allowance

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	14.940[a]	4	.005
Likelihood Ratio	14.986	4	.005
Linear-by-Linear Association	3.662	1	.056
N of Valid Cases	191		

a. 1 cells (10.0%) have expected count less than 5. The minimum expected count is 3.35.

6. To test if the number of people one know that does sports betting is independent of whether one plays sports betting or not.

$H_0 : P_{ij} = P_{i.} \times P_{.j}$

$H_1 : P_{ij} \neq P_{i.} \times P_{.j}$

From the table below,

Since p = 0.130 (Asymptotic Significance or p-value of the chi-square) is less than $\alpha = 0.05$ i.e. $p = 0.130 > 0.05 = \alpha$. Thus, we can say there is no statistically significant relationship between the two variables. This means that the relationship between the number of people one knows that does sports betting and whether one play sports betting or not is not significant.

Table 4.9: Cross-tabulation of Do you play Sports Betting and How many people do you know personally know in your faculty who do sports betting regularly

		How many people do you know personally know in your faculty who do sports betting regularly				Total
		None	1 or 2	3 or 4	5 or more	
Do you play Sports Betting	No	6	8	1	6	21
	Yes	40	33	14	11	98
Total		46	41	15	17	119

Table 4.10: Chi-Square Test of Do you play Sports Betting and How many people do you know personally know in your faculty who do sports betting regularly

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.656[a]	3	.130
Likelihood Ratio	5.390	3	.145
Linear-by-Linear Association	2.216	1	.137
N of Valid Cases	119		

a. 2 cells (25.0%) have expected count less than 5. The minimum expected count is 2.65.

7. To test if CGPA (Cumulative Grade Point Average) is independent of how often one plays sports betting.

$H_0 : P_{ij} = P_{i.} \times P_{.j}$

$H_1 : P_{ij} \neq P_{i.} \times P_{.j}$

From the table below,

Since p = 0.000 (Asymptotic Significance or p-value of the chi-square) is less than $\alpha = 0.05$

i.e. $p = 0.000 < 0.05 = \alpha$. Thus, we can say there is no statistically significant relationship between the two variables. This means that the relationship between CGPA (Cumulative Grade Point Average) and how often one plays sports betting is significant.

This means that students' engagement or time given to sports betting can affect their academic performance. This is because for a student to win money from sports betting, he/she has to spend enough time trying to increase his/her odds of winning. Off course we already know money is mostly the motivation of students' engagement in sports betting.

Table 4.11: Chi-Square Test of CGPA (Cumulative Grade Point Average) and how often one plays sports betting

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	227.743[a]	32	.000
Likelihood Ratio	134.164	32	.000
Linear-by-Linear Association	1.047	1	.306
N of Valid Cases	119		

a. 39 cells (86.7%) have expected count less than 5. The minimum expected count is .08.

8. To test if the largest amount of money (or valuables) one earn on a single bet is independent of how long one has been playing sports betting.

$H_0 : P_{ij} = P_{i.} \times P_{.j}$

$H_1 : P_{ij} \neq P_{i.} \times P_{.j}$

From the table below,

Since p = 0.709 (Asymptotic Significance or p-value of the chi-square) is less than $\alpha = 0.05$

i.e. $p = 0.709 > 0.05 = \alpha$. Thus, we can say there is no statistically significant relationship between the two variables. This means that the relationship between the largest amount of money (or valuables) one earn on a single bet and how long one has been playing sports betting is not significant.

Table 4.12: Cross-tabulation of Do you play Sports Betting and How long you have been playing sports betting

		How long you have been playing sports betting					Total
		About a year	1 - 2 years	2 - 3 years	3 - 4 years	more than 4 years	
Do you play Sports Betting	No	3	1	3	8	6	21
	Yes	19	13	16	28	22	98
Total		22	14	19	36	28	119

Table 4.13: Chi-Square Test of Do you play Sports Betting and How long you have been playing sports betting

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.146[a]	4	.709
Likelihood Ratio	2.368	4	.668
Linear-by-Linear Association	1.391	1	.238
N of Valid Cases	119		

a. 4 cells (40.0%) have expected count less than 5. The minimum expected count is 2.47.

9. To test if Engagement in sports betting is independent of religious affiliations.

$H_0 : P_{ij} = P_{i.} \times P_{.j}$

$H_1 : P_{ij} \neq P_{i.} \times P_{.j}$

From the table below,

Since p = 0.657 (Asymptotic Significance or p-value of the chi-square) is less than $\alpha = 0.05$

i.e. $p = 0.657 > 0.05 = \alpha$. Thus, we can say there is no statistically significant relationship between the two variables. This means that the relationship between Engagement in sports betting and religious affiliations is not significant.

Table 4.14: Cross-tabulation of Do you play Sports Betting and Religion

		Religion							
		Catholic	Anglican	Methodist	Pentecostal	Sunni	Traditional	Others	
Do you play Sports Betting	No	22	5	2	27	10	2	3	71
	Yes	28	11	5	51	15	8	2	120
Total		50	16	7	78	25	10	5	191

Table 4.15: Chi-Square Test of Do you play Sports Betting and Religion

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.142[a]	6	.657
Likelihood Ratio	4.212	6	.648
Linear-by-Linear Association	.331	1	.565
N of Valid Cases	191		

a. 5 cells (35.7%) have expected count less than 5. The minimum expected count is 1.86.

10. To test if Engagement in sports betting is independent of whether one's family member has ever had family problem.

$H_0 : P_{ij} = P_{i.} \times P_{.j}$

$H_1 : P_{ij} \neq P_{i.} \times P_{.j}$

From the table below,

Since p = 0.414 (Asymptotic Significance or p-value of the chi-square) is less than $\alpha = 0.05$

i.e. p = 0.414 > 0.05 = α. Thus, we can say there is no statistically significant relationship between the two variables. This means that the relationship between the Engagement in sports betting and whether one's family member has ever had family problem. is not significant.

Table 4.17: Cross-tabulation of Do you play Sports Betting and Has anyone in your family ever had a gambling problem

		Has anyone in your family ever had a gambling problem		Total
		No	Yes	
Do you play Sports Betting	No	16	5	21
	Yes	82	16	98
Total		98	21	119

Table 4.18: Chi-Square Test of Do you play Sports Betting and Has anyone in your family ever had a gambling problem

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.666[a]	1	.414		
Continuity Correction[b]	.251	1	.616		
Likelihood Ratio	.626	1	.429		
Fisher's Exact Test				.527	.297
Linear-by-Linear Association	.661	1	.416		
N of Valid Cases	119				

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 3.71.

b. Computed only for a 2x2 table

11. To test if Engagement in sports betting is independent of Location of Residence or Residential Area.

$H_0 : P_{ij} = P_{i.} \times P_{.j}$

$H_1 : P_{ij} \neq P_{i.} \times P_{.j}$

From the table below,

Since p = 0.021 (Asymptotic Significance or p-value of the chi-square) is less than $\alpha = 0.05$

i.e. $p = 0.021 < 0.05 = \alpha$. Thus, we can say there is a statistically significant relationship between the two variables. This means that the relationship between the Engagement in sports betting and Residential Area is significant.

This implies that where a student lives seems to have implication for whether or not he or she engage in sports betting.

Table 4.19: Chi-Square Test of Do you play Sports Betting and Residential address.

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	55.279[a]	36	.021
Likelihood Ratio	67.634	36	.001
N of Valid Cases	191		

a. 66 cells (89.2%) have expected count less than 5. The minimum expected count is .37.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND CONTRIBUTION

5.0 Analysis of Frequency Tables

1. From the Survey carried out, 7.9% of the students are from department of Mechanical Engineering, 10.5% from Electrical Engineering, 12% from Pet & Gas Engineering, 20.9% from Chemical Engineering, 11% from Systems Engineering, 6.8% from Civil Engineering, 6.8% from Met & Mat Engineering, 5.8 from Surveying & Geo-Informatics, 8.9 from Biomedical Engineering, 9.4 from Computer Engineering.

2. 48.7% of the students' age surveyed were within the age range of 16 – 20, 41.4% were within the age range of 21 – 25, 9.9% were within the age range of 26 – 30, while none of the students' age was above 30.

3. From the Survey carried out, 76.4% of the undergraduate students were males while 23.6% were females.

4. 23% of the students responded that their Source of Allowance was Self, 69.6% was Parents, 1.6% was Husband, 5.8% was Relatives.

5. 4.7% of the students surveyed Weekly Allowance was below N1000, 7.3% was in the range of N1001 – N2000, 8.9% was in the range of N2001 – N3000, 29.3% was in the range of N3001 – N4000, while 49.7% was in the range of N4001 – N5000.

6. 52.4% of the students responded that their weekly allowance was not sufficient for them while 47.6% of the students responded that their weekly allowance was sufficient for them.

7. 35.6% of the students' mothers were Uneducated while 64.4% were Educated.

8. 30.4% of the students' fathers were Uneducated while 69.6% were Educated.

9. 26.2% of the students responded that their religion was Catholic, 8.4% were Anglican, 3.7% were Methodist, 40.8% were Pentecostal, 13.1% were Sunni, 5.2% were Traditional while the remaining 2.6% were other religions.

10. 2.1% of the students surveyed were in the CGPA range of < 1.49, 6.8% were in the range 1.50 – 2.49, 15.7% were in the range 2.50 – 3.49, 40.3% were in the range 3.50 – 4.49, while the remaining 35.1% were in the CGPA range of 4.5 – 5.00.

11. From the Survey carried out, 37.2% of the undergraduates don't engage in Sport Betting while a large fraction of 62.8% engage in Sports Betting. Emerging adulthood is associated with sensation-seeking and risk-taking behavior, which may contribute to and partially explain increased engagement in sports betting amongst university students.

Table 5.1: The motivation of gambling among students in the Faculty of Engineering

S/N	Statement	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
12	Making money is my motivation for gambling	9.0%	5.2%	7.5%	41.8%	36.6%

13	Enjoyment or fun is what makes me gamble	27.6%	20.9%	14.9%	27.6%	9.0%
14	Gamble when there is boredom	33.6%	43.5%	4.6%	11.5%	6.9%

The findings on Table 5.1 indicate that money was the biggest motivator. This is evident in Nigeria in that mass media broadcasts show how the winners celebrate and motivate others to continue betting since they have chance of winning millions of money. Students also seems to rely on the money from their daily up keep and entertainment. The other motivator was betting for enjoyment and to be together with peers. While the remaining indicated that boredom was their motivator instead of being idle they utilize their leisure time by betting.

Table 5.2: The Respondents who agree with Specific Statements on Gambling

S/N	**Statement**	**Strongly Disagree**	**Disagree**	**Undecided**	**Agree**	**Strongly Agree**
15	If my friend has just won lots of money from sports betting, I will be more likely to play sports betting	4.1%	5.8%	21.5%	47.1%	21.5%

16	You have wanted to stop betting money or gambling, but didn't think you could	28.1%	21.5%	18.2%	17.4%	14.9%
17	You always feel guilty about the way you gamble or what happens when you gamble	32.2%	28.9%	12.4%	23.1%	3.3%

Table 5.3: The influence of gambling on the behavior of students in the Faculty of Engineering

S/N	Statement	Very Often	Often	Sometimes	Never
18	Have you ever lost time from school due to gambling	43.8%	39.7%	11.6%	5.0%
19	Have gambling caused you to have difficulty in sleeping	39.7%	24.8%	30.6%	5.0%
20	After losing did you feel you must return as soon as	54.5%	22.3%	14.9%	8.3%

	possible and win back your losses				
21	After a win did you have a strong urge to return and win more	43.8%	27.3%	22.3%	6.6%
22	Have you ever used your keep money or school fees to bet	33.6%	18.5%	29.4%	18.5%
23	Have you ever considered self-destruction or suicide as a result of your gambling	5.9%	9.2%	12.6%	72.3%

The findings from Table 5.3 indicate that majority of the students often loose time from school due to sports betting. This indicates that gambling has an influence on students' behavior and performance since losing school time can influence performance. It is through such behavior losing of school time that leads to truancy. These findings also indicate that sports betting caused difficulty in sleeping for a lot of them which is as a result of thinking about the outcome of the bets. Their responses on their behaviors after losing and after winning, it was evident that majority of them return as soon as possible to win back or win more. This habit leads to addictive gambling.

A lot of the students have ever used their up keep money or school fees to bet. This is a habit that is now rampant amongst indigent students which leads them to passing the deadlines for paying school fees. Very few of the students has ever considered self-destruction or suicide as a result of sports betting.

24. From the Survey carried out on the Number of people they know in their Faculty who do sports betting regularly, 38.7% of the students responded that they knew None, 34.5% responded that they knew 1 or 2, 12.6 responded that they knew 3 or 4, while 14.3% responded that they knew 5 or more people.

25. From the survey carried out on the Largest amount of money placed on a single bet in the past 12 months, 9.2% of the students said they have not gambled in the past 12 months, 44.5% said Below N1001, 14.3% said in the range N1001 – N3000, 17.6% said in the range N3001 – N5000, while 14.3% said above N5000.

26. From the survey carried out on the Largest amount of money earned on a single bet in the past 12 months, 8.4% of the students said they have not gambled in the past 12 months, 19.3% said Below N1001, 15.1% said in the range N1001 – N3000, 16.0% said in the range N3001 – N5000, while 41.2% said above N5000.

27. 3.4% of the students said they bet Daily in the past 12 months, 17.6% of the students said they bet 2 – 6 times/week, 32.8% said they bet About once/week, 20.2% said they bet 2 – 3 times/month, 2.5% said they bet About once/month, 6.7% said they bet Between 1 – 6 times/year, 5% said they bet Between 7 – 12 times/year, while the remaining 11.7% said they didn’t bet in the past 12 months.

28. From the Survey carried out 82.4% of the students responded that no one in their family ever had gambling problem, while 17.6% responded that someone in their family ever had gambling problem.

29. 18.5% of the students said they have gotten engaged in sports betting in about a year, 11.8% said between 1 – 2 years, 16% said between 3 – 4 years, 30.3% said between 5 – 6 years, while 23.5% of the students said more than 6 years.

30. From the survey carried out 68.9% of the students responded that they have never done sports betting to cater for their academic needs, while 31.1% of the students said they have once done sports betting to cater for their academic needs.

5.1 Logistic Regression Analysis

Whether one engage in sports betting or not (**Do you engage in sports betting?**) would be used as dependent variable, while their **Range of Weekly Allowance**, **Religious Affiliations**, and **Number of people who you know that does sports betting** are the independent variables.

Below are the outputs of the SPSS analysis.

Table 5.4: Categorical Variables Codings

		Frequency	Parameter coding					
			(1)	(2)	(3)	(4)	(5)	(6)
Religion	Catholic	24	.000	.000	.000	.000	.000	.000
	Anglican	15	1.000	.000	.000	.000	.000	.000
	Methodist	2	.000	1.000	.000	.000	.000	.000
	Pentecostal	47	.000	.000	1.000	.000	.000	.000
	Sunni	21	.000	.000	.000	1.000	.000	.000
	Traditional	9	.000	.000	.000	.000	1.000	.000
	Others	1	.000	.000	.000	.000	.000	1.000

	Below N1001	3	.000	.000	.000	.000		
	N1001 - N2000	9	1.000	.000	.000	.000		
Range of Weekly Allowance	N2001 - N3000	10	.000	1.000	.000	.000		
	N3001 - N4000	33	.000	.000	1.000	.000		
	N4001 - N5000	64	.000	.000	.000	1.000		
How many people do you know personally know in your faculty who do sports betting regularly	None	46	.000	.000	.000			
	1 or 2	41	1.000	.000	.000			
	3 or 4	15	.000	1.000	.000			
	5 or more	17	.000	.000	1.000			

LOGISTIC REGRESSION

Block 0: Beginning Block

Table 5.5: Classification Table[a,b]

	Observed		Predicted		
			Do you play Sports Betting		Percentage Correct
			No	Yes	
Step 0	Do you play Sports Betting	No	0	21	.0
		Yes	0	98	100.0
	Overall Percentage				82.4

a. Constant is included in the model.

b. The cut value is .500

Table 5.6: Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	1.540	.240	41.038	1	.000	4.667

Table 5.7: Variables not in the Equation

			Score	Df	Sig.
Step 0	Variables	RangeofWeeklyAllowance	14.338	4	.006
		N1001 - N2000	.286	1	.593
		N2001 - N3000	7.863	1	.005
		N3001 - N4000	2.911	1	.088
		N4001 - N5000	9.216	1	.002
		Religion	6.776	6	.342
		Anglican	2.906	1	.088
		Methodist	.436	1	.509
		Pentecostal	2.626	1	.105
		Sunni	2.094	1	.148
		Traditional	.286	1	.593
		Others	.216	1	.642
		PeopleYouKnow	5.656	3	.130
		1 or 2	.150	1	.699
		3 or 4	1.424	1	.233
		5 or more	4.250	1	.039
	Overall Statistics		24.038	13	.031

Block: Method = Enter

Table 5.8: Omnibus Tests of Model Coefficients

		Chi-square	Df	Sig.
Step 1	Step	24.777	13	.025
	Block	24.777	13	.025
	Model	24.777	13	.025

Table 5.9: Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	86.131[a]	.188	.310

a. Estimation terminated at iteration number 20 because maximum iterations has been reached. Final solution cannot be found.

Table 5.10: Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	4.942	7	.667

Table 5.11: Contingency Table for Hosmer and Lemeshow Test

		Do you play Sports Betting = No		Do you play Sports Betting = Yes		Total
		Observed	Expected	Observed	Expected	
Step 1	1	6	6.334	6	5.666	12
	2	6	4.546	6	7.454	12
	3	5	4.330	8	8.670	13
	4	1	2.329	11	9.671	12
	5	0	1.379	12	10.621	12
	6	1	.802	15	15.198	16
	7	1	.641	15	15.359	16
	8	1	.390	11	11.610	12
	9	0	.248	14	13.752	14

Table 5.12: Classification Table[a]

	Observed		Predicted		
			Do you play Sports Betting		Percentage Correct
			No	Yes	
Step 1	Do you play Sports Betting	No	2	19	9.5
		Yes	2	96	98.0
	Overall Percentage				82.4

a. The cut value is .500

Table 5.13: Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	RangeofWeeklyAllowance			11.065	4	.026	
	N1001 - N2000	1.048	1.733	.366	1	.545	2.852
	N2001 - N3000	-2.021	1.674	1.458	1	.227	.133
	N3001 - N4000	.154	1.392	.012	1	.912	1.166
	N4001 - N5000	1.280	1.462	.767	1	.381	3.598
	Religion			4.844	6	.564	
	Anglican	-1.724	1.139	2.292	1	.130	.178
	Methodist	17.795	28420.722	.000	1	1.000	53509579.747
	Pentecostal	-.231	1.011	.052	1	.819	.794
	Sunni	-1.412	1.117	1.596	1	.206	.244
	Traditional	.475	1.368	.121	1	.728	1.608
	Others	17.829	40192.970	.000	1	1.000	55334834.090
	PeopleYouKnow			5.627	3	.131	
	1 or 2	-.034	.672	.002	1	.960	.967
	3 or 4	.467	1.230	.144	1	.704	1.595
	5 or more	-1.566	.770	4.131	1	.042	.209
	Constant	2.127	1.703	1.560	1	.212	8.390

a. Variable(s) entered on step 1: RangeofWeeklyAllowance, Religion, PeopleYouKnow.

5.2 Interpretation

From the table, chi-square has 13 degrees of freedom, a value of 24.777 and a probability of p = 0.025, which is the probability obtaining the chi-square statistics given that the null hypothesis is true. Since $p < 0.05$, then the overall model is statistically significant. The -2Log likelihood value from the Model Summary table above is 86.131.

Thus, the indication is that the model has a good fit, indicating that the predictors do not have a significant effect and no need to create essentially a different model.

The -2log Likelihood that measures how poorly the model is 86.131. Indicating that the model is doing better than one predictor variable model.

The Nagelkerke's R^2 is part of SPSS output in the 'Model Summary' table and is the most reported of the R-squared estimates. In our case it is 0.310, which suggests that the model explains roughly 31% of the variation in the outcome.

Let X_1, X_2, X_3 and X_4 represent N1001 - N2000, N2001 - N3000, N3001 - N4000, N4001 - N5000 Range of Weekly Allowance respectively

X_5, X_6, X_7, X_8, X_9, and X_{10} represent Anglican, Methodist, Pentecostal, Sunni, Traditional and Others religious affiliations respectively, and

X_{11}, X_{12}, and X_{13} represent 1 or 2, 3 or 4 and 5 or more people one knows that does sports betting respectively.

Therefore, the model for the above table is;

$$\text{Log}(p/1-p) = 2.127 + 1.048X_1 - 2.021X_2 + 0.154X_3 + 1.280X_4 - 1.724X_5 + 17.795X_6 - 0.231X_7 - 1.412X_8 + 0.475X_9 + 17.829X_{10} - 0.034X_{11} + 0.467X_{12} - 1.566X_{13}$$

From the "variables in the equation" table, it is observed that the P-value is more than 0.05.

This implies the all predictors do not have a significant effect on whether a student engage in sports betting or not in the Faculty of Engineering except for X_{13} which has a significant effect on whether a student engage in sports betting or not in the Faculty of Engineering.

5.3 Conclusion

Based on the findings, the following conclusions were made:

1. The number of students in the Faculty of Engineering who are participating in sports betting is at least more than 63% hence the prevalence of sports betting among students in the Faculty of Engineering is high.
2. Majority of the students who participate in sport betting are motivated by money. Enjoyment and boredom are other factors that motivate students to engage in sports betting.
3. Sports betting has an influence on the students behavior.
4. The average age of female students and male students in the Faculty of Engineering are equal.
5. There are more students who have ever done sports betting to cater for their academic need than students that have never done sports betting to cater for their academic needs in the Faculty of engineering.
6. There is a relationship between the largest amount of money earned in the past 12 months and the largest amount of money placed on a single bet in the past 12 months.
7. Students' engagement in sports betting depends on their range of weekly allowance.
8. The number of people a student knows that does sports betting affects the engagement of the student in sports betting.

9. Students' engagement in sports betting affects their academic performance as measured by their CGPAs. This will most likely be due to the time the students put to brainstorming for sports betting.
10. How large a profit a student makes from sports betting does not depends on how long the student have been playing sports betting. It might probably depend on how smart the student is.
11. The religious affiliation that a student belongs to does not affect the engagement of the student in sports betting.
12. Where a student lives have an implication on whether the student engage in sports betting or not. It was discovered that most students playing sports betting reside in Agege.

5.4 Recommendation

Based on the inference test and result of this survey, the following recommendation are suggested:

1. The universities should incorporate education about sports betting or gambling as a whole in the University programs.
2. Gambling educational programs and awareness seminars should be done in the University.
3. The community, parents and stakeholders should be sensitized on the effects of gambling among university students.
4. The university should do screening of problem gamblers and refer them for guidance and counselling.
5. The government should put clear policy decisions on gambling.
6. The students should also try to mitigate gambling themselves by knowing the things that increases their risk for addiction and trying to prevent them.

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APPENDIX

6.5 Frequency Table

Table 1: Reliability Statistics.

Cronbach's Alpha	N of Items
.750	30

Table 2: Frequency of Students that engage in sports betting by Department.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mechanical Engineering	15	7.9	7.9	7.9
	Electrical Engineering	20	10.5	10.5	18.3
	Pet & Gas Engineering	23	12.0	12.0	30.4
	Chemical Engineering	40	20.9	20.9	51.3
	Systems Engineering	21	11.0	11.0	62.3
	Civil Engineering	13	6.8	6.8	69.1
	Met & Mat Engineering	13	6.8	6.8	75.9
	Surveying & Geo-Informatics	11	5.8	5.8	81.7
	Biomedical Engineering	17	8.9	8.9	90.6
	Computer Engineering	18	9.4	9.4	100.0

	Total	191	100.0	100.0	

Table 3: Frequency of Student's age range.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	16 - 20	93	48.7	48.7	48.7
	21 - 25	79	41.4	41.4	90.1
	26 - 30	19	9.9	9.9	100.0
	Total	191	100.0	100.0	

Table 4: Frequency of Students Sex (Gender).

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	MALE	146	76.4	76.4	76.4
	FEMALE	45	23.6	23.6	100.0
	Total	191	100.0	100.0	

Table 5: Frequency of students' Father's Occupation.

		Frequency	Percent	Valid Percent	Cumulative Percent

Valid	Accountant	6	3.1	3.1	3.1
	Architect	7	3.7	3.7	6.8
	Auditor	5	2.6	2.6	9.4
	Banker	5	2.6	2.6	12.0
	Builder	2	1.0	1.0	13.1
	Business Man	22	11.5	11.5	24.6
	Civil Engineer	5	2.6	2.6	27.2
	Civil Servant	17	8.9	8.9	36.1
	Clergy	5	2.6	2.6	38.7
	Contractor	6	3.1	3.1	41.9
	Deceased	6	3.1	3.1	45.0
	Doctor	6	3.1	3.1	48.2
	Engineer	20	10.5	10.5	58.6
	FG Worker	3	1.6	1.6	60.2
	Football Coach	1	.5	.5	60.7
	Idle	7	3.7	3.7	64.4
	Insurance	5	2.6	2.6	67.0
	Insurance Broker	3	1.6	1.6	68.6
	Late	2	1.0	1.0	69.6
	Lawyer	4	2.1	2.1	71.7

	Management Consultant	7	3.7	3.7	75.4
	Mechani	4	2.1	2.1	77.5
	Medical Doctor	1	.5	.5	78.0
	Pastor	3	1.6	1.6	79.6
	Petrol Attendant	3	1.6	1.6	81.2
	Real Estate	3	1.6	1.6	82.7
	Retired	4	2.1	2.1	84.8
	Retired Soldier	5	2.6	2.6	87.4
	Self Employed	6	3.1	3.1	90.6
	Site Constructor	5	2.6	2.6	93.2
	Trader	13	6.8	6.8	100.0
	Total	191	100.0	100.0	

Table 6: Frequency of students' Mother's Occupation.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Accountant	5	2.6	2.6	2.6
	Artisan	3	1.6	1.6	4.2
	Banker	9	4.7	4.7	8.9
	Business	3	1.6	1.6	10.5
	Business Woman	22	11.5	11.5	22.0

	Caterer	9	4.7	4.7	26.7
	Chartered Accountant	1	.5	.5	27.2
	Civil Servant	34	17.8	17.8	45.0
	Doctor	3	1.6	1.6	46.6
	Engineer	4	2.1	2.1	48.7
	Fashion Designer	6	3.1	3.1	51.8
	FG Worker	3	1.6	1.6	53.4
	Football Coach	1	.5	.5	53.9
	Nurse	12	6.3	6.3	60.2
	Office Administrator	4	2.1	2.1	62.3
	Public Officer	7	3.7	3.7	66.0
	Retired	6	3.1	3.1	69.1
	Retired Teacher	6	3.1	3.1	72.3
	Self Employed	6	3.1	3.1	75.4
	Tailor	4	2.1	2.1	77.5
	Teacher	9	4.7	4.7	82.2
	Trader	34	17.8	17.8	100.0
	Total	191	100.0	100.0	

Table 7: Frequency Table for "Is your weekly allowance sufficient For you".

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	98	51.3	52.4	52.4
	Yes	89	46.6	47.6	100.0
	Total	187	97.9	100.0	
Missing	System	4	2.1		
Total		191	100.0		

Table 8: Frequency Table for Range of Weekly Allowance.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Below N1001	9	4.7	4.7	4.7
	N1001 - N2000	14	7.3	7.3	12.0
	N2001 - N3000	17	8.9	8.9	20.9
	N3001 - N4000	56	29.3	29.3	50.3
	N4001 - N5000	95	49.7	49.7	100.0
	Total	191	100.0	100.0	

Table 9: Frequency Table for Residential Area.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		8	4.2	4.2	4.2
	Abeokuta	6	3.1	3.1	7.3
	abuja	3	1.6	1.6	8.9
	Abuja	3	1.6	1.6	10.5
	Agbado	7	3.7	3.7	14.1
	Agege	18	9.4	9.4	23.6
	Ajah	5	2.6	2.6	26.2
	Ajuwon	3	1.6	1.6	27.7
	Akoka	5	2.6	2.6	30.4
	Alimosho	2	1.0	1.0	31.4
	Amuwo-Odofin	5	2.6	2.6	34.0
	Anthony	1	.5	.5	34.6
	Bariga	2	1.0	1.0	35.6
	Gbagada	4	2.1	2.1	37.7
	Ifako	3	1.6	1.6	39.3
	Ifo	3	1.6	1.6	40.8
	Ikeja	1	.5	.5	41.4

	Ikorodu	10	5.2	5.2	46.6
	Ikorodun	4	2.1	2.1	48.7
	Ikotun	7	3.7	3.7	52.4
	Ikoyi	3	1.6	1.6	53.9
	Ilasa	7	3.7	3.7	57.6
	Ilupeju	3	1.6	1.6	59.2
	Ipaja	8	4.2	4.2	63.4
	Isolo	2	1.0	1.0	64.4
	Ketu	9	4.7	4.7	69.1
	Lagos	6	3.1	3.1	72.3
	Lagos Island	3	1.6	1.6	73.8
	Lekki	1	.5	.5	74.3
	Maryland	6	3.1	3.1	77.5
	Ogun	6	3.1	3.1	80.6
	Ojodu	1	.5	.5	81.2
	Sango Ota	4	2.1	2.1	83.2
	Satellite Town	7	3.7	3.7	86.9
	Shasha	4	2.1	2.1	89.0
	Surulere	8	4.2	4.2	93.2
	Yaba	13	6.8	6.8	100.0

	Total	191	100.0	100.0	

Table 10: Frequency Table for Mother's Background.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Uneducated	68	35.6	35.6	35.6
	Educated	123	64.4	64.4	100.0
	Total	191	100.0	100.0	

Table 11: Frequency Table for Father's Background.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Uneducated	58	30.4	30.4	30.4
	educated	133	69.6	69.6	100.0
	Total	191	100.0	100.0	

Table 12: Frequency Table for Religious affiliations.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Catholic	50	26.2	26.2	26.2
	Anglican	16	8.4	8.4	34.6
	Methodist	7	3.7	3.7	38.2

	Pentecostal	78	40.8	40.8	79.1
	Sunni	25	13.1	13.1	92.1
	Traditional	10	5.2	5.2	97.4
	Others	5	2.6	2.6	100.0
	Total	191	100.0	100.0	

Table 13: Frequency Table for CGPA range.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	< 1.49	4	2.1	2.1	2.1
	1.50 - 2.49	13	6.8	6.8	8.9
	2.50 - 3.49	30	15.7	15.7	24.6
	3.50 - 4.49	77	40.3	40.3	64.9
	4.5 - 5.00	67	35.1	35.1	100.0
	Total	191	100.0	100.0	

Table 14: Frequency Table for Do you play Sports Betting

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	71	37.2	37.2	37.2
	Yes	120	62.8	62.8	100.0
	Total	191	100.0	100.0	

Table 15: Frequency Table for Making money is my motivation for gambling

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	12	6.3	9.0	9.0
	Disagree	7	3.7	5.2	14.2
	Undecided	10	5.2	7.5	21.6
	Agree	56	29.3	41.8	63.4
	Strong Agree	49	25.7	36.6	100.0
	Total	134	70.2	100.0	
Missing	System	57	29.8		
Total		191	100.0		

Table 16: Frequency Table for Enjoyment or fun is what makes me gamble

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	37	19.4	27.6	27.6
	Disagree	28	14.7	20.9	48.5
	Undecided	20	10.5	14.9	63.4
	Agree	37	19.4	27.6	91.0
	Strongly Agree	12	6.3	9.0	100.0
	Total	134	70.2	100.0	
Missing	System	57	29.8		
Total		191	100.0		

Table 17: Frequency Table for "Gamble when there is boredom"

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	44	23.0	33.6	33.6
	Disagree	57	29.8	43.5	77.1
	Undecided	6	3.1	4.6	81.7
	Agree	15	7.9	11.5	93.1
	Strongly Agree	9	4.7	6.9	100.0
	Total	131	68.6	100.0	

Missing	System	60	31.4		
Total		191	100.0		

Table 18: Frequency Table for "If my friend has just won lots of money from sports betting, I will be more likely to play sports betting"

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	5	2.6	4.1	4.1
	Disagree	7	3.7	5.8	9.9
	Undecided	26	13.6	21.5	31.4
	Agree	57	29.8	47.1	78.5
	Strongly Agree	26	13.6	21.5	100.0
	Total	121	63.4	100.0	
Missing	System	70	36.6		
Total		191	100.0		

Table 19: Frequency Table for "You have wanted to stop betting money or gambling, but didn't think you could"

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	34	17.8	28.1	28.1

	Disagree	26	13.6	21.5	49.6
	Undecided	22	11.5	18.2	67.8
	Agree	21	11.0	17.4	85.1
	Strongly Agree	18	9.4	14.9	100.0
	Total	121	63.4	100.0	
Missing	System	70	36.6		
Total		191	100.0		

Table 20: Frequency Table for "You always feel guilty about the way you gamble or what happens when you gamble"

		Frequency	Percent	Valid Percent	Cumulative Percent
	Strongly Disagree	39	20.4	32.2	32.2
	Disagree	35	18.3	28.9	61.2
Valid	Undecided	15	7.9	12.4	73.6
	Agree	28	14.7	23.1	96.7
	Strongly Agree	4	2.1	3.3	100.0
	Total	121	63.4	100.0	
Missing	System	70	36.6		
Total		191	100.0		

Table 21: Frequency Table for "Have you ever lost time from school due to gambling?"

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Often	53	27.7	43.8	43.8
	Often	48	25.1	39.7	83.5
	Sometimes	14	7.3	11.6	95.0
	Never	6	3.1	5.0	100.0
	Total	121	63.4	100.0	
Missing	System	70	36.6		
Total		191	100.0		

Table 22: Frequency Table for "Have gambling caused you to have difficulty in sleeping?"

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Often	48	25.1	39.7	39.7
	Often	30	15.7	24.8	64.5
	Sometimes	37	19.4	30.6	95.0
	Never	6	3.1	5.0	100.0
	Total	121	63.4	100.0	
Missing	System	70	36.6		
Total		191	100.0		

Table 23: Frequency Table for "After losing did you feel you must return as soon as possible and win back your losses"

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Often	66	34.6	54.5	54.5
	Often	27	14.1	22.3	76.9
	Sometimes	18	9.4	14.9	91.7
	Never	10	5.2	8.3	100.0
	Total	121	63.4	100.0	
Missing	System	70	36.6		
Total		191	100.0		

Table 24: Frequency Table for "After a win did you have a strong urge to return and win more"

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Often	53	27.7	43.8	43.8
	Often	33	17.3	27.3	71.1
	Sometimes	27	14.1	22.3	93.4
	Never	8	4.2	6.6	100.0
	Total	121	63.4	100.0	
Missing	System	70	36.6		

Total		191	100.0		

Table 25: Frequency Table for "Have you ever used your keep money or school fees to bet?"

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Often	40	20.9	33.6	33.6
	Often	22	11.5	18.5	52.1
	Sometimes	35	18.3	29.4	81.5
	Never	22	11.5	18.5	100.0
	Total	119	62.3	100.0	
Missing	System	72	37.7		
Total		191	100.0		

Table 26: Frequency Table for "Have you ever considered self-destruction or suicide as a result of your gambling"

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Often	7	3.7	5.9	5.9
	Often	11	5.8	9.2	15.1
	Sometimes	15	7.9	12.6	27.7
	Never	86	45.0	72.3	100.0
	Total	119	62.3	100.0	

Missing	System	72	37.7		
Total		191	100.0		

Table 27: Frequency Table for "How many people do you know personally know in your faculty who do sports betting regularly"

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	None	46	24.1	38.7	38.7
	1 or 2	41	21.5	34.5	73.1
	3 or 4	15	7.9	12.6	85.7
	5 or more	17	8.9	14.3	100.0
	Total	119	62.3	100.0	
Missing	System	72	37.7		
Total		191	100.0		

Table 28: Frequency Table for "Largest amount of money placed on a single bet in the past 12 months"

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	I have not gambled in the past 12 months	11	5.8	9.2	9.2
	Below 1001	53	27.7	44.5	53.8
	1001 - 3000	17	8.9	14.3	68.1

	3001 - 5000	21	11.0	17.6	85.7
	> 5000	17	8.9	14.3	100.0
	Total	119	62.3	100.0	
Missing	System	72	37.7		
Total		191	100.0		

Table 29: Frequency Table for "Largest amount of money earned on a single bet in the past 12 months"

		Frequency	Percent	Valid Percent	Cumulative Percent
	I have not gambled in the past 12 months	10	5.2	8.4	8.4
	Below 1001	23	12.0	19.3	27.7
Valid	1001 - 3000	18	9.4	15.1	42.9
	3001 - 5000	19	9.9	16.0	58.8
	> 5000	49	25.7	41.2	100.0
	Total	119	62.3	100.0	
Missing	System	72	37.7		
Total		191	100.0		

Table 30: Frequency Table of "How often you bet in the past 12 months"

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Daily	4	2.1	3.4	3.4
	2 - 6 times/week	21	11.0	17.6	21.0
	About once/week	39	20.4	32.8	53.8
	2 - 3 times/month	24	12.6	20.2	73.9
	About once/month	3	1.6	2.5	76.5
	Between 1 - 6 times/year	8	4.2	6.7	83.2
	Between 7 - 12 times/year	6	3.1	5.0	88.2
	Never	11	5.8	9.2	97.5
	I don't do sports betting	3	1.6	2.5	100.0
	Total	119	62.3	100.0	
Missing	System	72	37.7		
Total		191	100.0		

Table 31: Frequency Table of "Has anyone in your family ever had a gambling problem"

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	98	51.3	82.4	82.4

	Yes	21	11.0	17.6	100.0
	Total	119	62.3	100.0	
Missing	System	72	37.7		
Total		191	100.0		

Table 32: Frequency Table for "How long you have been playing sports betting"

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	About a year	22	11.5	18.5	18.5
	1 - 2 years	14	7.3	11.8	30.3
	2 - 3 years	19	9.9	16.0	46.2
	3 - 4 years	36	18.8	30.3	76.5
	more than 4 years	28	14.7	23.5	100.0
	Total	119	62.3	100.0	
Missing	System	72	37.7		
Total		191	100.0		

Table 33: Frequency Table for "Have you ever done sports betting to cater for your academic needs"

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	82	42.9	68.9	68.9
	Yes	37	19.4	31.1	100.0
	Total	119	62.3	100.0	
Missing	System	72	37.7		
Total		191	100.0		

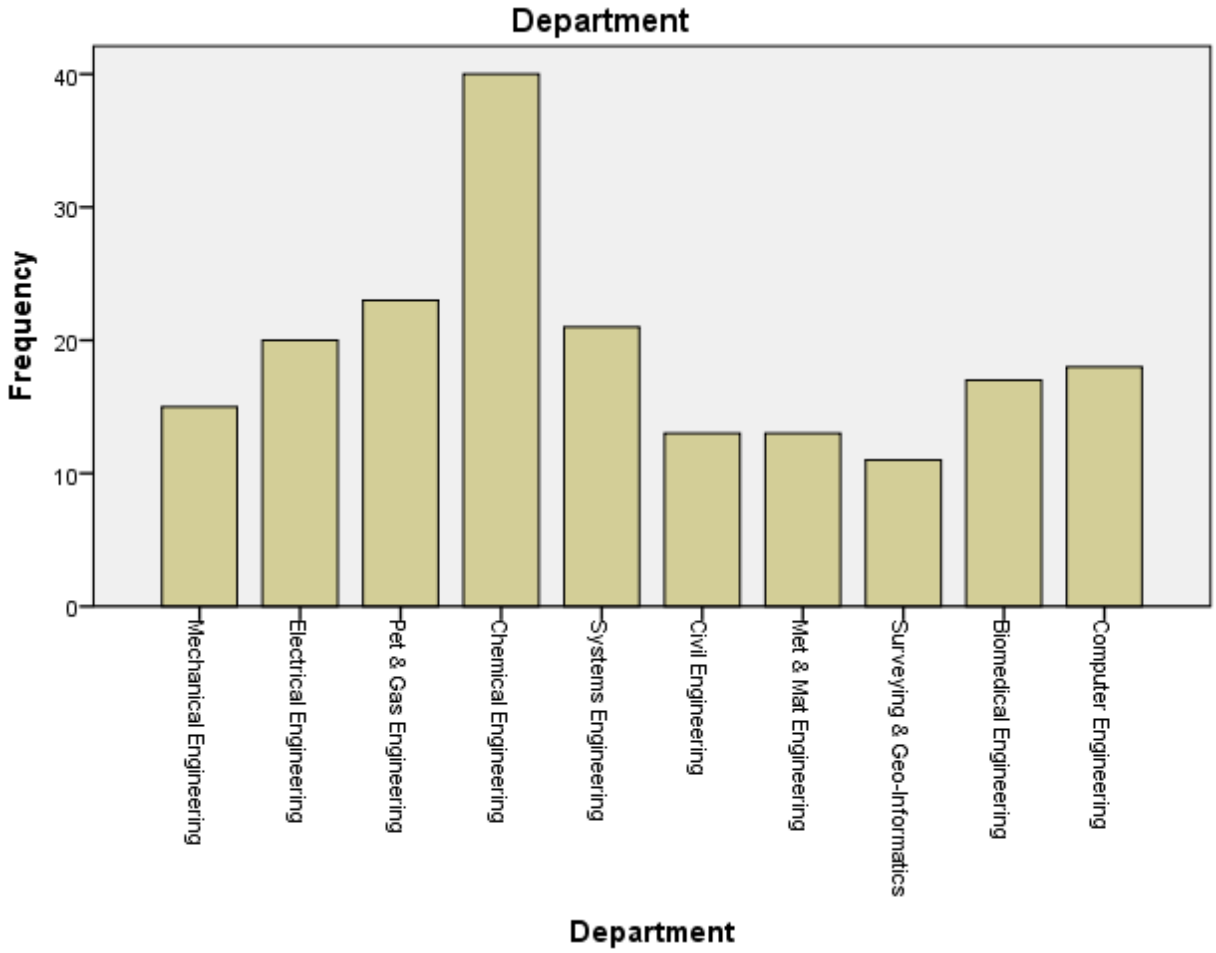

Fig. 1: Bar Chart showing the Number of Students surveyed from each Department

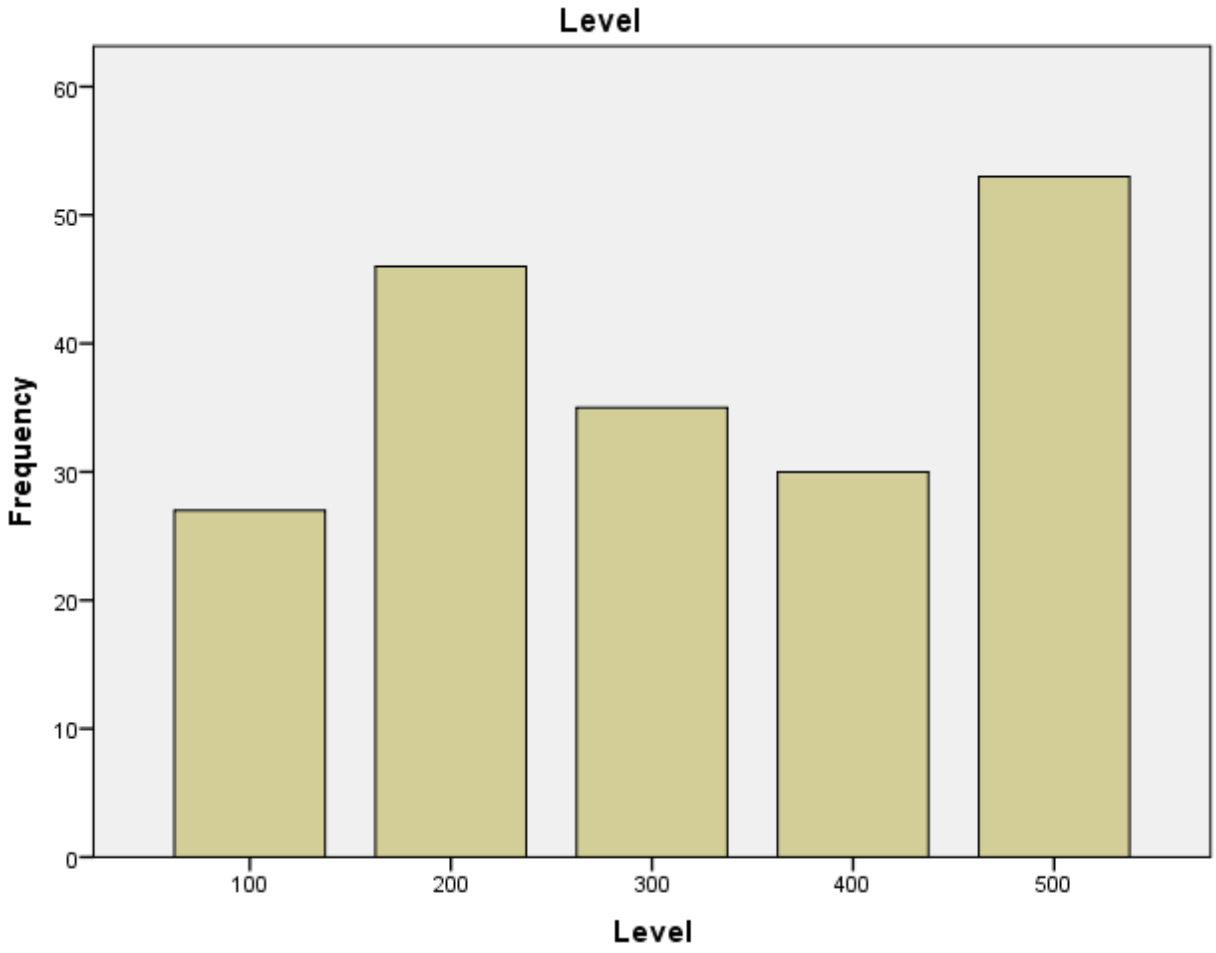

Fig. 2: Bar chart showing the number of students surveyed from each Level

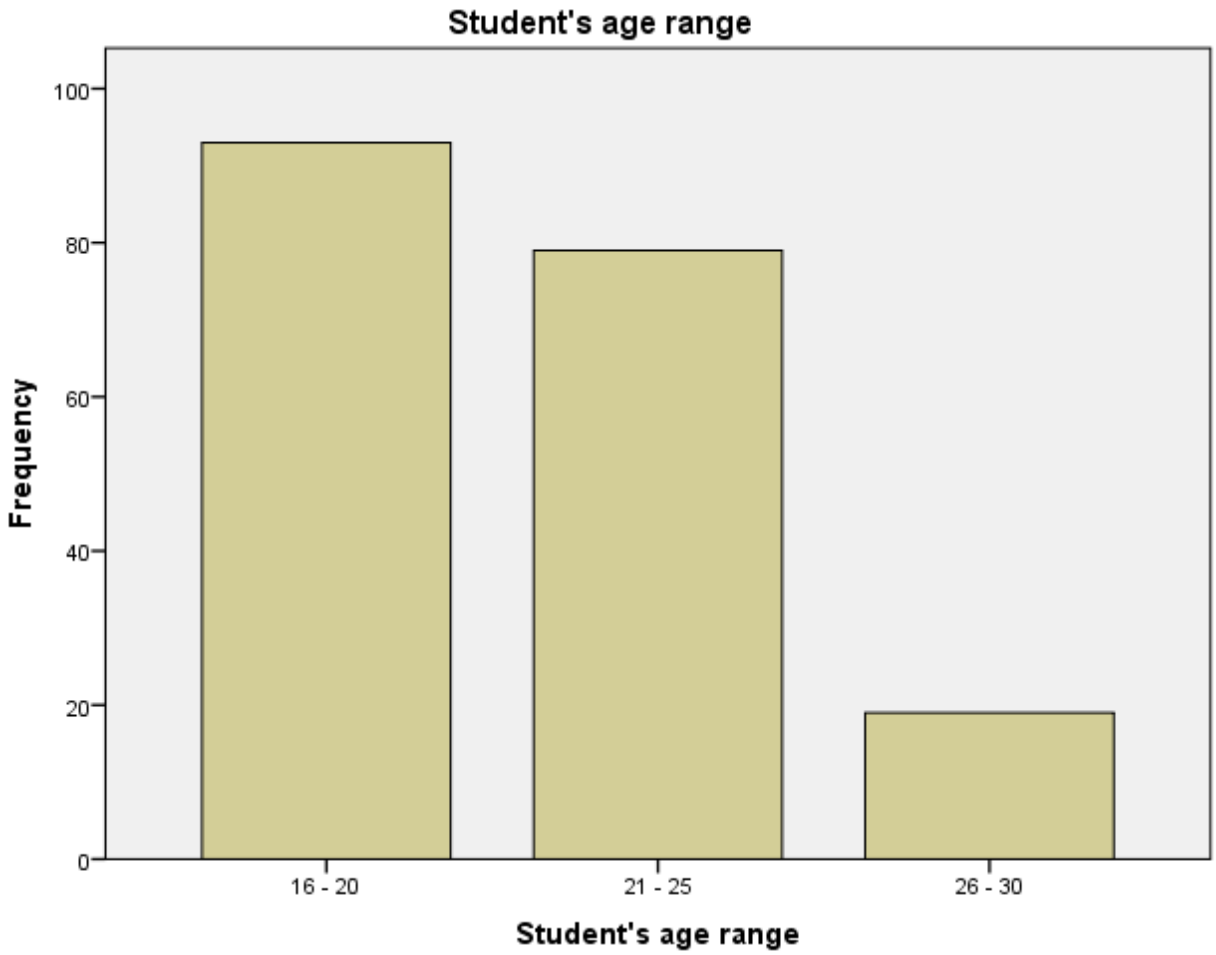

Fig. 3: Bar Chart showing the Frequency of the age range of students

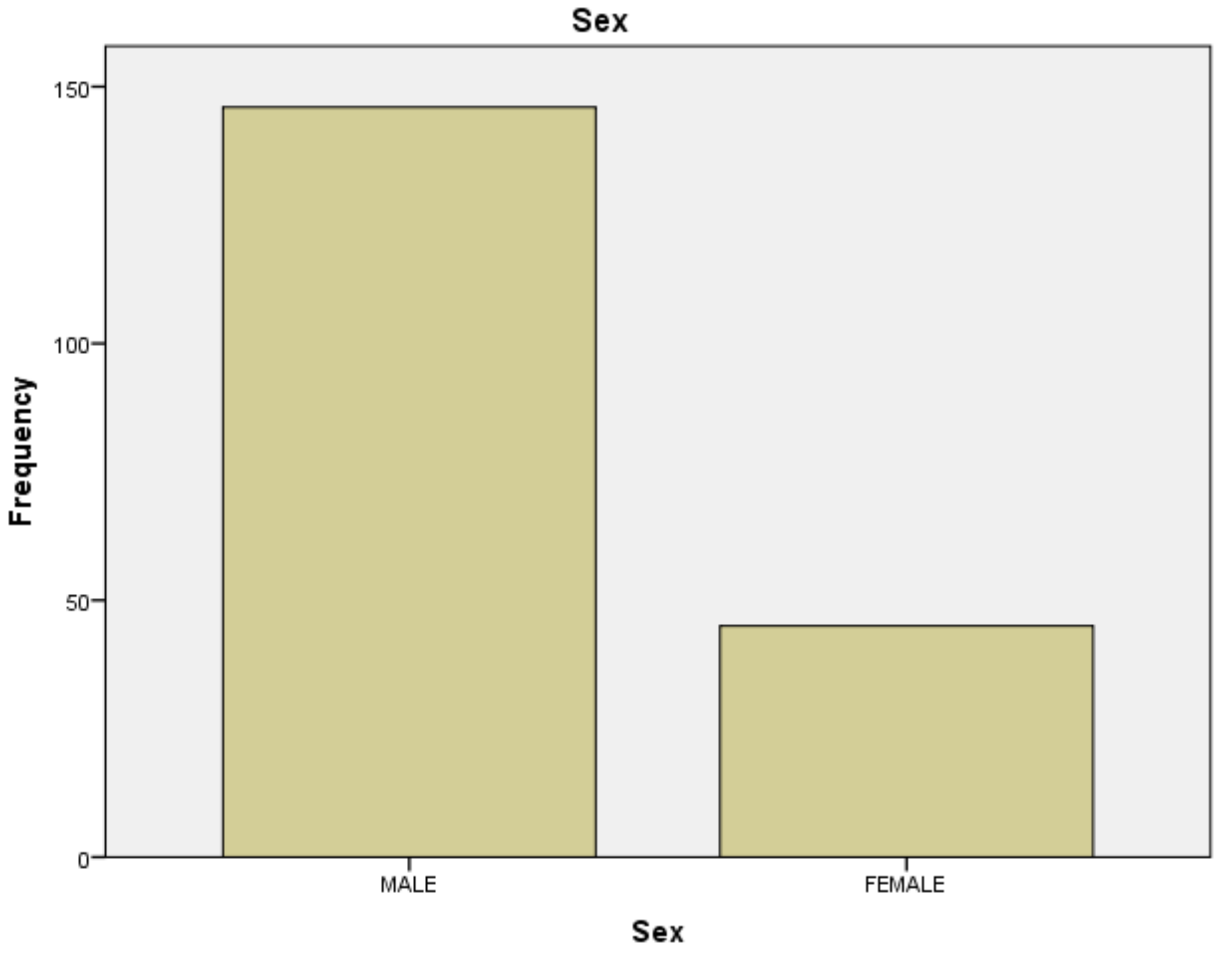

Fig. 4: Bar Chart showing the Frequency of Students' Gender (Sex)

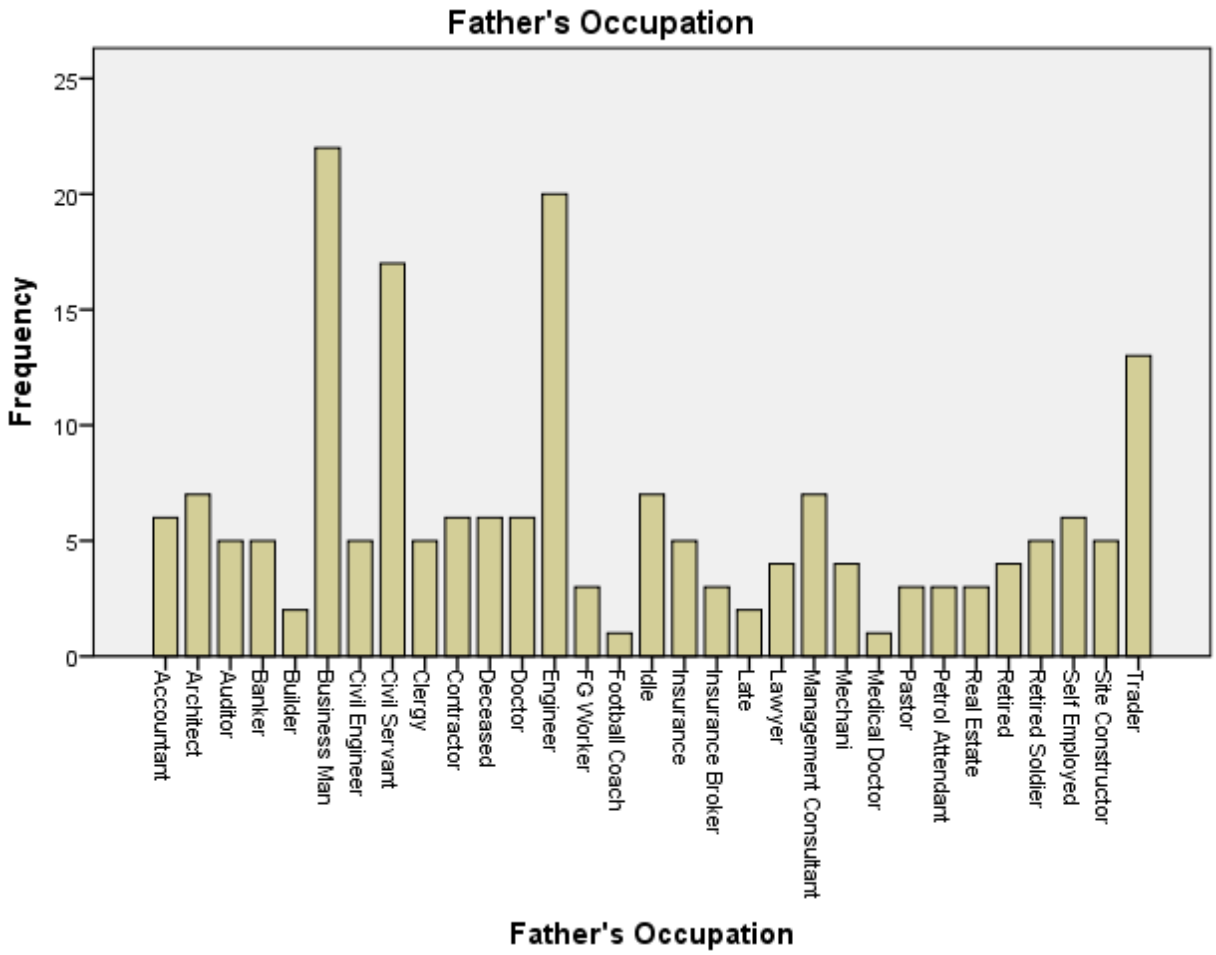

Fig. 5: Bar Chart Showing the Frequency of Occupation of the Students' Father

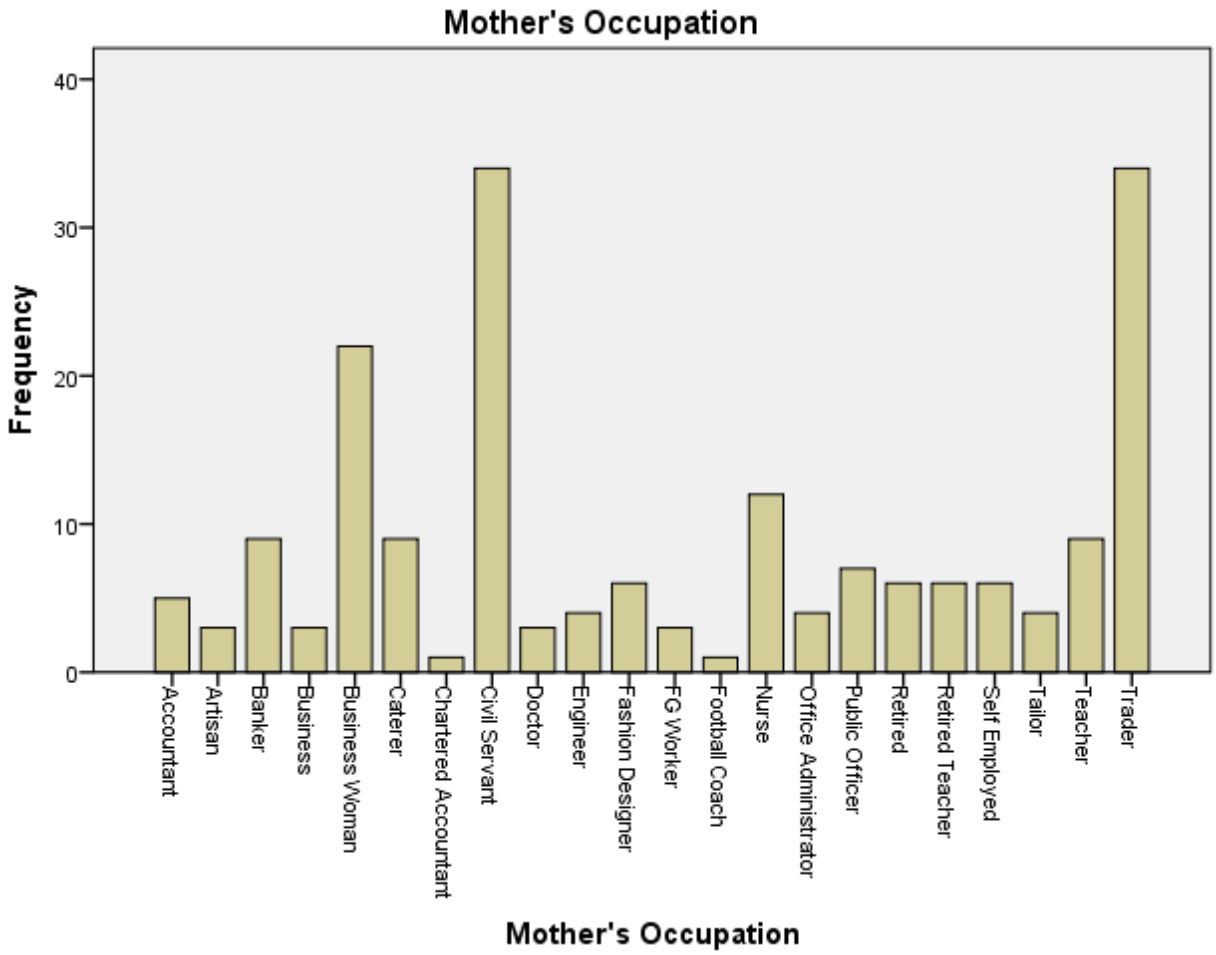

Fig. 6: Bar Chart Showing the Frequency of Occupation of the Students' Mother

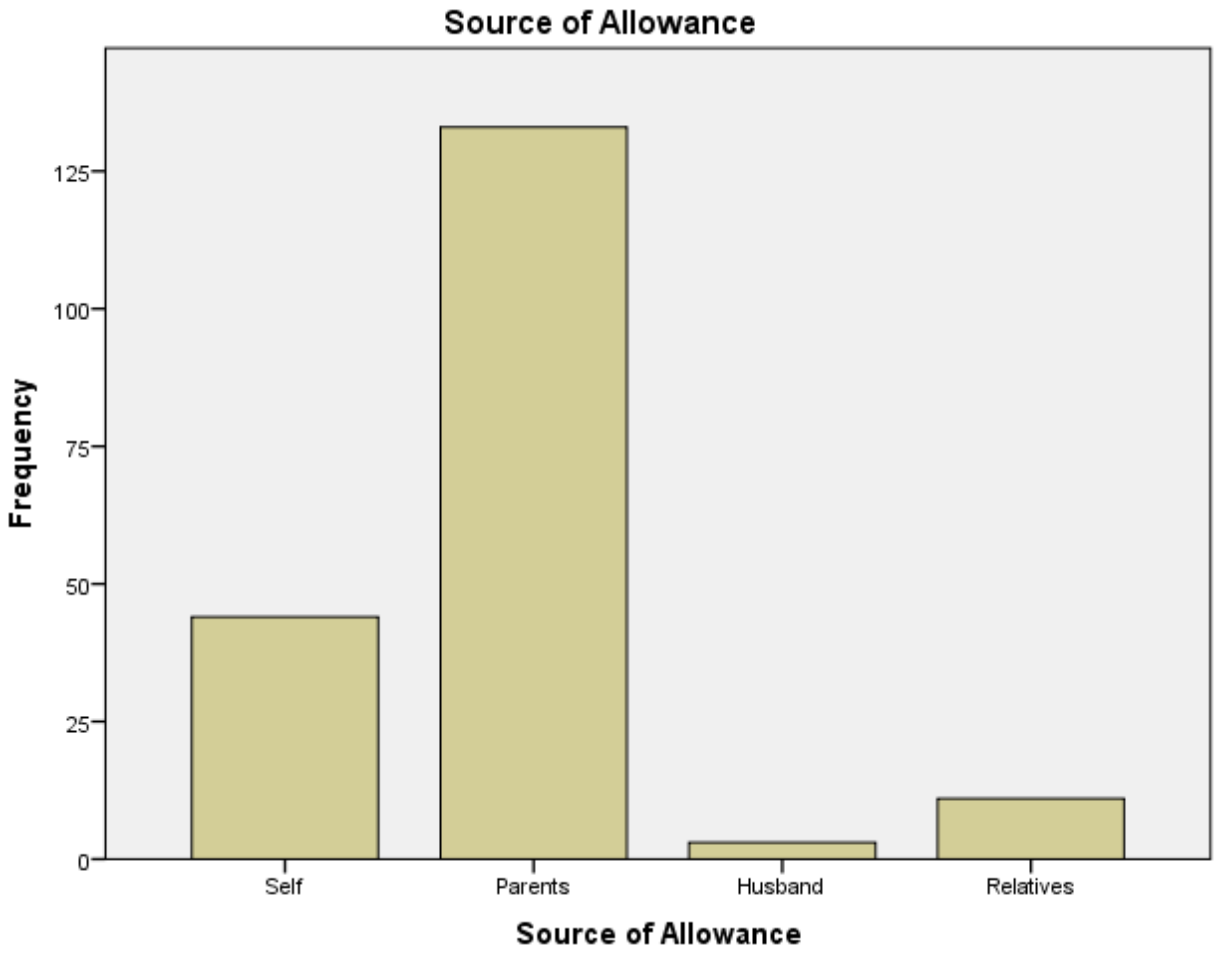

Fig. 7: Bar Chart showing the frequency of Students' Source of Allowance

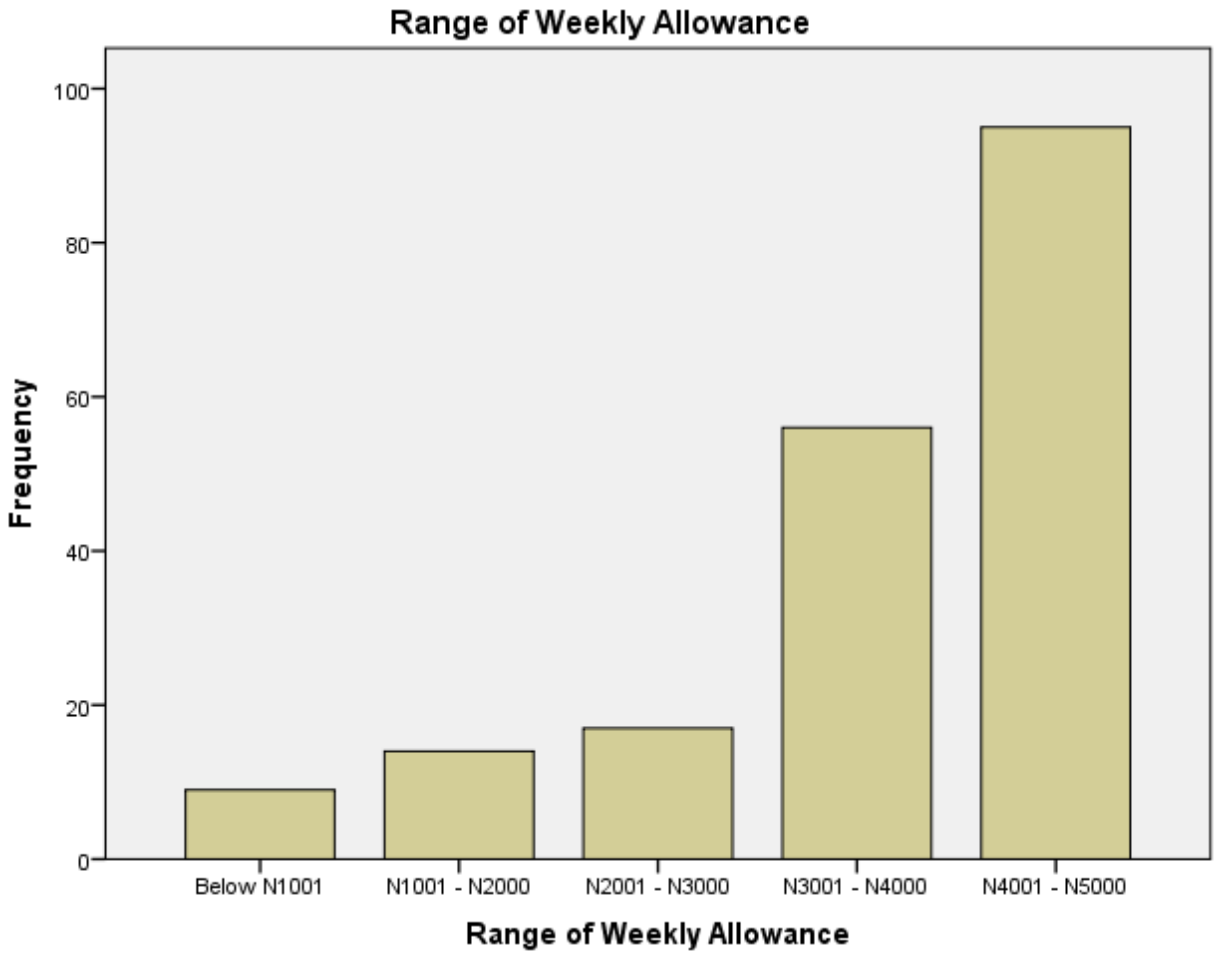

Fig. 8: Bar Chart showing the Frequency of Students' Range of Weekly Allowance

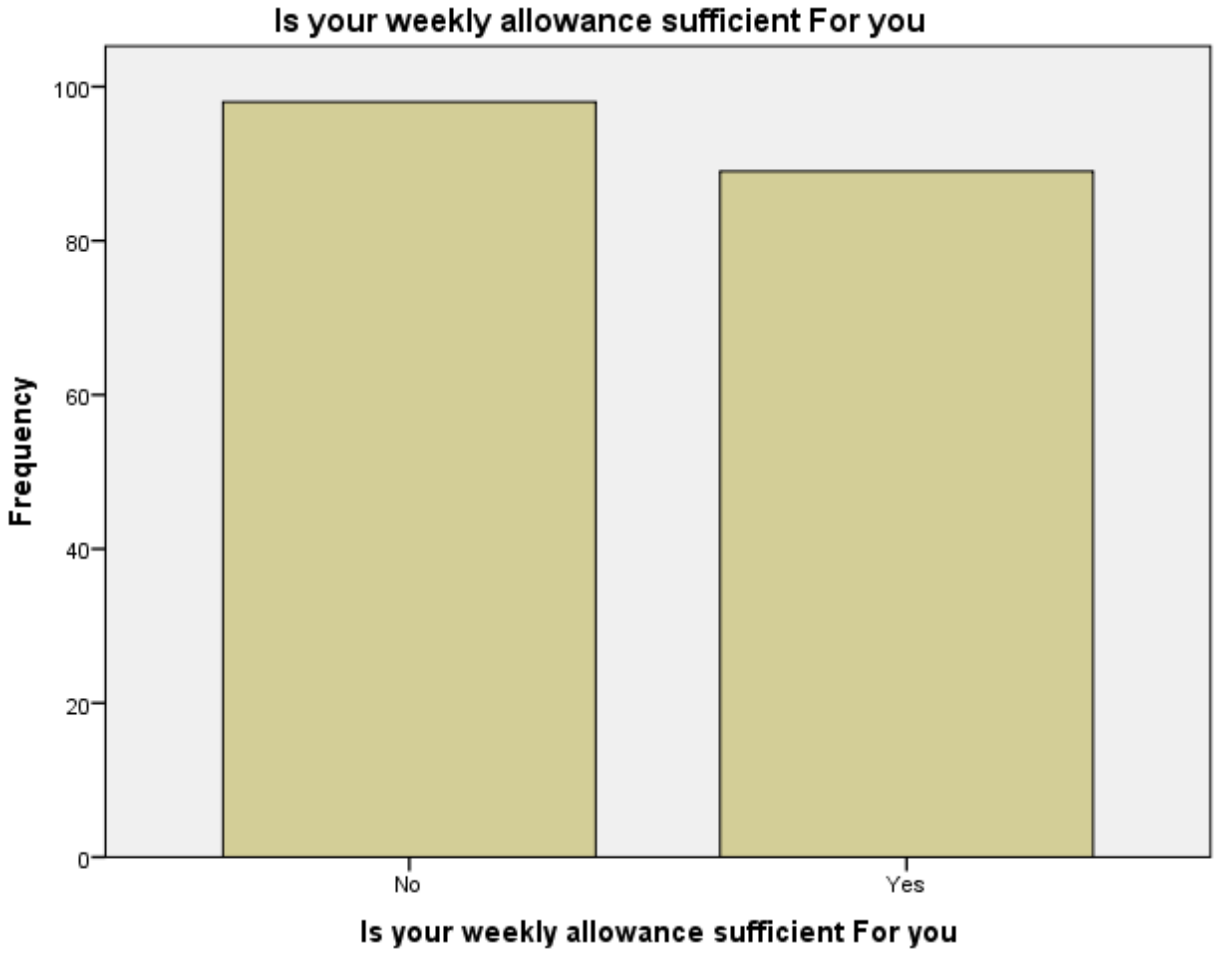

Fig. 9: Bar Chart showing the number of students who responded to whether their weekly allowance is sufficient or not

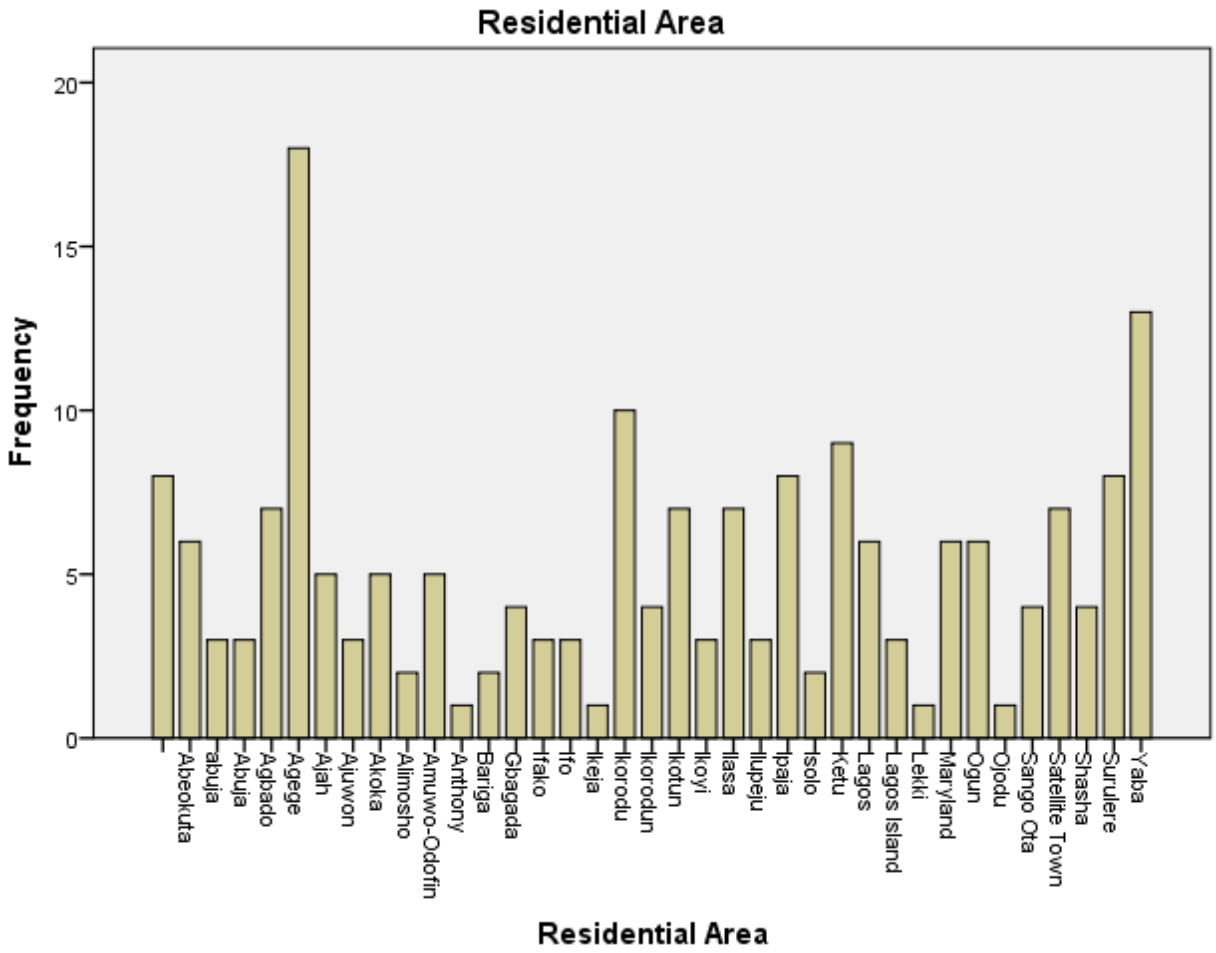

Fig. 10: Bar Chart showing the Residential Areas of the Students

Fig. 11: Bar Chart showing the frequency of students whose Mothers are educated or not

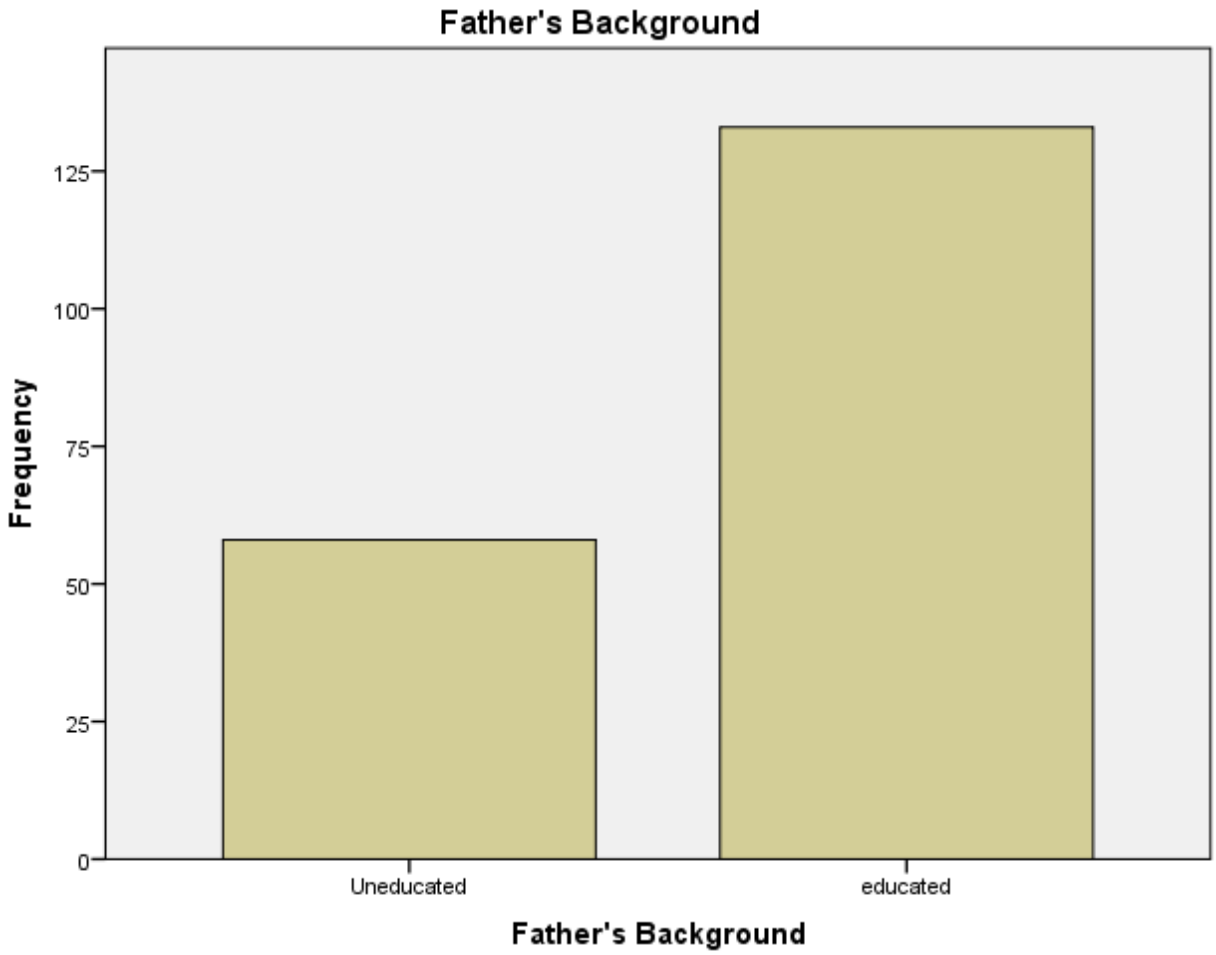

Fig. 12: Bar Chart showing the frequency of students whose Fathers are educated or not

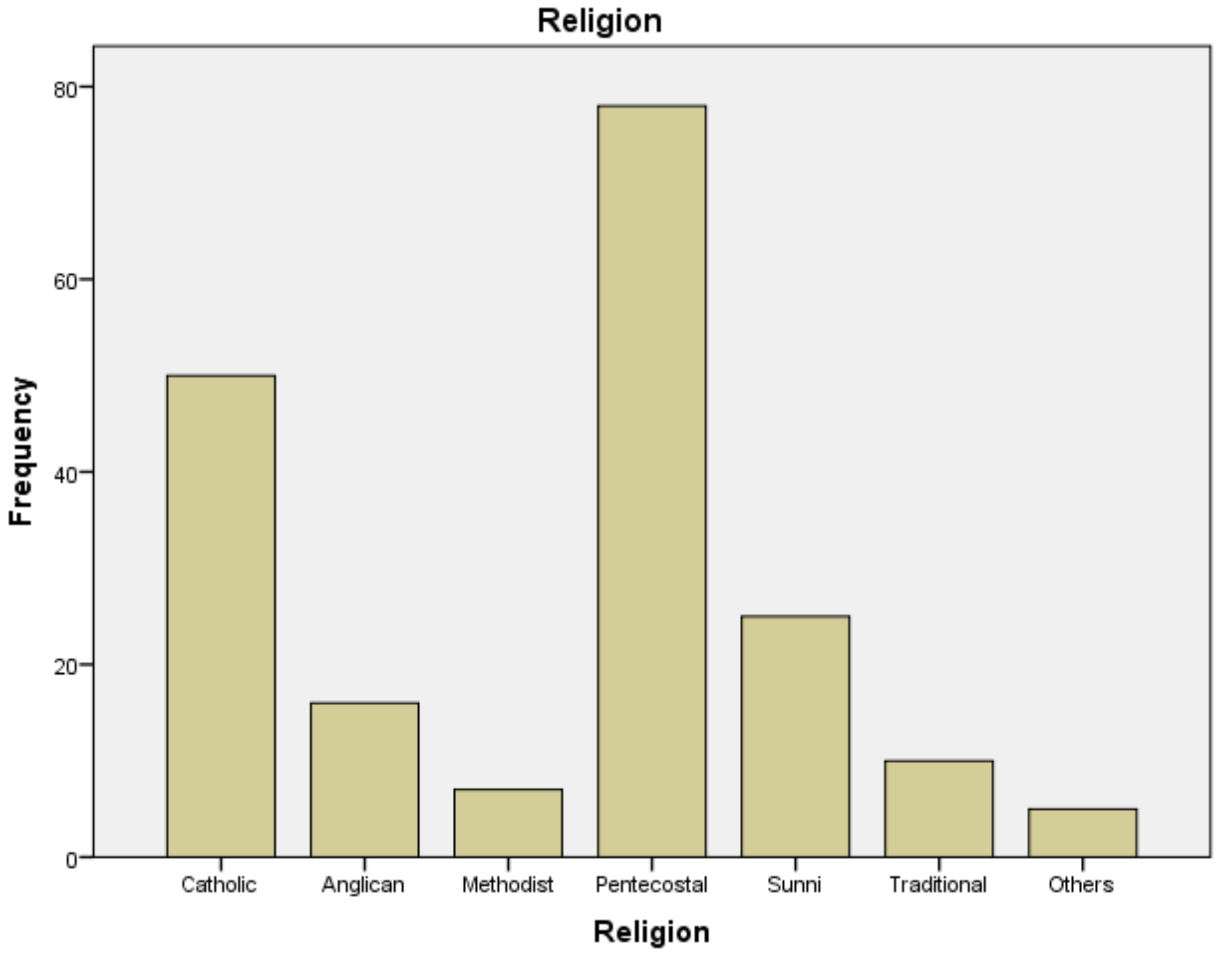

Fig. 13: Bar Chart showing the frequency of students' religious affiliations

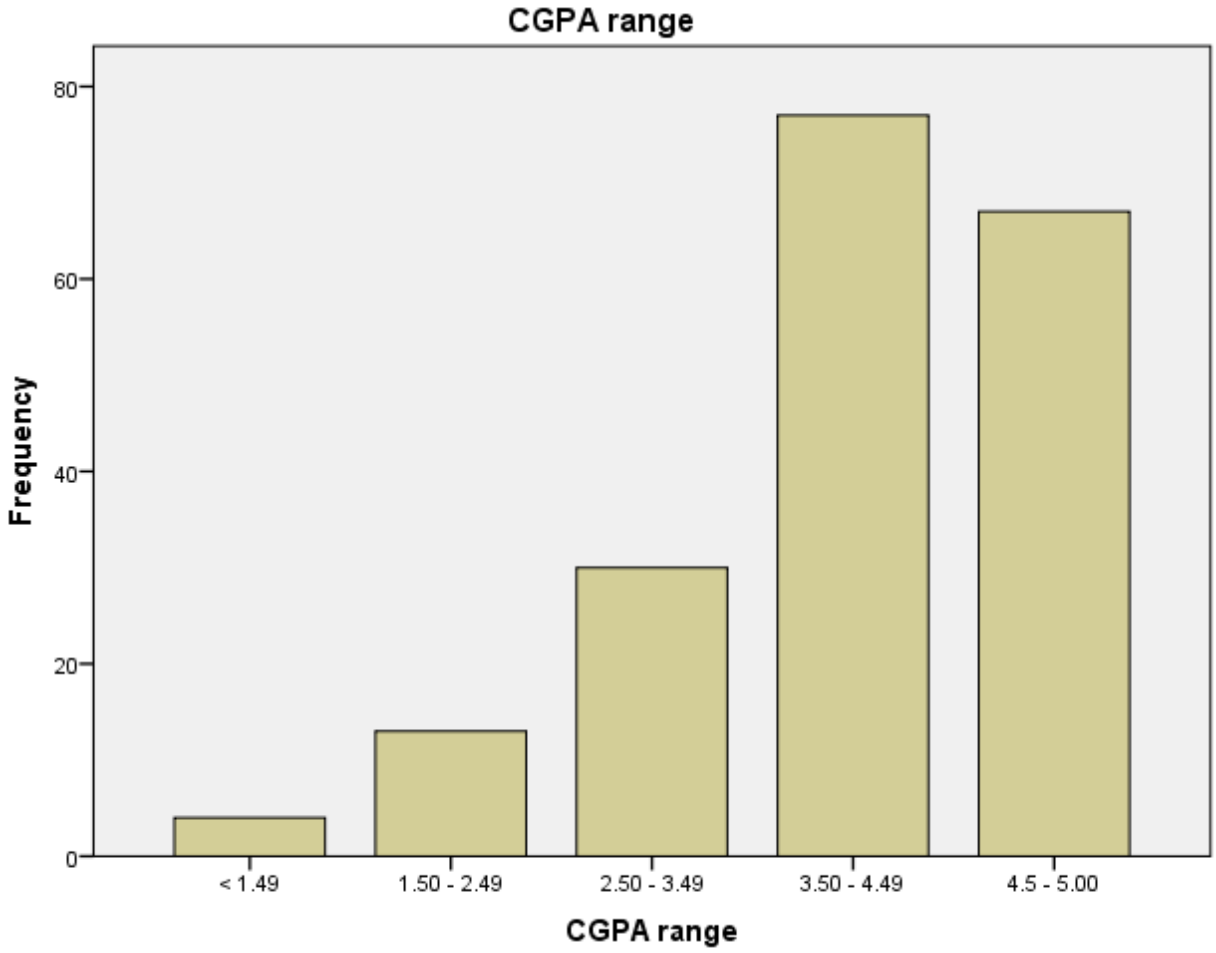

Fig. 14: Bar Chart showing the Frequency of Students' CGPA range

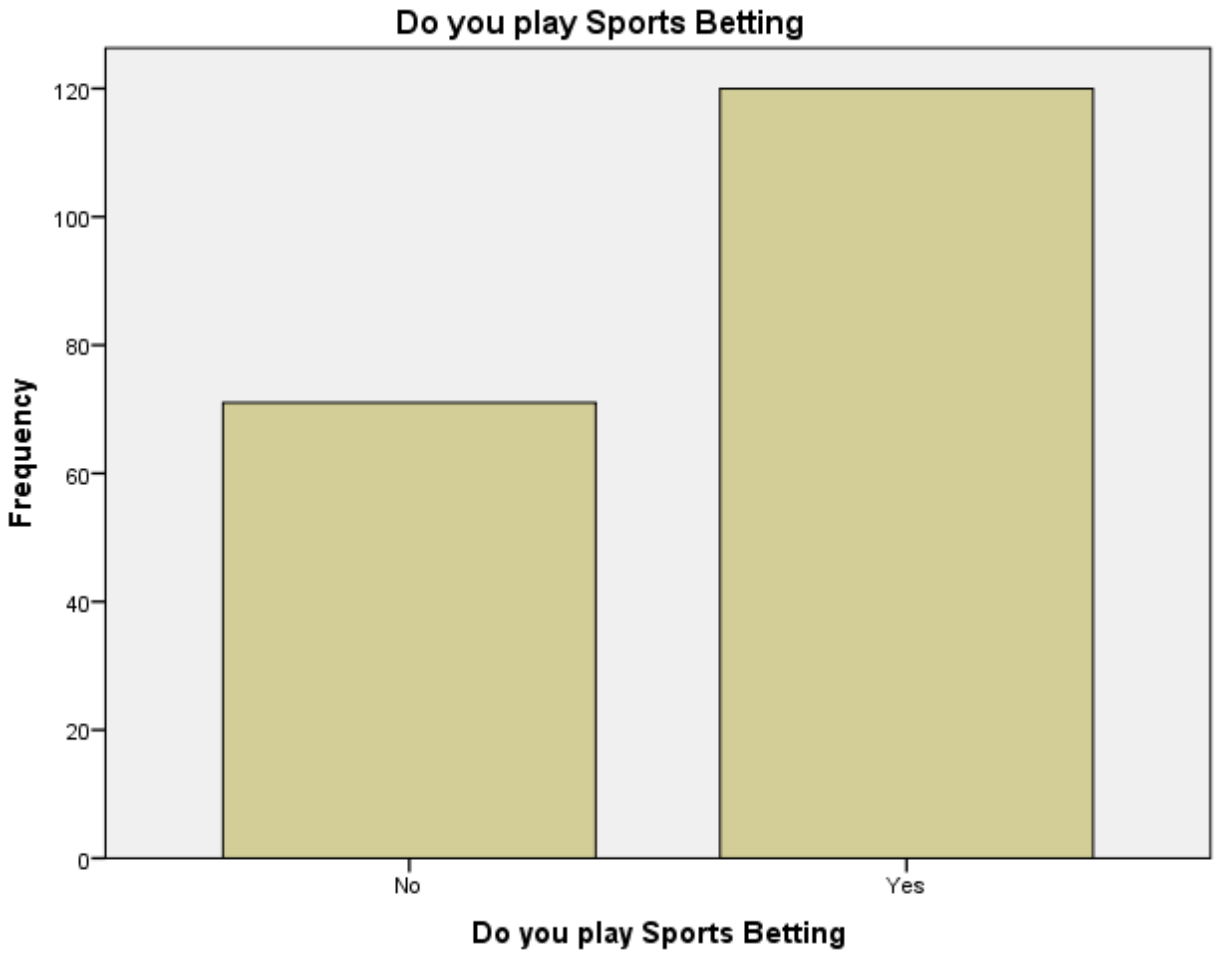

Fig. 15: Bar Chart showing the Frequency of Students' engagement in Sports Betting

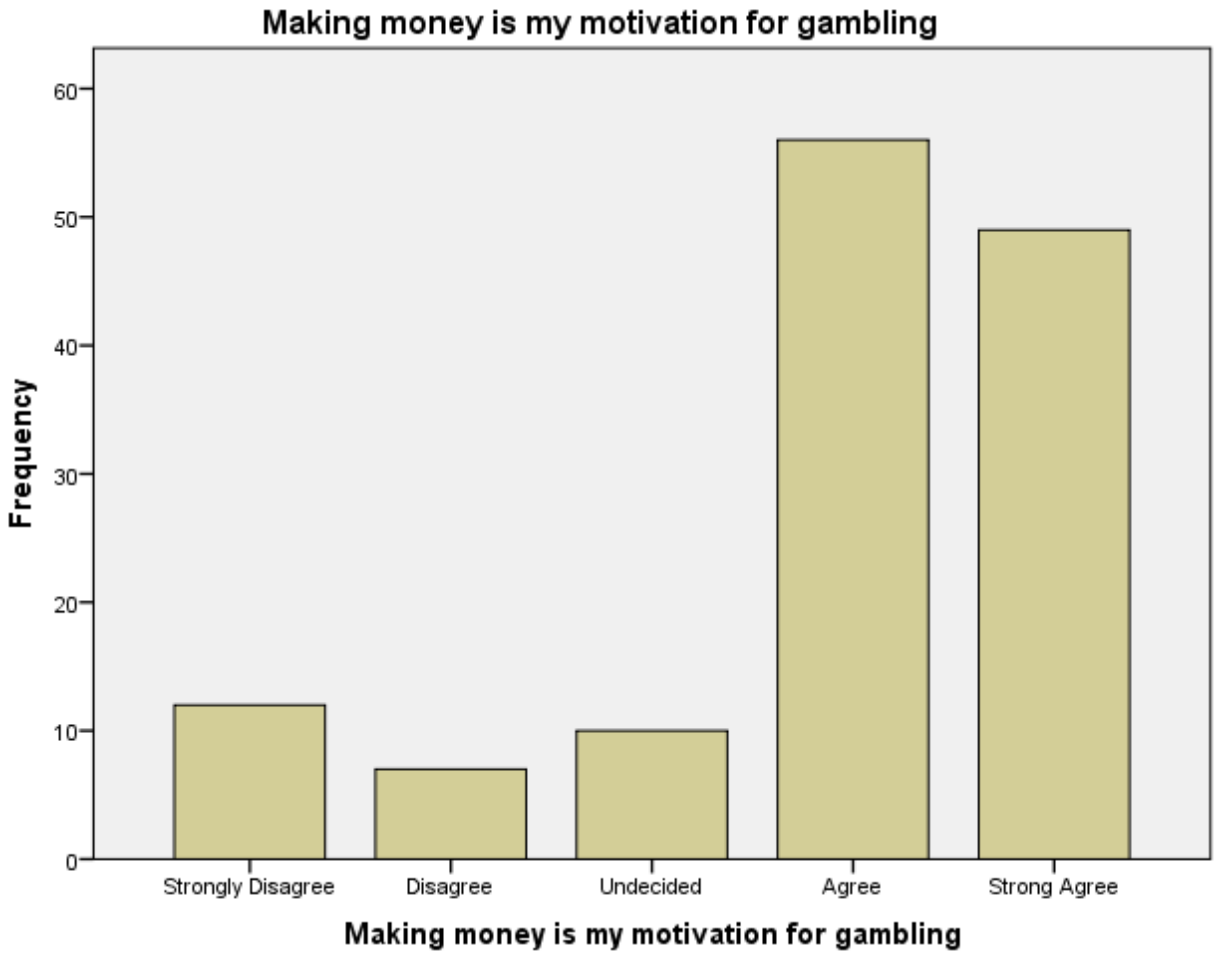

Fig. 16: Bar Chart showing the Frequency of Students who said money is their motivation for Gambling

Fig. 17: Bar Chart showing the Frequency of students who said Enjoyment or fun is their motivation for Gambling

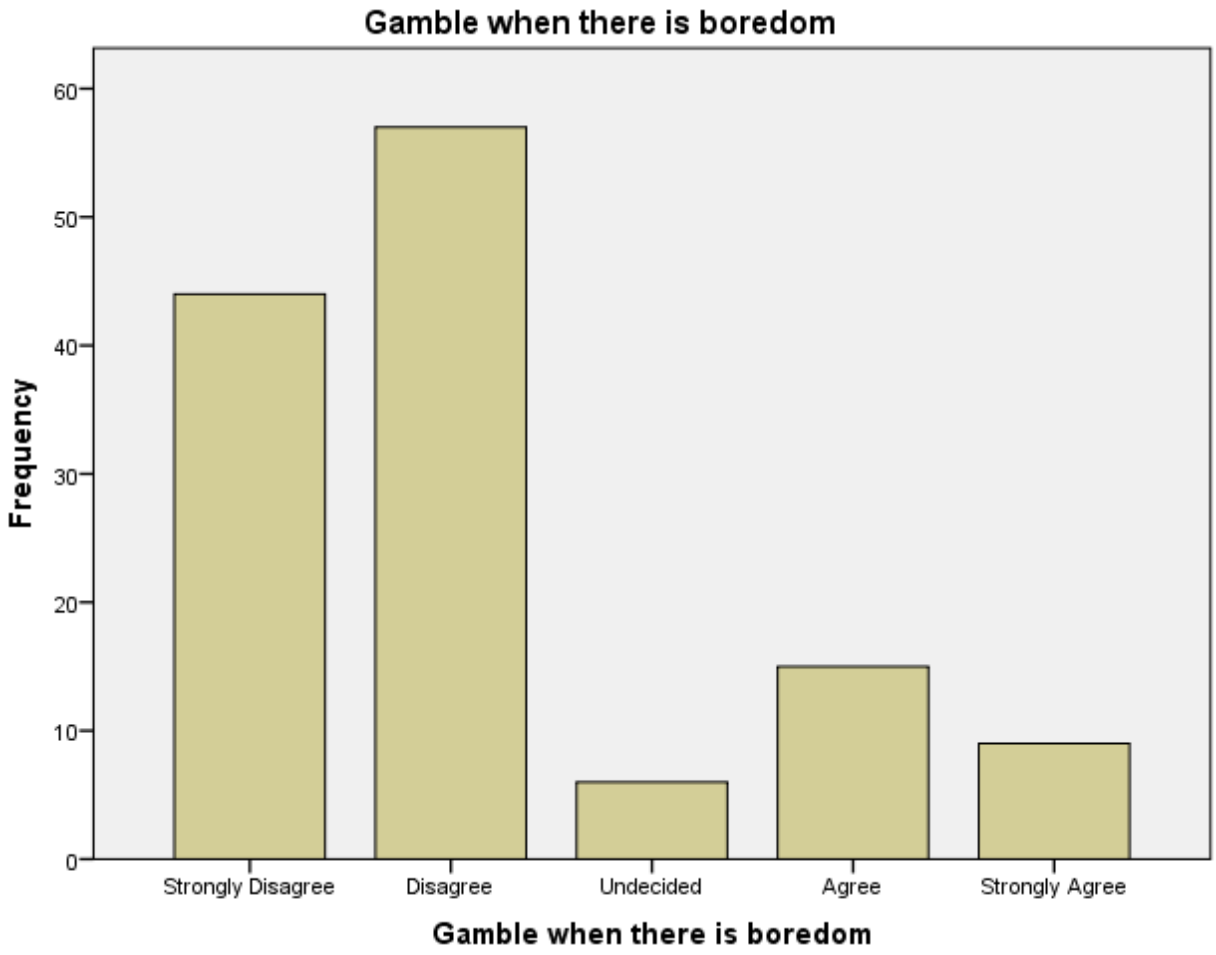

Fig. 18: Bar Chart showing the Frequency of students who said Boredom is their motivation for gambling

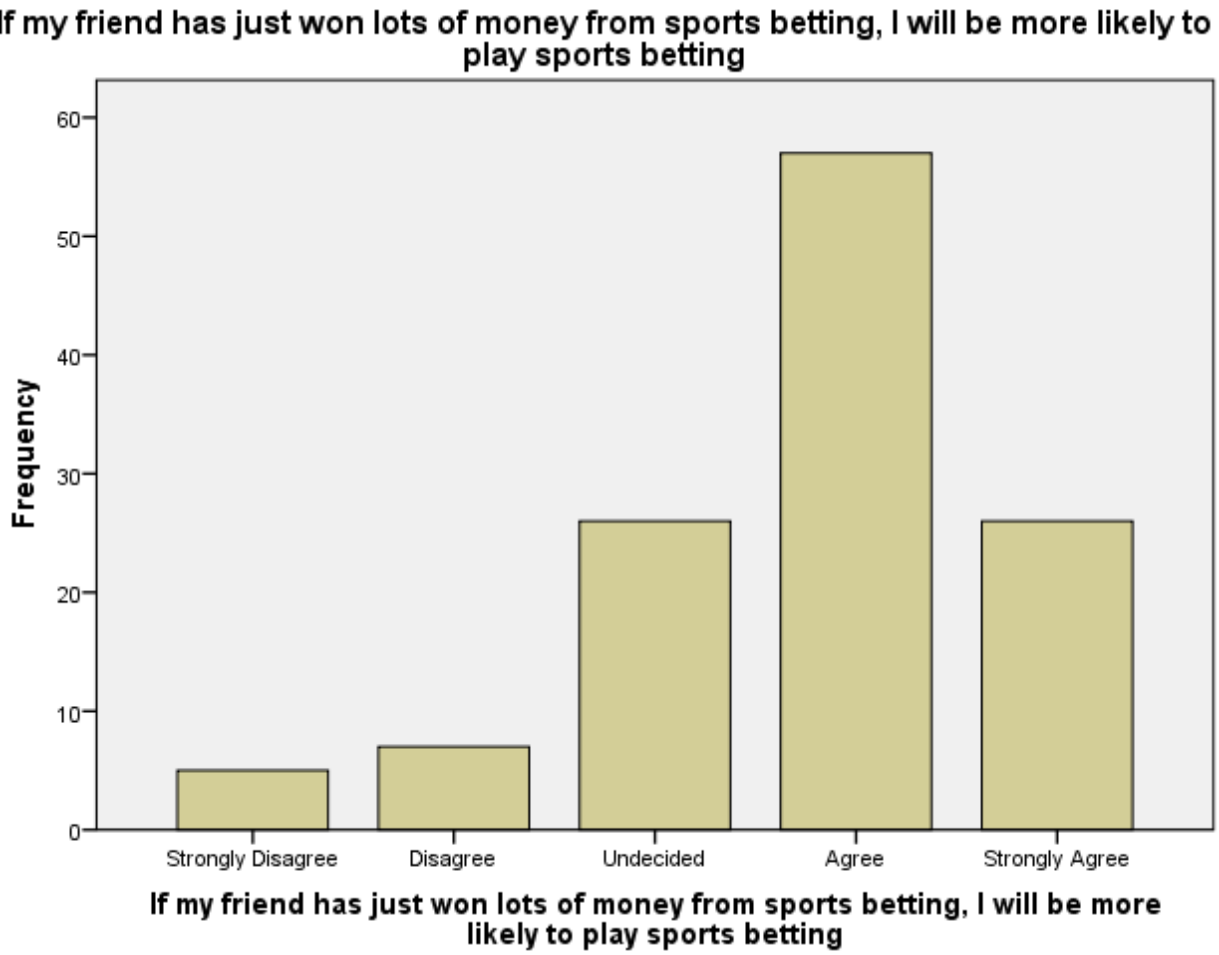

Fig. 19: Bar Chart showing the Frequency of students' response to if their friend just won lots of money from sports betting, they will be more likely to play sports betting

Fig. 20: Bar Chart showing the Frequency of students' response to the question "You have wanted to stop betting money or gambling, but didn't think you could"

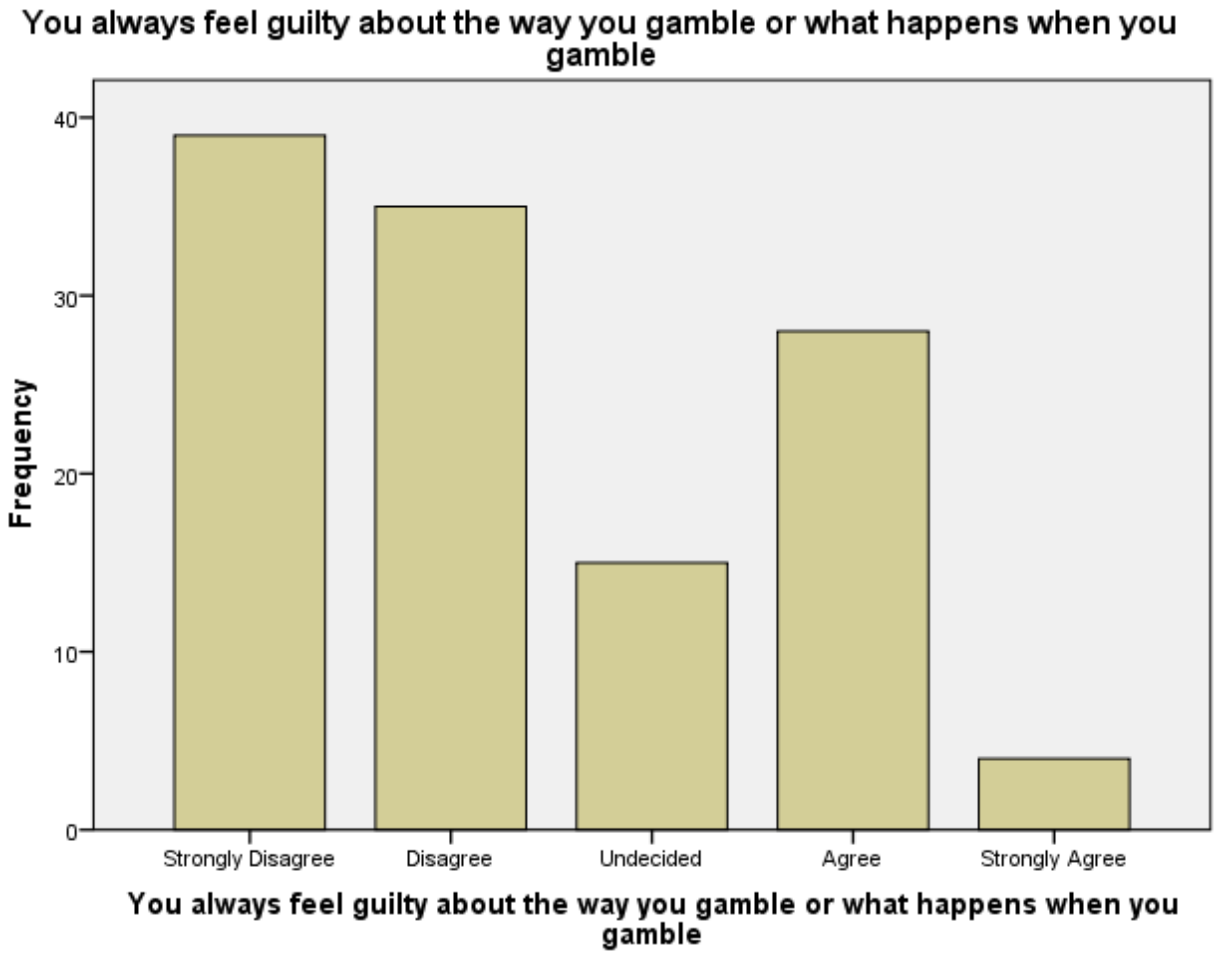

Fig. 21: Bar Chart showing the Frequency of students' response to the question "You always feel guilty about the way you gamble or what happens when you gamble"

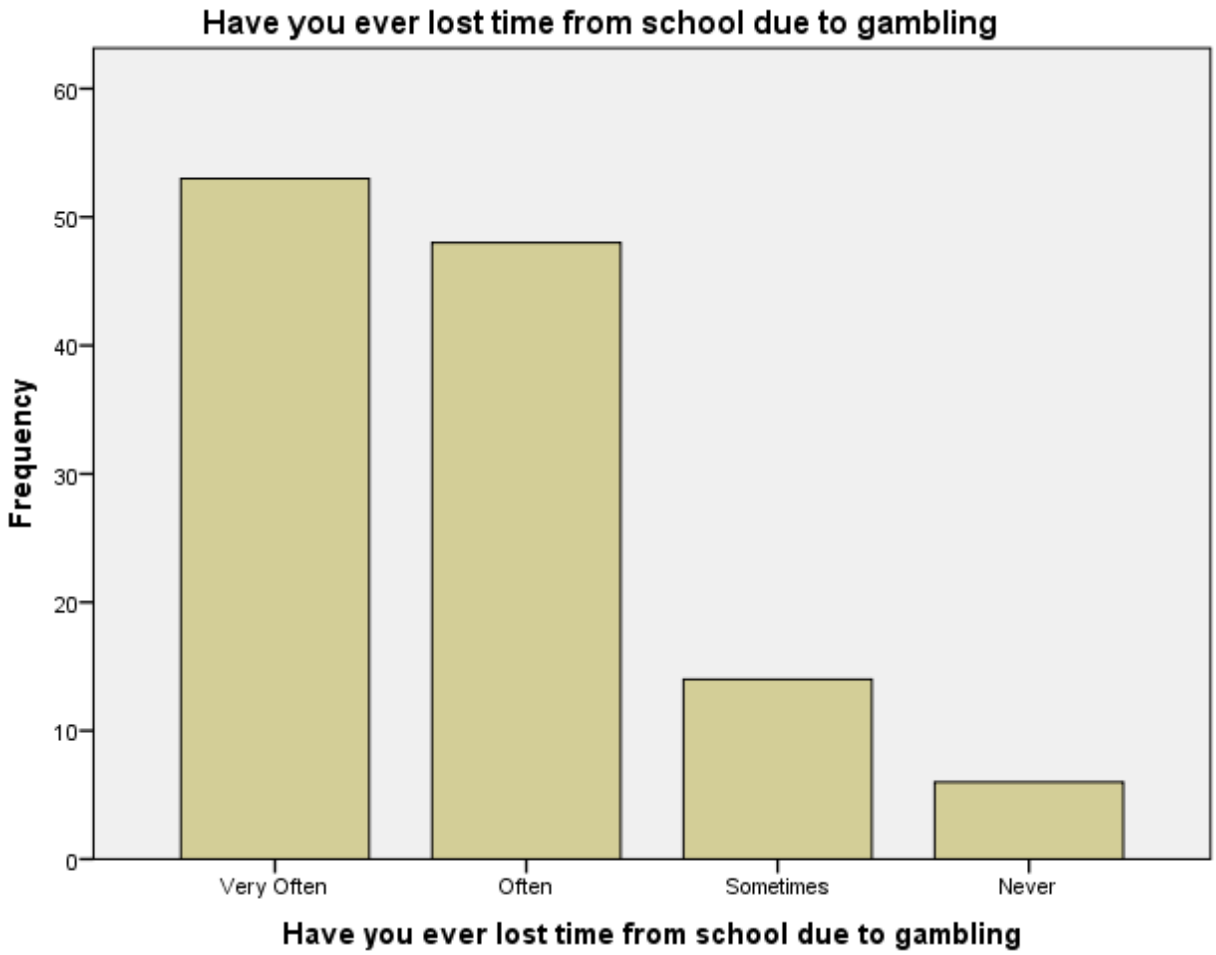

Fig. 22: Bar Chart showing the Frequency of students' response to the question "Have you ever lost time from school due to gambling?"

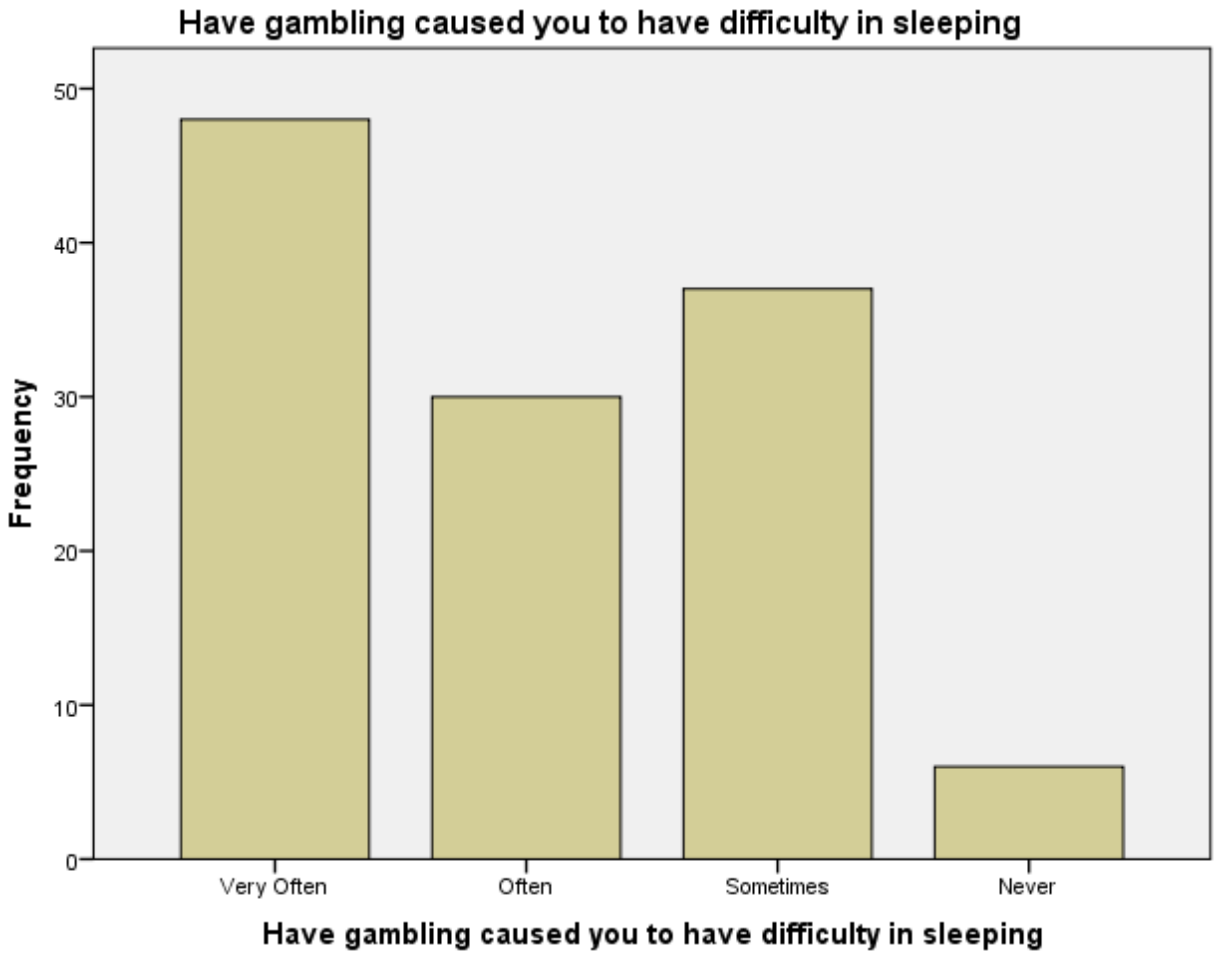

Fig. 23: Bar Chart showing the Frequency of students' response to the question "Have gambling caused you to have difficulty in sleeping?"

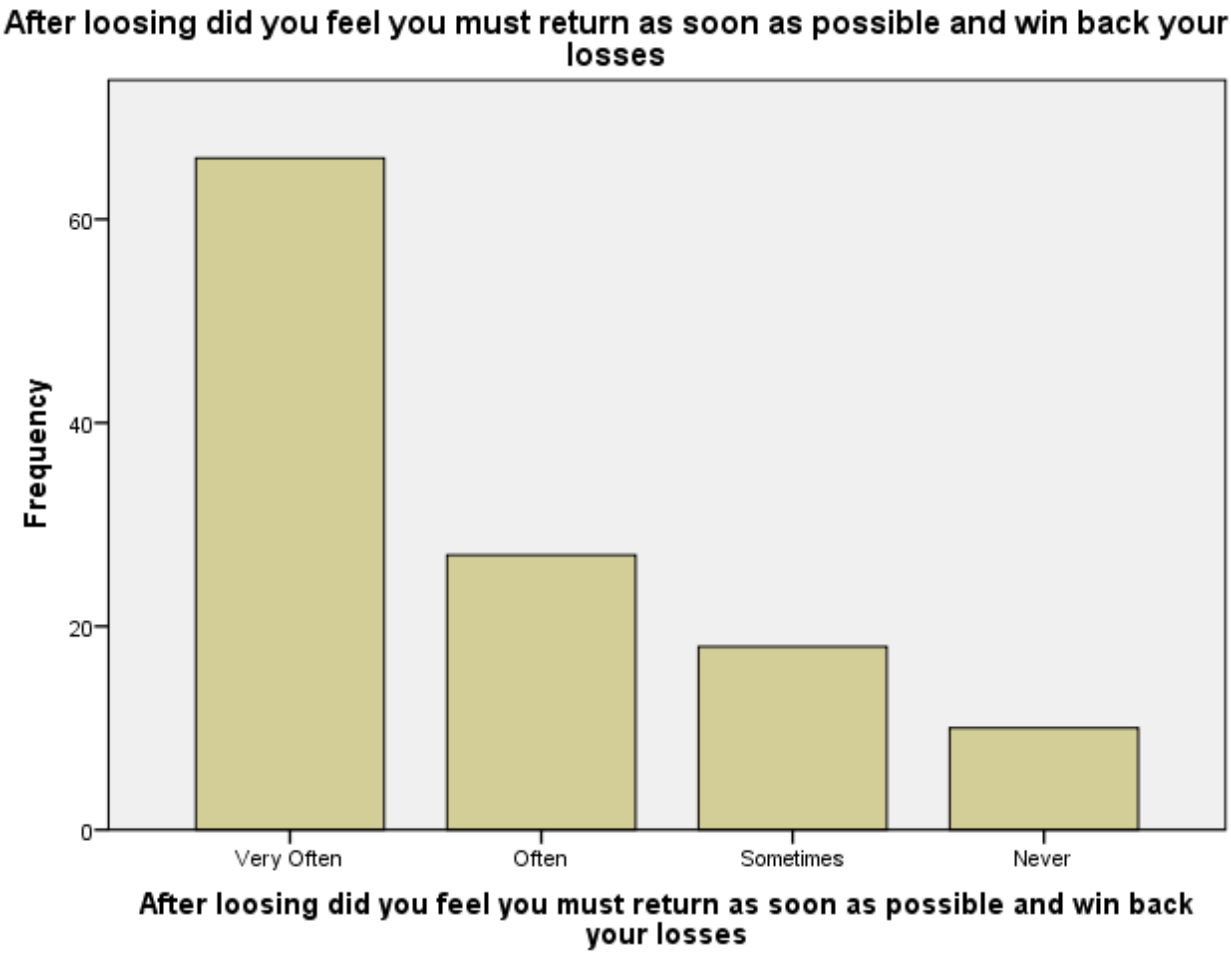

Fig. 24: Bar Chart showing the Frequency of students' response to the question "After losing did you feel you must return as soon as possible and win back your losses?"

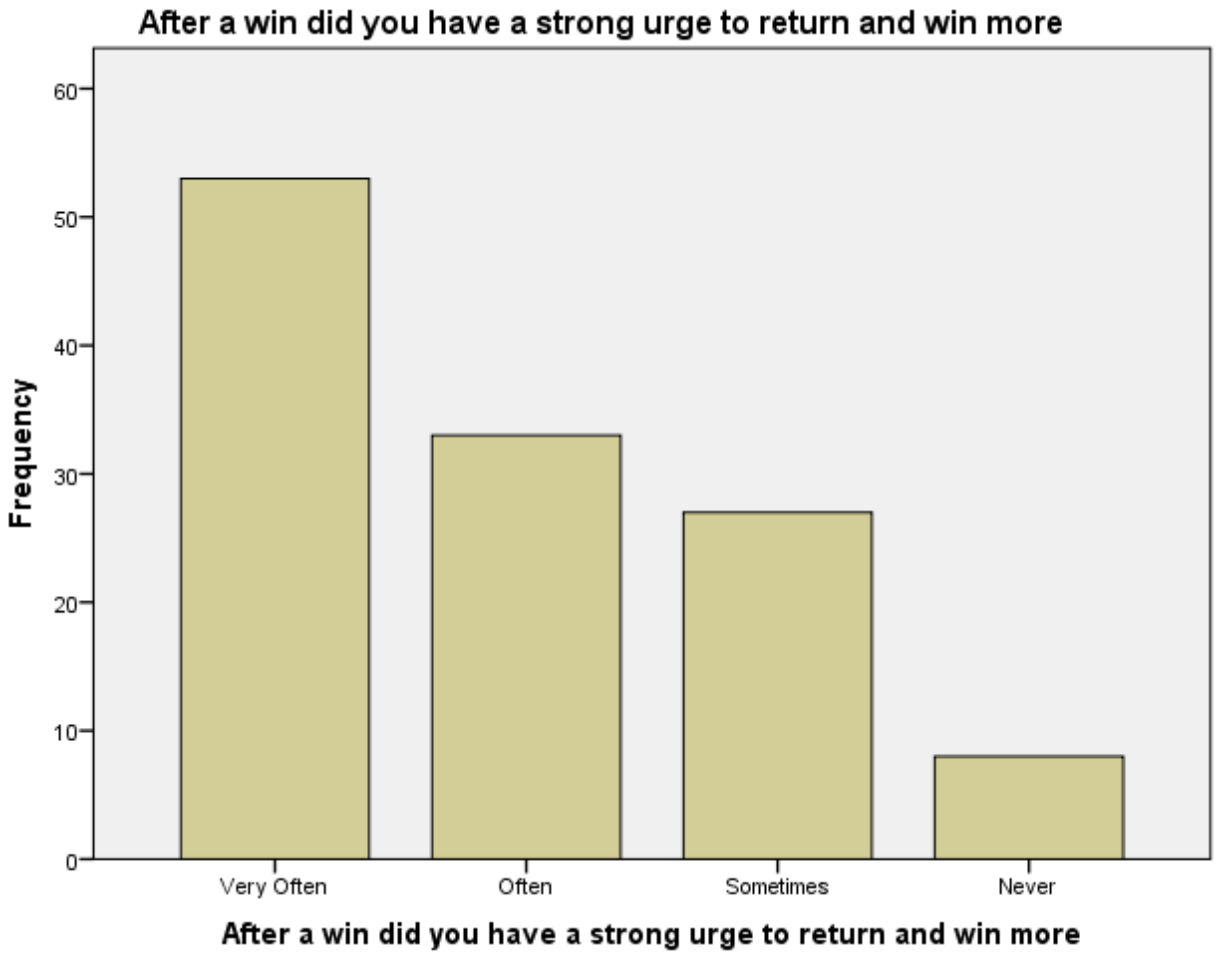

Fig. 25: Bar Chart showing the Frequency of students' response to the question "After a win did you have a strong urge to return and win more?"

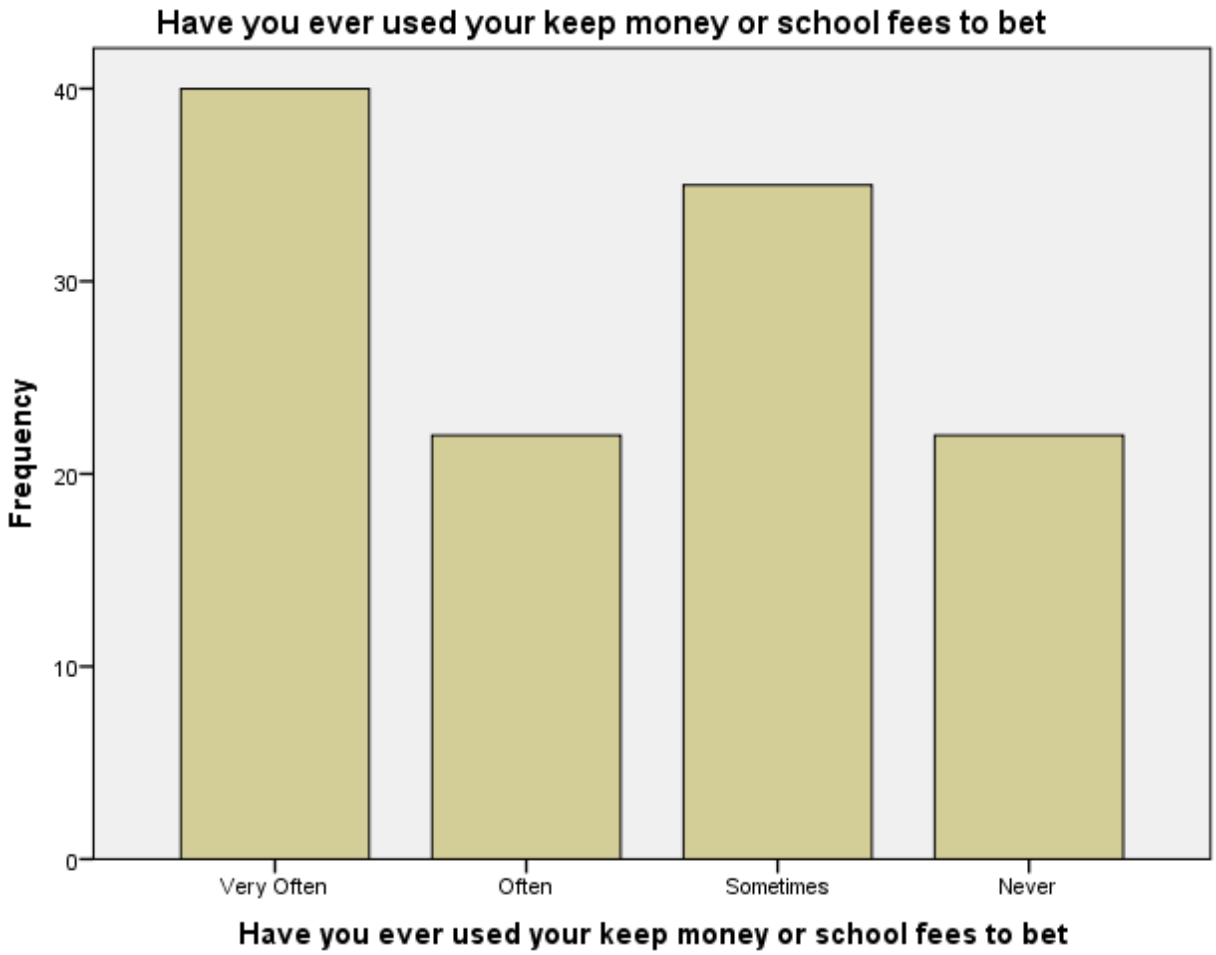

Fig. 26: Bar Chart showing the Frequency of students' response to the question "Have you ever used your keep money or school fees to bet?"

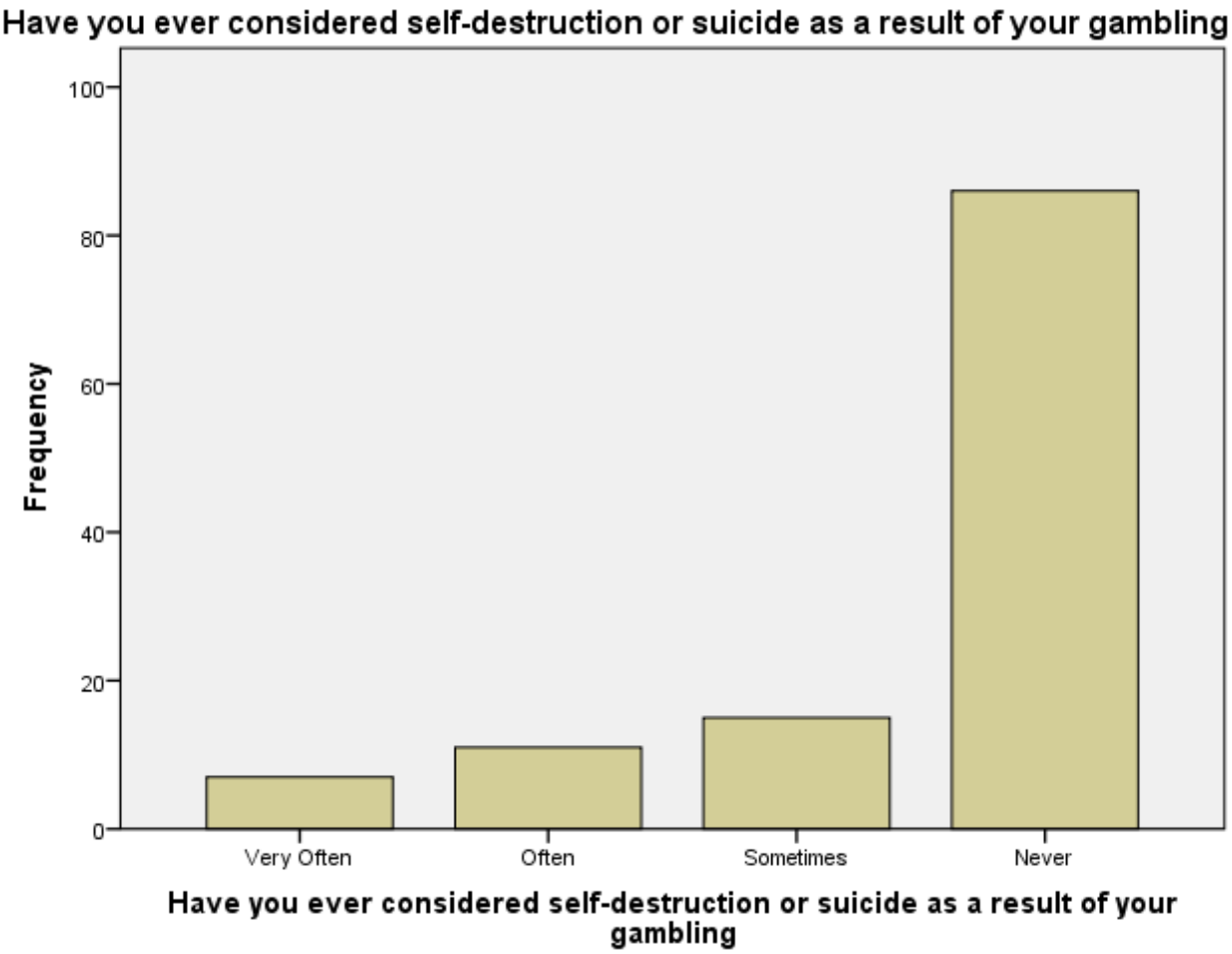

Fig. 27: Bar Chart showing the Frequency of students' response to the question "Have you ever considered self-destruction or suicide as a result of your gambling?"

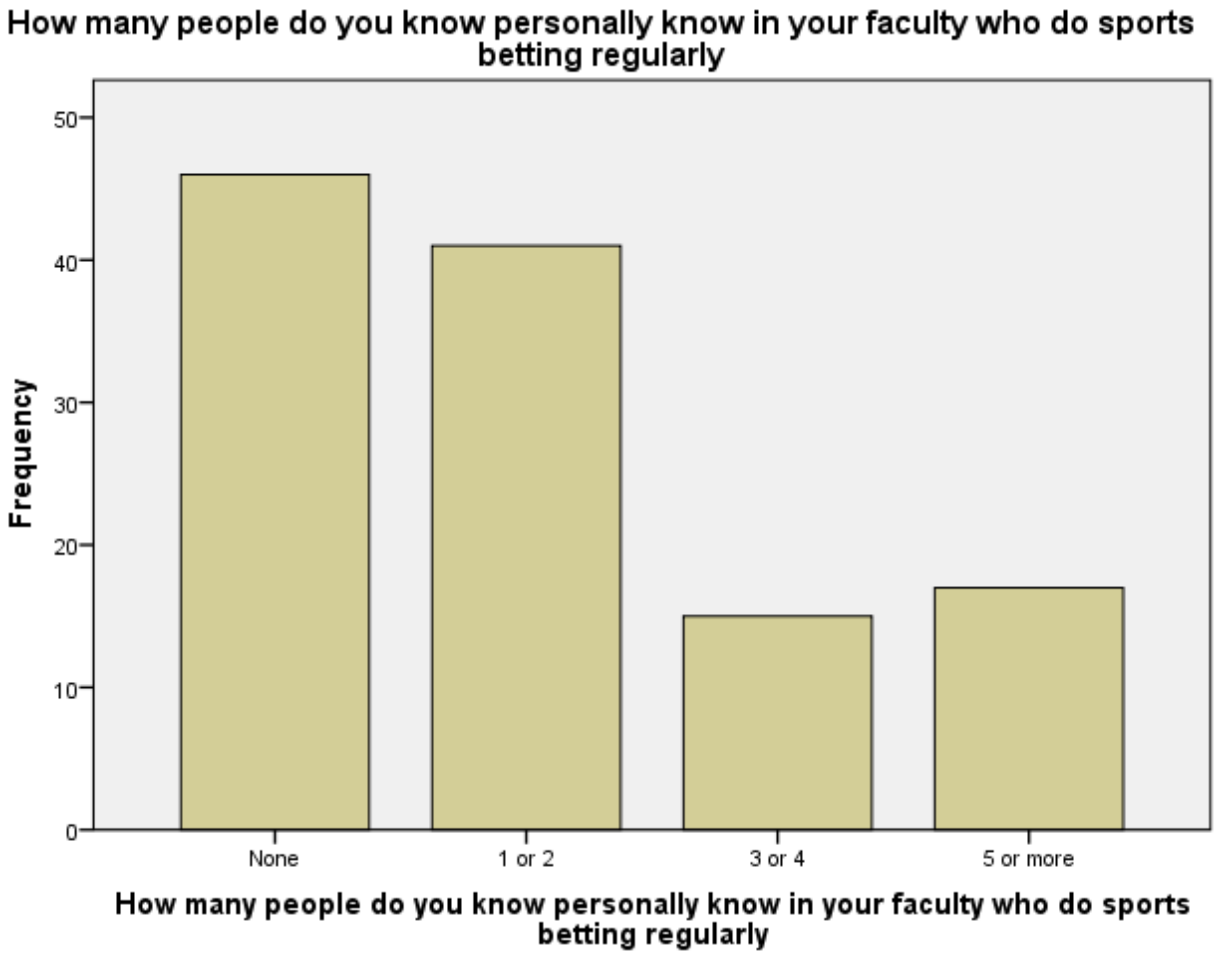

Fig. 28: Bar Chart showing the Frequency of students' response to the question "How many people do you know personally in your faculty who do sports betting regularly?"

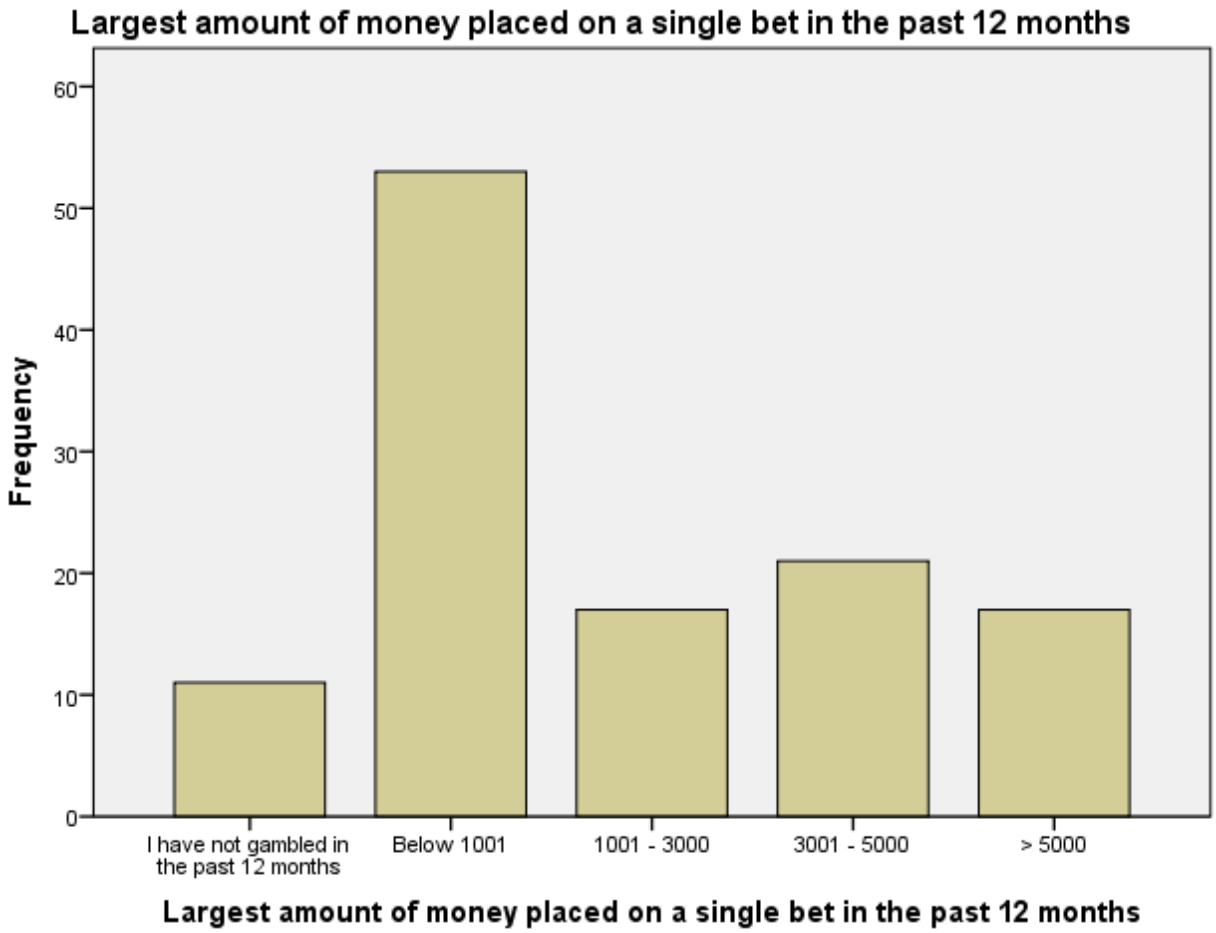

Fig. 29: Bar Chart showing the Frequency of students' response to the question "Largest amount of money placed on a single bet in the past 12 months"

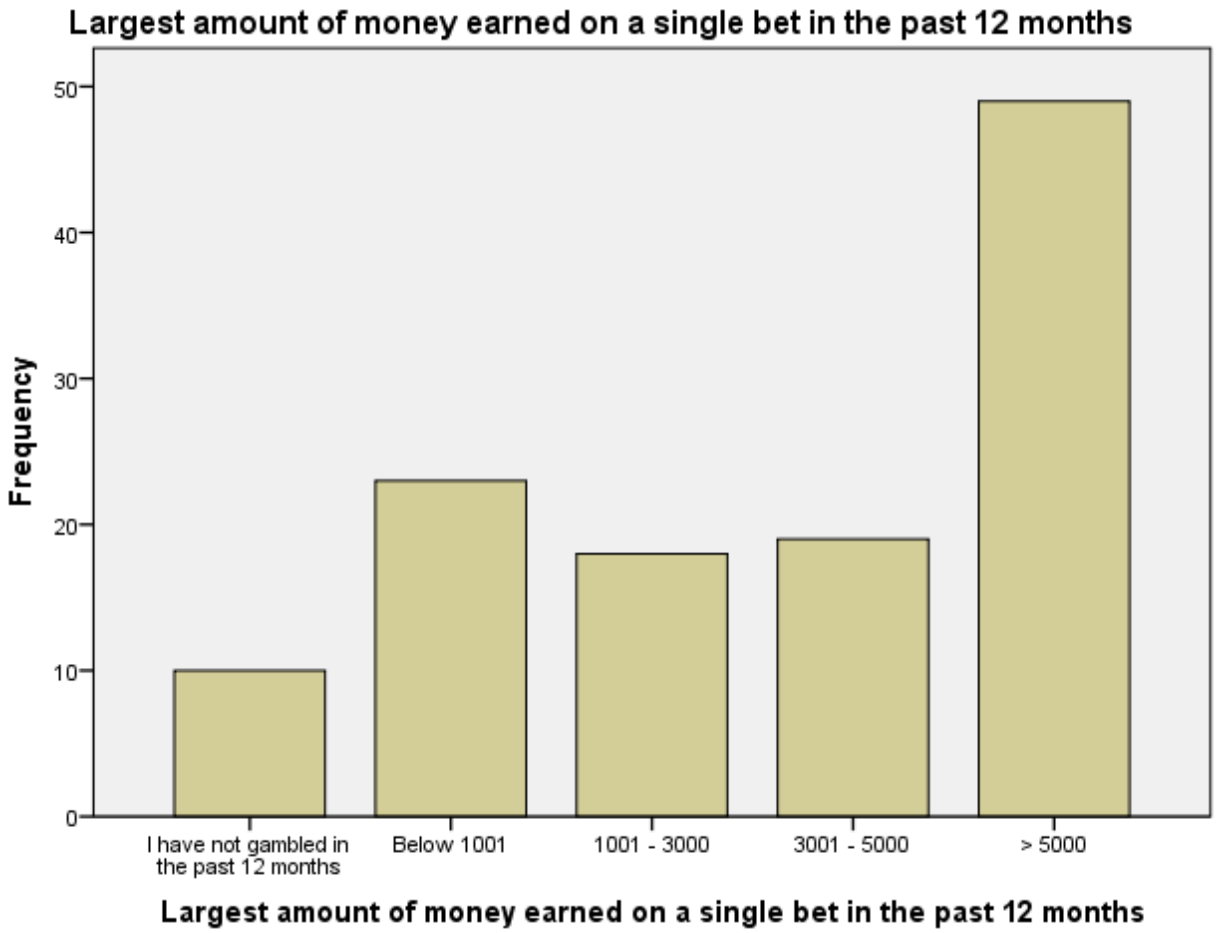

Fig. 30: Bar Chart showing the Frequency of students' response to the question "Largest amount of money earned on a single bet in the past 12 months"

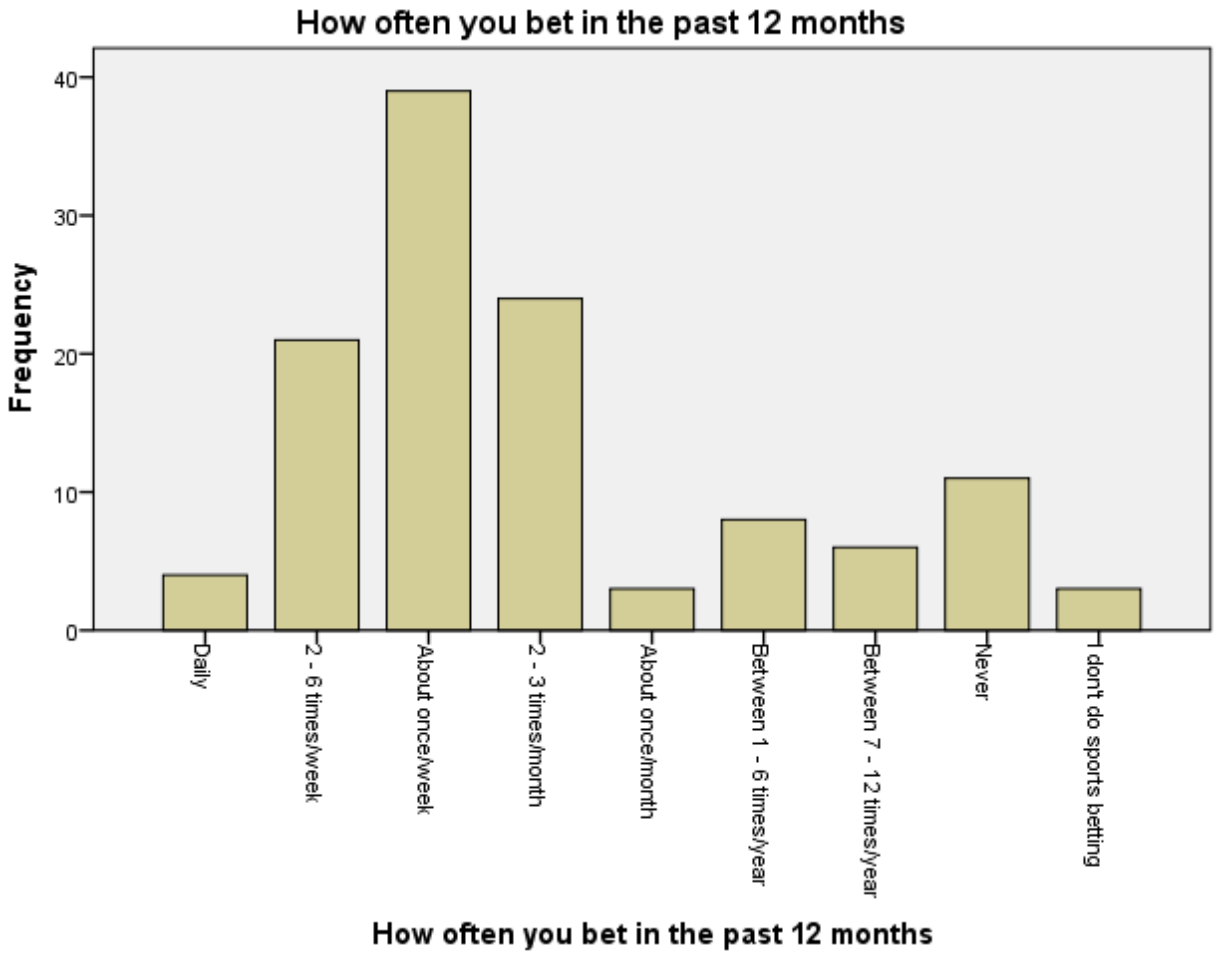

Fig. 31: Bar Chart showing the Frequency of students' response to the question "How often do you bet in the past 12 months?"

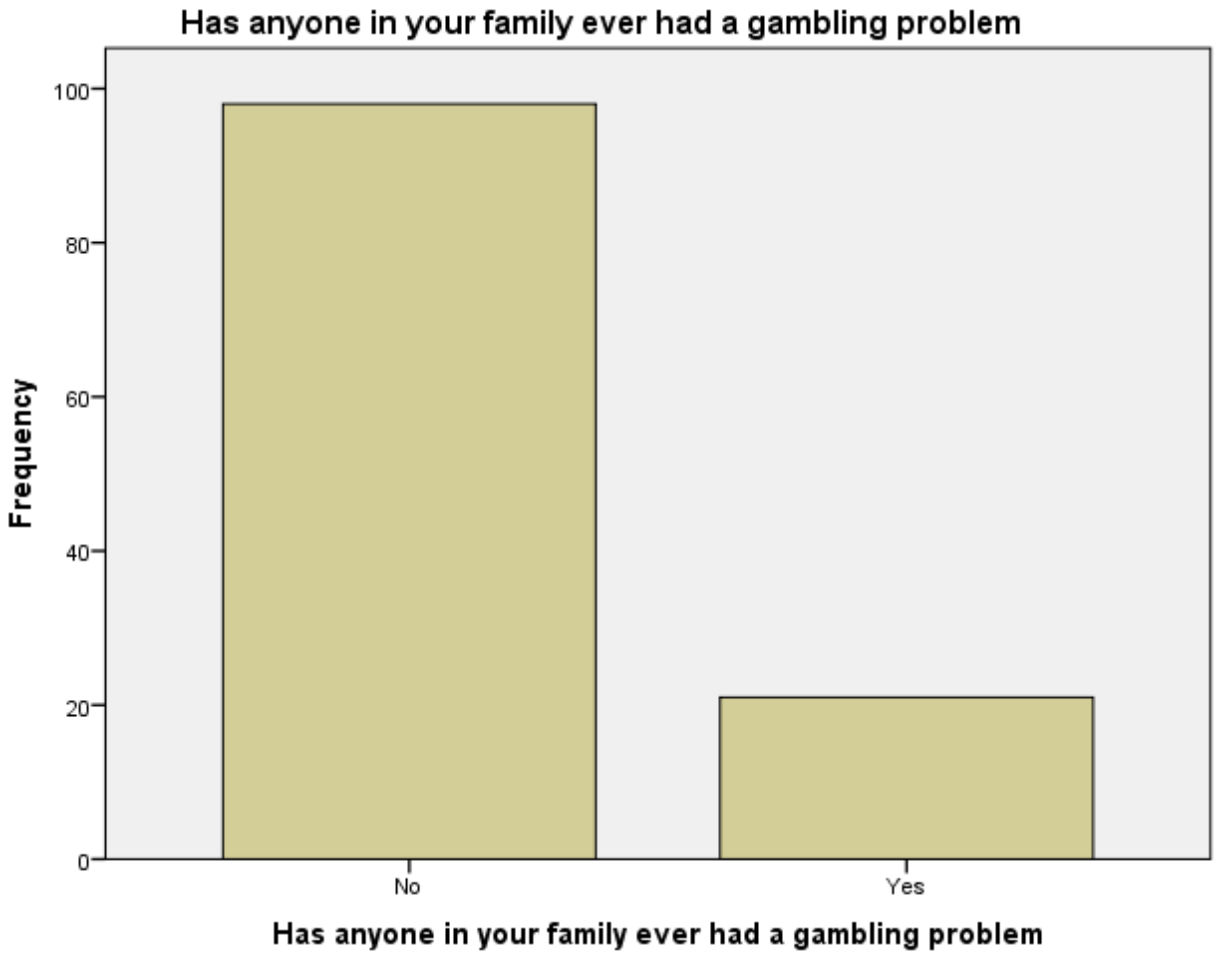

Fig. 32: Bar Chart showing the Frequency of students' response to the question "Has anyone in your family ever had a gambling problem?"

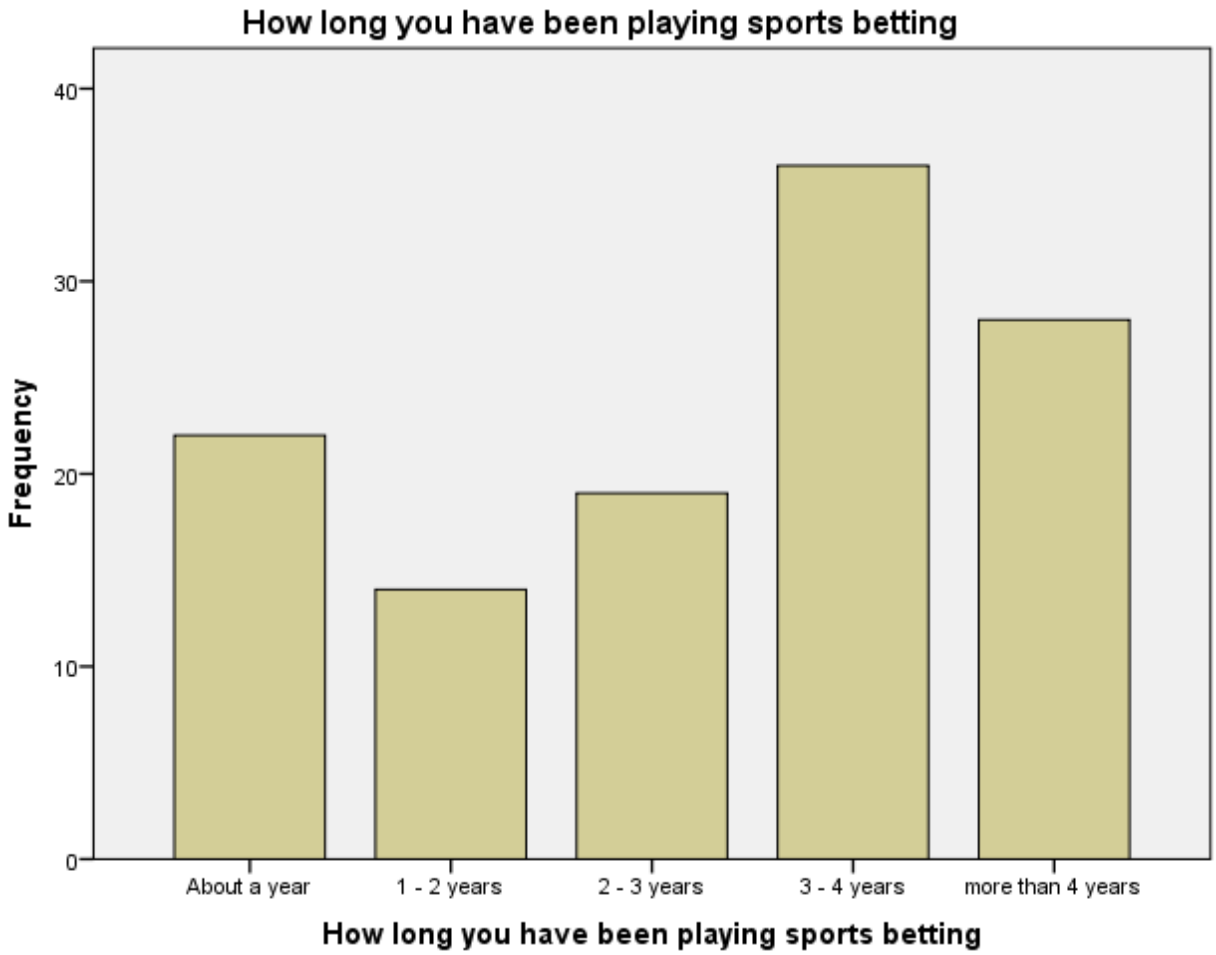

Fig. 33: Bar Chart showing the Frequency of students' response to the question "How long have you been playing sports betting?"

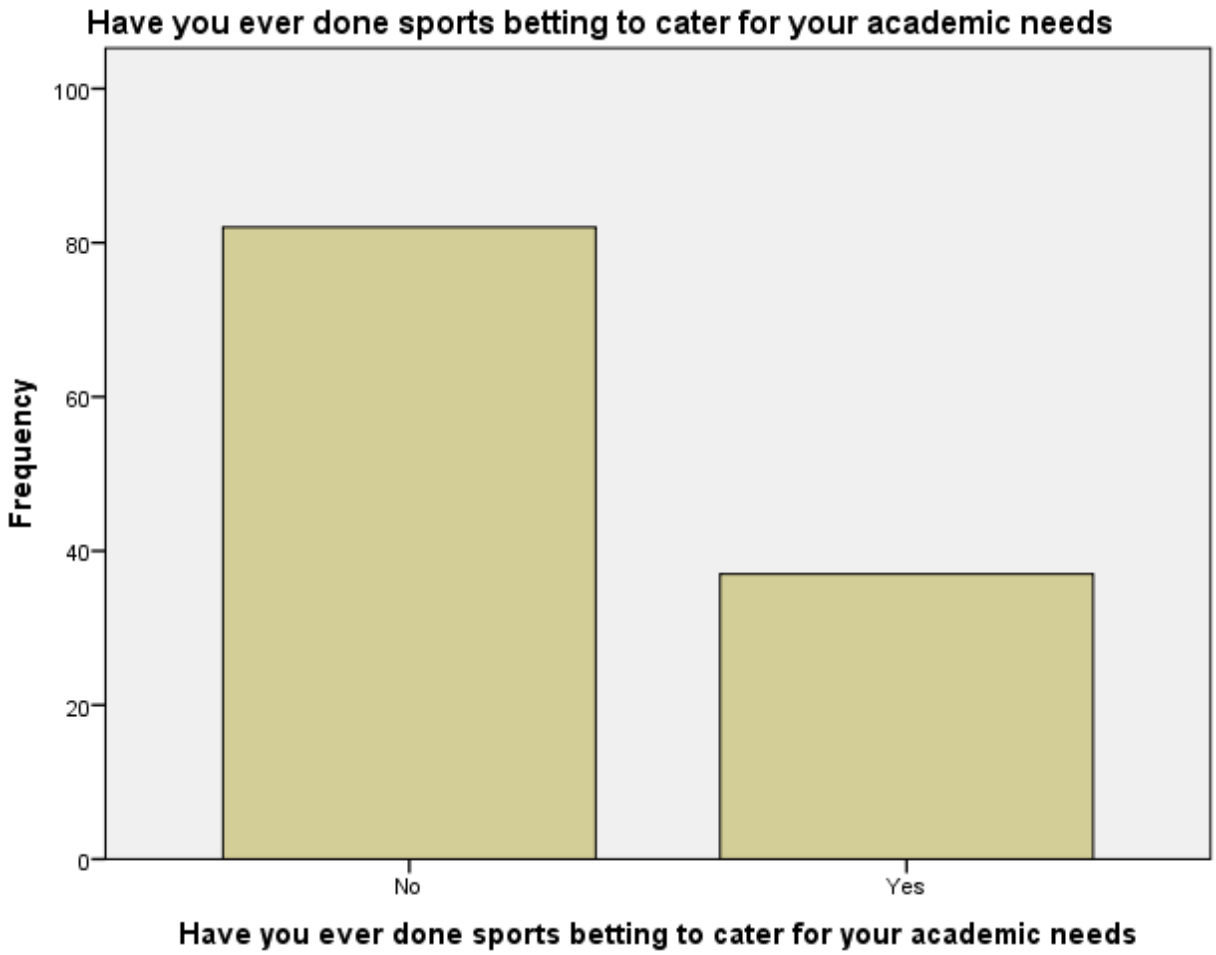

Fig. 34: Bar Chart showing the Frequency of students' response to the question "Have you ever done sports betting to cater for your academic needs?"

QUESTIONNAIRE

UNIVERSITY OF LAGOS, AKOKA

FACULTY OF SCIENCE

DEPARTMENT OF MATHEMATICS

A SAMPLE SURVEY OF UNDERGRADUATE STUDENTS ENGAGED IN SPORTS BETTING (Case Study: Faculty of engineering, University of Lagos)

STUDENTS' QUESTIONNAIRE

I am a Final year student of the above named department, conducting a research on the topic "Sports betting amongst Undergraduate Students", using your faculty (Engineering) as the case study. I hereby solicit for your support in answering the following few questions.

Please kindly fill the following appropriately and tick (√) where necessary, all information given will be kept strictly confidential. Thank you!

Abisiga Mojeed Damilola

SECTION A

Demographic information about student:

1. Department: Mechanical Engineering [ ] Electrical Engineering [ ] Pet & Gas Engineering [ ] Chemical Engineering [ ] Systems Engineering [ ] Civil Engineering [ ] Met & Mat Engineering [ ] Surveying & Geo-informatics[ ] Biomedical Engineering [ ] Computer Engineering[ ]
2. Level: 100 [ ] 200 [ ] 300 [ ] 400 [ ] 500 [ ]
3. Student's age range: Below 21 [ ] 21-25 [ ] 26-30 [ ] 30 and above[ ]

4. Sex: Male [ ] Female [ ]
5. Father's occupation……
6. Mother's occupation……..
7. Your source of allowance:

   Self [ ] Parents [ ] Husband [ ] Relatives [ ]
8. Range of weekly allowance: Below N1000[ ] N1000-2000[ ] N2000-3000[ ]

   N3000-4000[ ] N5000 & above[ ]
9. Is your weekly allowance sufficient for you? Yes[ ] No[ ]
10. Which area do you reside? …….
11. Religion: Christianity (Catholic[ ], Anglican[ ], Methodist[ ], Pentecostal[ ])

    Islam (Sunni [ ], Shia [ ], Kalam [ ], Teblic [ ], Kharijite [ ])

    Traditional [ ], others [ ])
12. What is your current CGPA range (Out of 5.00)?

    < 1.49 [ ] 1.50 – 2.49 [ ] 2.50 – 3.49 [ ] 3.50 – 4.49 [ ] 4.50 – 5.00 [ ]
13. Do you play sports betting? Yes [ ] No [ ], If yes move on to the next section.
14. What is your Mother's Background? Educated [ ] Uneducated [ ]
15. What is your Father's Background? Educated [ ] Uneducated [ ]

SECTION B

The motivation of gambling among university students:

SD = Strongly Disagree, D = Disagree, UD = Undecided, A = Agree, SA = Strongly Agree

S/N	Statement	SD	D	UD	A	SA
16	Making money is my motivation for gambling					
17	The Enjoyment or fun is what makes me gamble					
18	I gamble when there is boredom					
19	Money, Enjoyment and Boredom motivate me to gamble					

SECTION C

Respondents view of specific statements on gambling:

S/N	Statement	SD	D	UD	A	SA
20	If my friend has just won lots of money from sports betting, I will be more likely to play sports betting					
21	It is better not to tell one's family and friends that one gambles					
22	It is better for one to tell one's family and friends, BOTH if he won at gambling and if he lost.					
23	It is better for one to tell one's family and friends ONLY if he won at gambling and NOT if he lost.					

24	It is possible to win lots of money if you have the right gambling skills					
25	You have wanted to stop betting money or gambling, but didn't think you could					
26	You always feel guilty about the way you gamble or what happens when you gamble					

SECTION D

The influence of gambling on university students' behavior:

S/N	Statement	Very often	Often	Sometimes	Never
27	Have you ever lost time from school due to gambling?				
28	Have you ever gambled to get money with which to pay debts or otherwise solve financial difficulties?				
29	How often have you found yourself thinking about gambling?				
30	Have gambling caused you to have difficulty in sleeping				

31	After losing did you feel you must return as soon as possible and win back your losses?				
32	After a win did you have a strong urge to return and win more?				
33	Have you ever borrowed money or sold something so as to finance gambling?				
34	Have you ever used your keep money or school fees to bet?				
35	Have you ever used the money from the bet wins for alcohol, smoking, and having fun with friends.				
36	Have you ever lied to parents/family or others to hide your extent of gambling?				
37	Have you ever considered self-destruction or suicide as a result of your gambling?				

38. How many people do you personally know in your faculty who do sports betting regularly?

    None [ ] 1 or 2 [ ] 3 or 4 [ ] 5 or more [ ]

39. In the past 12 months, what is the largest amount of money (or valuables) you placed on a single bet?

    I have not gambled in the past 12 months [ ] less than N1000 [ ]

N1000 – N3000[ ] N3000 – N5000[ ] N5000 & above [ ]

40. In the past 12 months, what is the largest amount of money (or valuables) you earned on a single bet?

I have not gambled in the past 12 months [ ] less than N1000 [ ]

N1000 – N3000 [ ] N3000 – N5000 [ ] N5000 & above [ ]

41. In the past 12 months, how often do you do sports betting?

Daily [ ] 2 to 6 times/week [ ] About once/week [ ] 2-3 times/month [ ]

About once/month [ ] Between 1-6 times/year [ ] Between 7-12 times/year [ ]

Never [ ] I don't do sports betting [ ]

43. Do you engage in other types of betting apart from sport betting? Yes [ ] No [ ]

44. If yes specify them, ……..

45. Has anyone in your family ever had a gambling problem?

Yes [ ] No [ ]

46. Like how long have you been playing sports betting?

About a year [ ] 1 – 2 years[ ] 3 – 4 years[ ] 5 – 6 years[ ] more than 6 years[ ]

48. Have you ever done sports betting to cater for your academic needs? Yes [ ] No[ ]