A Statistical Analysis of Student Satisfaction and Experience at Private Higher Educational Institutions in Kandy

Higher National Diploma in Information System Management 24.1F

Statistic for computing Course work

Name of the Student	Index Number
A. DESHMIGA	KAHNDISM241F-OO2
D.H.A.GOONASEKERE	KAHNDISM241F-O15
T.G.N.D.JAYASINGHE	KAHNDISM241F-O16

School of Computing and Engineering

National Institute of Business Management

No:2, Asgiri Vihara Mawatha, Kandy

Title of the project: A Statistical Analysis of Student Satisfaction and Experience

at Private Higher Educational Institutions in Kandy

Authors: A. DESHMIGA

D.H.A.GOONASEKERE

T.G.N.D.JAYASINGHE

Name of the Program: Higher National Diploma in Information System Management

Name of the lecturer: Ms. Upeksha Yaparathne

Name of the Module: Statistics for Computing

Name of Institute: Management Information system division, National Institute of Business Management

Date: …………………..…

The project is submitted in partial fulfillment of the requirements for the module Statistics for Computing as part of the Higher National Diploma in Information System Management at the National Institute of Business Management

Declaration

"I certify that this project does not incorporate without acknowledgement, any material previously submitted for a Higher National Diploma in any institution and to the best of my knowledge and belief, it does not contain any material previously published or written by another person or myself except where due reference is made in the text. I also hereby give consent for my project report, if accepted, to be made available for photocopying and for interlibrary loans, and for the title and summary to be made available to outside organizations"

Student name	Student ID	Signature
A . Deshmiga	KAHNDISM241F-OO2	
D . H . A . Goonasekere	KAHNDISM241F-O15	
T.G.N.D.Jayasinghe	KAHNDISM241F-O16	

Name of the lecturer: Ms. Upeksha Yaparathne

………………………………… ……………………………...

Signature   Date

Preambles

This report is presented for partial fulfillment of the Higher National Diploma in Information Systems Management at the National Institute of Business Management. The report discusses student satisfaction with the higher educational institutions in Kandy, including important concepts in statistics such as sampling techniques, descriptive statistics, hypothesis testing, and analysis by inference. The report deals with the investigation of various factors that influence students' satisfaction, testing various relationships amongst factors such as academic satisfaction, financial management, and the environment on campus. This shows how all these many variables would result in impacting students' satisfaction levels through statistical methods using regression and correlation. This report applied methodologies indicative of a strong understanding of statistical tools and their relevance for solving real-world problems, like student satisfaction, that might assist in making effective, data-driven decisions within educational contexts.

Executive Summary

This research is devoted to the assessment of satisfaction and attitudes of students towards a private higher educational institution in Kandy. Three pre-variables of the research are satisfaction with the academic program, financial status, and work-study ratio; hence, their correlation to the global satisfaction levels radically Solutions on how to enhance students' humanness, satisfaction and presence are provided.

List of figures

List of tables

Contents

Chapter 1: Introduction

1.1 Introduction to the Study

The private higher education sector in Sri Lanka, specifically in Kandy, has seen noteworthy growth. Understanding the components that contribute to student satisfaction is pivotal for improving the educational experience. This study aims to evaluate the satisfaction levels of students attending private institutions in Kandy, addressing on academic quality, financial management, and work-study balance. By recognizing key areas for advancement, institutions can elevate their educational offerings and student support systems.

1.2 Literature Review

Previous research has emphasized the importance of academic satisfaction, financial well-being, and mental health in assessing student satisfaction. This study builds on existing frameworks to explore how these determinants affecting the experience of students at private higher educational institutions in Kandy.

Chapter 2: Conceptual Framework

2.1 Objective

Asses student satisfaction and their experience a private higher educational institutions encompassing factors such as academic standards financial management student wellbeing

2.2 Defining variables

2.2.1 Dependent variable

Overall student satisfaction: This variable reveals the tier of student satisfaction regarding their overall impression at a private higher education institution. It includes various aspects such as academic satisfaction, financial management, campus environment, and social engagement.

2.2.2 Independent Variables

1. Academic Satisfaction

Definition: In this variable assesses students' satisfaction with academic aspects of their institution, including grading criteria, learning outcomes, and exam difficulty.

Rationale: Academic satisfaction represents a cornerstone in students' experience. Fair evaluation, clarity of learning outcomes, and moderate exam difficulty raise the prestige of the university and, by default, raise students' overall satisfaction.

• Positive Relationship: Increased academic contentment is predicted to result in greater overall satisfaction.

• Hypothesis (H1): Greater overall student satisfaction will be reported by students who are content with their academic experience (grading criteria, learning outcomes, and exam difficulty).

2. Financial Management

Definition: This variable measures the ability of students to bear the financial burden imposed by private higher education: tuition fees, living costs, other expenditures, and opportunities for scholarships

Rationale: Financial challenges can significantly affect students' mental well-being and educational performance Students who can manage their finances effectively or have access to those with access to financial aid tend to have a more positive and stress-free university experience.

Impact:

• Positive Relationship: Optimized financial management and diminished financial stress are expected to correlate with higher overall satisfaction.

• Hypothesis (H2): Students who handle their finances effectively and experience lower financial stress will report higher levels of overall student satisfaction.

3. Work-Study Balance and Stress Levels

Definition: These variables evaluate students' ability to balance academic responsibilities with personal commitments. As well as the stress they experience due to academic demands.

Rationale: Besides, a good balance between the demands of study and personal life would reduce levels of stress and enhance satisfaction. High academic stress and poor work-study balance may detract from students' satisfaction.

Impact:

• Negative Relationship: High levels of academic stress and poor work-study balance are expected to reduce overall student satisfaction.

• Hypothesis (H3): Students who experience higher academic stress and difficulty in managing their work-study balance will report lower levels of overall student satisfaction.

2.2.3 Moderator and Mediator Variables

Moderator Variables:

• Year of Study: The relationship between academic satisfaction and overall student satisfaction may vary based on the year of study. For instance, first-year students may experience different levels of satisfaction compared to final-year students.

• Gender: The impact of financial management on overall satisfaction may differ based on gender, with some students potentially being more affected by financial stress.

Mediator Variables:

• Mental Health: The institutional environment might influence overall student satisfaction through its effect on students' mental health. A positive environment may reduce stress, thereby improving satisfaction.

• Academic Performance: Academic satisfaction may enhance students' performance, which in turn positively impacts their overall satisfaction with the institution.

• Academic Performance: Academic satisfaction may enhance students' performance, which in turn positively impacts their overall satisfaction with the institution.

2.2.4 Hypotheses:

• Null Hypothesis (H0): The null hypothesis is as follows: H0: There is no significant relationship between academic satisfaction, financial management, work-study balance, and overall student satisfaction in private higher educational institutions.

• Alternative Hypothesis (H1): There is a significant relationship between academic satisfaction, financial management, work-study balance, and overall students' satisfaction with private higher educational institutions.

2.3 Visual Conceptual Framework
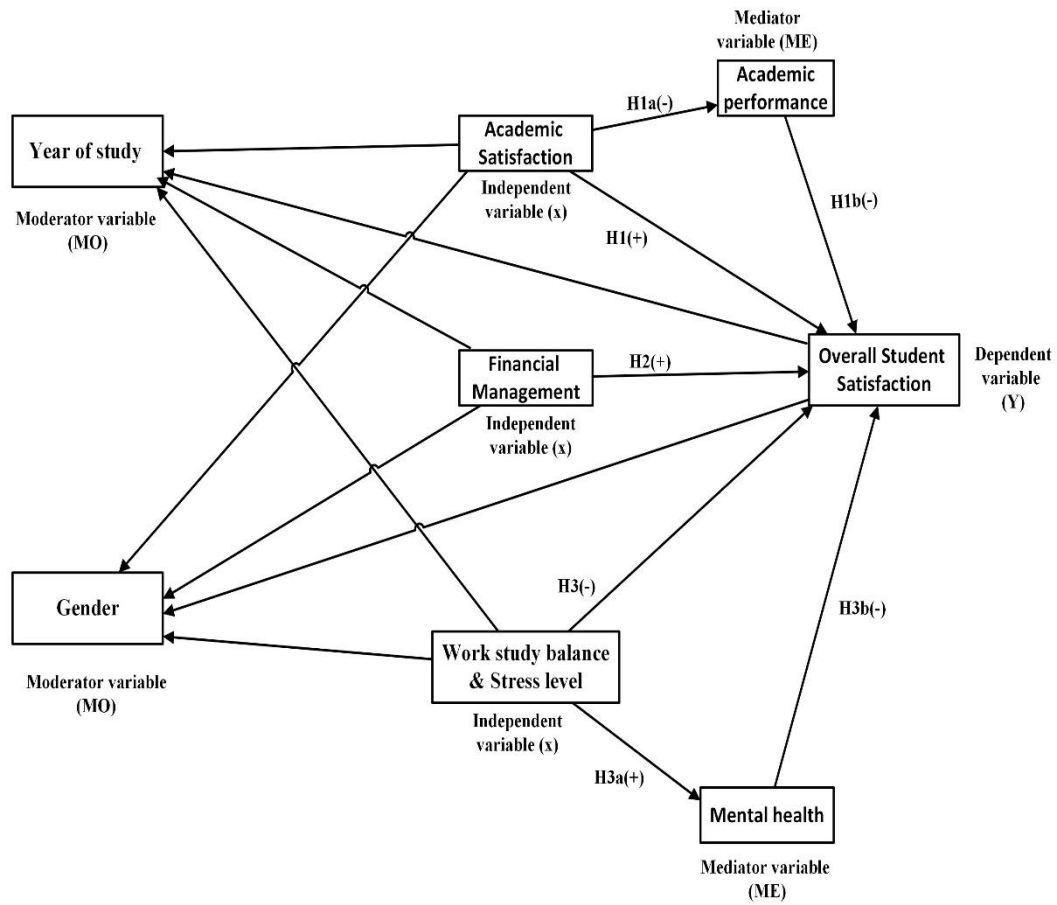
Figure 1: Visual Conceptual Framework

2.4 Flowchart for the Conceptual Framework

Flowchart 1: Main Process (Student Satisfaction Analysis)

```
START
  IF "Academic Satisfaction" is high
    THEN "Overall Student Satisfaction" increases
  END IF


  IF "Financial Management" is well-handled
    THEN "Overall Student Satisfaction" increases
  END IF


  IF "Work-Study Balance & Stress Levels" are well managed
    THEN "Overall Student Satisfaction" increases
  END IF
END
```
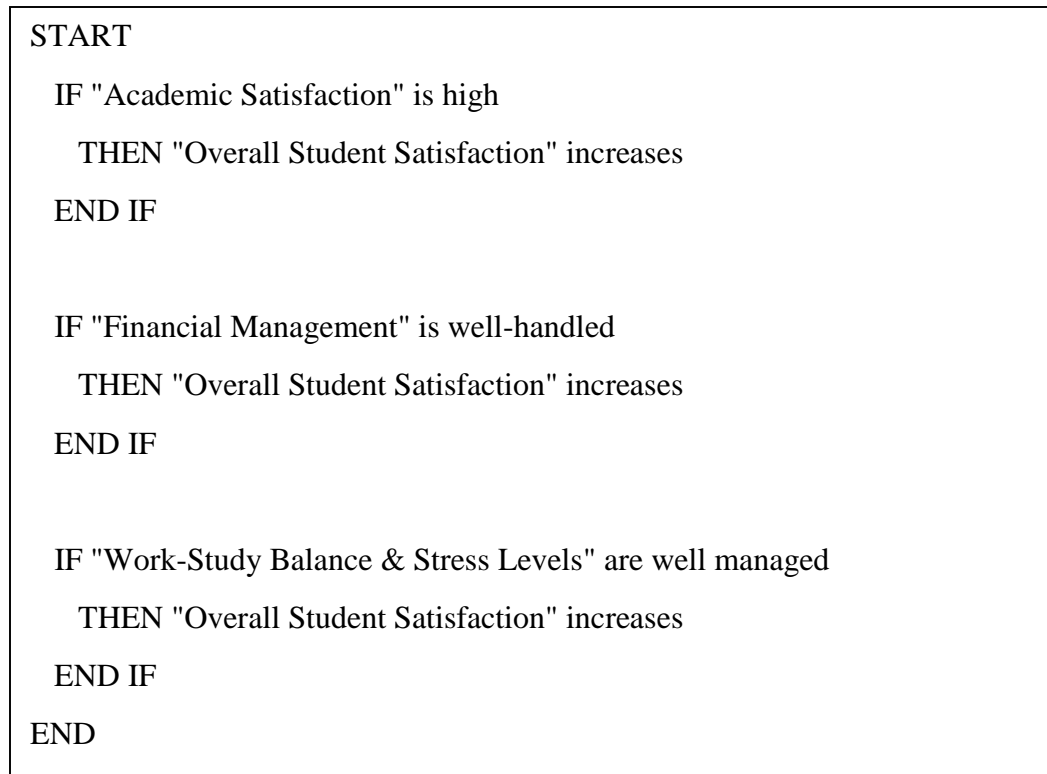
Flowchart 2: Mediators (Mental Health and Academic Performance)

```
START
  IF "Institute Environment" positively impacts "Mental Health"
    THEN "Mental Health" improves "Overall Student Satisfaction"
  END IF


  IF "Academic Satisfaction" improves "Academic Performance"
    THEN "Academic Performance" increases "Overall Student Satisfaction"
  END IF
END
```
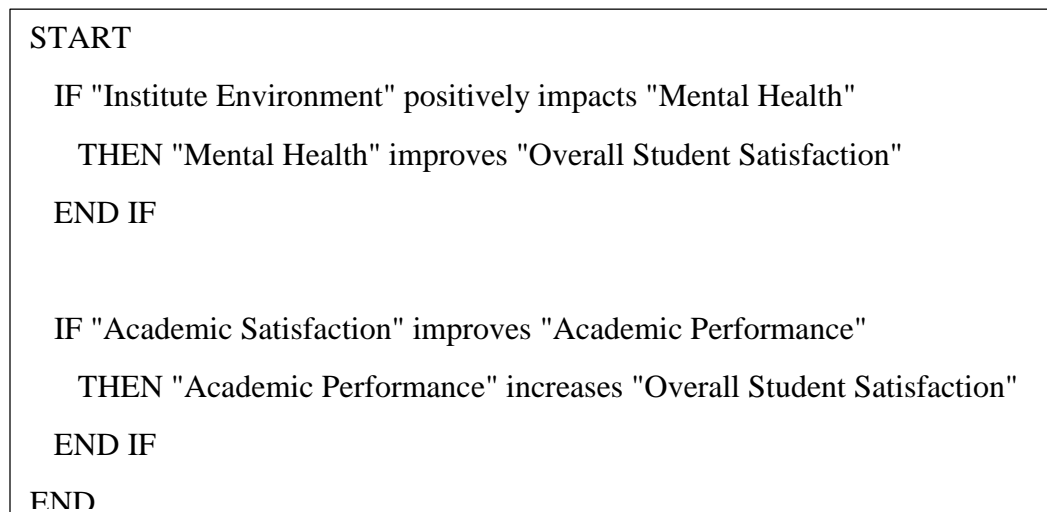
Flowchart 3: Moderators (Year of Study and Gender)

START

IF "Year of Study" affects the relationship between "Academic Satisfaction" and "Overall Student Satisfaction"

THEN adjust the strength of the relationship based on the student's year

END IF

IF "Gender" affects the relationship between "Financial Management" and "Overall Student Satisfaction"

THEN adjust the strength of the relationship based on gender

END IF

END

2.4 Chapter Summary

This chapter presents the detailed conceptual framework developed to explore variables influencing student satisfaction at institutions of higher learning. In this model, there exist three independent variables: Academic Satisfaction, Financial Management, and Work-Study Balance & Stress Levels that have a direct impact on Overall Student Satisfaction, which is the dependent variable.

It explains that the independent variables indirectly affect student satisfaction, which includes two mediator variables: Mental Health and Academic Performance. Furthermore, in varying the strengths or direction of association between independent variables and dependent variables, there are two moderator variables considered: Year of Study and Gender.

Chapter 3: Methodology

3.1 Research Design

The study shall, therefore, adopt a cross-sectional survey design in which data from students in private higher education in Kandy shall be collected. This enables one to have a wide view of the factors that surround students' satisfaction at a particular point in time.

3.2 Target Population

The target population includes students currently enrolled in private higher education institutions in Kandy. The selection criteria include full-time undergraduate students across all years of study.

3.3 Sampling Strategy

This was done in a manner that would include all the different years of study and programs in order to make it representative. This is a less biased approach, which also generalizes the results. A sample size estimate of at least 150 students, which would ensure statistical reliability, was targeted.

3.4 Data Collection

For this study, the prepared questionnaire was designed on Microsoft Forms and then shared publicly with a view to collecting data from students. The online format of data collection enabled rapid collection and, thus, the involvement of a large participation pool. A link to the survey questionnaire was shared with the respondents. In order to get honest and unbiased responses, the privacy of the responses was guaranteed to be strictly anonymous. The questionnaire remained open for 12 days and received a response of 150 in due time.

The structure of the questionnaire was organized into the following sections:

1. Section 1: Demographic Information
2. Section 2: Academic Satisfaction
3. Section 3: Financial Management
4. Section 4: Institute Environment and Mental Health

5. Section 5: Work-Study Balance and Stress Levels
6. Section 6: Extracurricular Engagement
7. Section 7: Inter-Institute Connections and Gatherings

Each section was carefully designed to comprehensively capture the various dimensions of student experience and satisfaction, forming the basis for a thorough analysis of the factors influencing overall student satisfaction.

3.5 Questionnaire Design

This research employed a structured questionnaire designed to comprehensively capture data across seven key sections:

1. Demographic Information: This section collects essential demographic details such as age, gender, year of study, and program of enrollment, providing crucial context for analyzing responses.

2. Academic Satisfaction: In this sub-scale, the researchers measure student satisfaction about the various academic issues such as clarity of the grading criteria, achievement of learning outcomes, level of exams difficulty, quality of teaching, the ability to manage the academic workload, fairness of the repeat exam fee, and relationships with the lecturers. The response category is a Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

3. Financial Management: This section assesses how students manage their financial expenses and the stress associated with financial management. It includes questions about daily financial management practices, the experience of financial stress, and the adequacy of financial support options provided by the institution, such as scholarships and payment plans.

4. Institute Environment & Mental Health: This section examines students' satisfaction with the institute's environment, including campus facilities and support services. It also evaluates students' sense of connection with their peers and the impact of the institute's environment on their mental health.

5. Work-Study Balance & Stress Levels: This section explores how students balance academic work with personal life and assesses their perceived stress levels related to academic responsibilities.

6. Extracurricular Engagement: This dimension encompasses students' extracurricular activities and the consequences thereof in relation to university experiences. It looks at the scale of such involvement and how the consequences flow from that into the general academic experience.

7. Inter-Institute Connections & Gatherings: This section investigates students' relationships with batch mates and their interactions with other institutions. It includes questions about interest in connecting with students from other private higher educational institutes, participation in events involving students from multiple institutes, and suggestions for improvements at their own institution. An open-ended question allows respondents to provide detailed suggestions for institutional improvements.

This structured approach ensures a thorough examination of all relevant aspects of the student experience, yielding valuable insights into various dimensions of academic and social life within private higher educational institutions.

3.6 Pilot Testing

After distributing the initial draft of the questionnaire to a small group, feedback was collected regarding the clarity and relevance of the questions. Minor adjustments were made to improve readability and ensure that the questions aligned with the research objectives.

3.7 Chapter summary

The following chapter describes in detail the methodology of the research, which is based on a cross-sectional survey design in order to collect data from students studying in various private higher educational institutes in Kandy. Some of the key elements of this include:

- Research Design: It, therefore, adopted a cross-sectional survey method in analyzing student satisfaction at a certain point in time.

- Target Population: Full-time undergraduate students of various cohorts were selected in Kandy. Due to the low response, during the middle period of the release of the questionnaire, the survey was extended to all students in private higher educational institutions island wide.

- Sampling Strategy: A stratified random sampling approach was employed to ensure diverse representation, with a minimum sample size of 150 students to ensure statistical validity.

- Data Collection: In this work, the sample was structured using a stratified random sampling technique. The sample included a varied representation and had a minimum size of 150 students to attain statistical significance.

- Questionnaire Design: The different sections included in the survey are Demographic Information, Academic Satisfaction, Financial Management, Institute Environment & Mental Health, Work-Study Balance & Stress Levels, Extracurricular Engagement, and Inter-Institute Connections & Gatherings.

- Pilot Testing: Feedback from a small group was used to revise the questionnaire for clarity and alignment with the research objectives.

This methodology facilitated a comprehensive assessment of factors influencing student satisfaction in private higher education institutions.

Chapter 4: Statistical Analysis

4.1 Introduction to Statistical Analysis

This chapter, therefore, seeks to analyze the data collected from the student satisfaction questionnaire with the help of descriptive and inferential statistical techniques, which will then be used in investigating any possible association among the variables studied, including academic satisfaction, financial management, work-study balance, and overall satisfaction.

4.2 Descriptive Statistics

Objective: To summarize the demographic characteristics of the respondents and their overall satisfaction levels across different sections of the questionnaire.

Sample Data and Analysis:

4.2.1 Demographic Overview and Visual Data Representation

The sample consisted of 150 respondents, with the following gender distribution:

- 48.7% female
- 38.7% male
- 12.7% preferred not to say

What is your gender?				
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	73	48.7	48.7	48.7
	2	58	38.7	38.7	87.3
	3	19	12.7	12.7	100.0
	Total	150	100.0	100.0	

Table 1: Q3- Demographic Composition of the Respondents

Assumptions:

- Female:1
- Male:2
- Prefer not to say:3
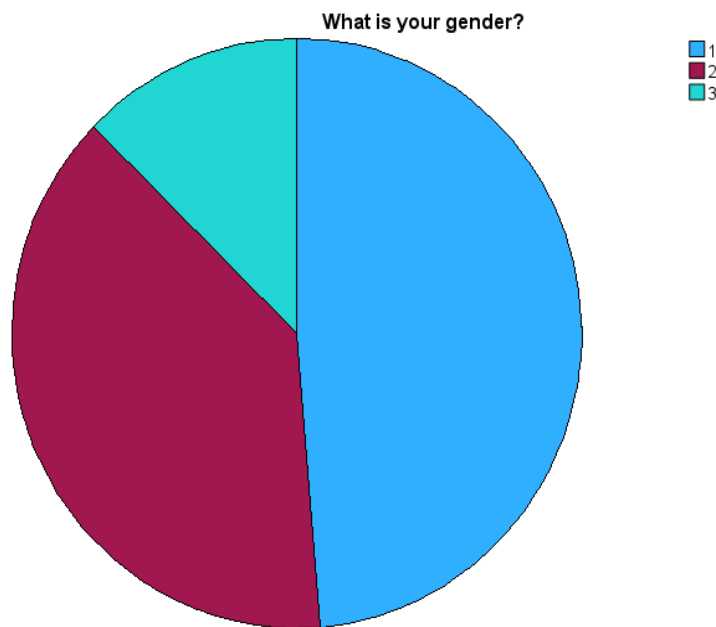
Figure 2: Q-3 Pie chart representing the distribution of gender categories: Male, Female, and Prefer Not to Say

Regression Analysis

Regression Equation:	Y^ =1.01 + 0.01x1
Correlation:	0.49
R Square:	0.24
Standard Error:	0.61
F-Value:	47.63
Probability (F-Value):	1.40e-10

Table 2:Q3-Regression analysis

Figure 3:Q3-Estimated regression line

ANOVA Table

	df	Sum of Squares (SS)	Mean Sum of Squares (MS)	F-Value	Probability (F-Value)
Regression	1	17.67	17.67	47.63	1.40e-10
Residual	148	54.89	0.37		
Total	149	72.56			

Table 3:q3- ANVOVA Table

Coefficients Table

	Coefficients	Standard Error	P-value	t Stat	Lower 95%	Upper 95%
Intercept	1.01	0.10	1.46e-17	15.23	0.80	1.22
ID Variable	0.01	0.00	1.40e-10	6.90	0.01	0.01

Table 4:Q4-Coefficent Table

Correlation Analysis

What is your gender?	Pearson Correlation	1	493[**]
	Sig. (2-tailed)	150	<.001
	N		150
ID	Pearson Correlation	493[**]	1
	Sig. (2-tailed)	<.001	
	N	150	150

Table 5:Q3-Correlation analysis

[**]. Correlation is significant at the 0.01 level (2-tailed).

T-Test

One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
What is your gender?	150	1.64	.698	.057

Table 6:Q3-T-test

One-Sample Test							
	Test Value = 0						
			Significance			95% Confidence Interval of the Difference	
	t	df	One-Sided p	Two-Sided p	Mean Difference	Lower	Upper
What is your gender?	28.783	149	<.001	<.001	1.640	1.53	1.75

Table 7; Q3-One sample test

One-Sample Effect Sizes

		Standardizer[a]	Point Estimate	95% Confidence Interval	
				Lower	Upper
What is your gender?	Cohen's d	.698	2.350	2.038	2.660
	Hedges' correction	.701	2.338	2.028	2.646

a. The denominator used in estimating the effect sizes.

Cohen's d uses the sample standard deviation.

Hedges' correction uses the sample standard deviation, plus a correction factor.

Table 8:Q3- One sample effect size
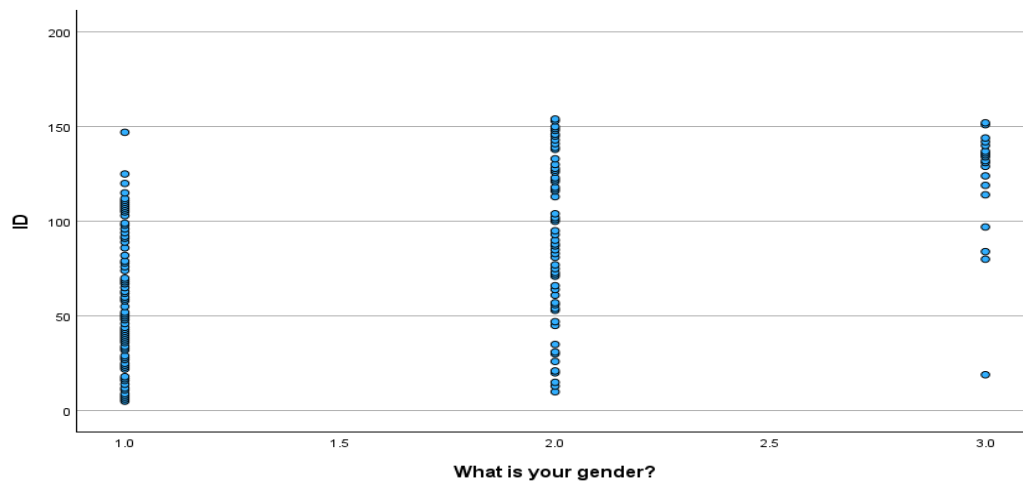
Scatter Plot

Figure 4: Q3- scatter plot

The respondents were distributed across different academic years as follows:

- 36.7% in their first year

- 46.7% in their second year

- 12% in their third year

- 4.7% in their fourth year

What year are you currently in?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	55	36.7	36.7	36.7
	2	70	46.7	46.7	83.3
	3	18	12.0	12.0	95.3
	4	7	4.7	4.7	100.0
	Total	150	100.0	100.0	

Table 9: Q2- Demographic Composition of the Respondents

Assumptions:

- 1st Year:1
- 2nd Year: 2
- 3rd Year: 3
- 4th Year or above:4
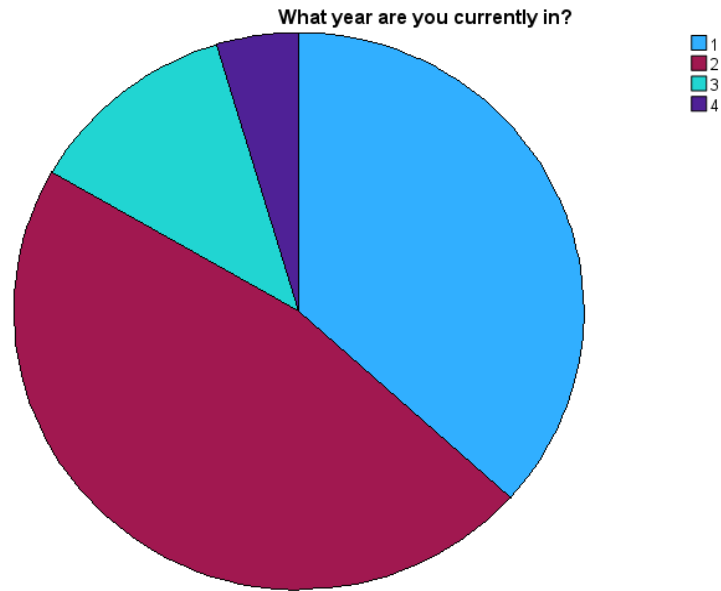
Figure 5: Q2- Pie chart representing proportions of first-year, second-year, third-year and fourth year (and above) students

Regression Analysis

Regression Equation:	$Y^\wedge = 2.08 + \text{-}0.00x1$
Correlation:	-0.16
R Square:	0.03
Standard Error:	0.80
F-Value:	3.86
Probability (F-Value):	0.05

Table 10:Q2-Regression analysis
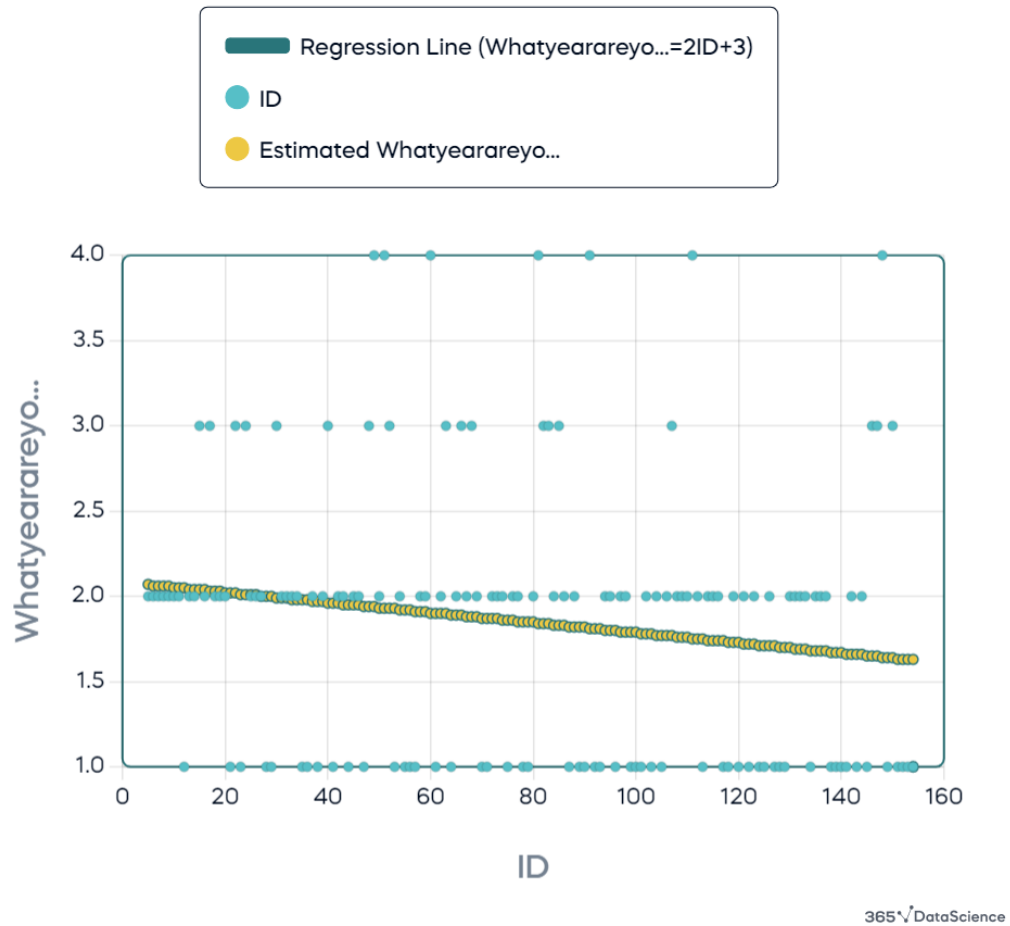
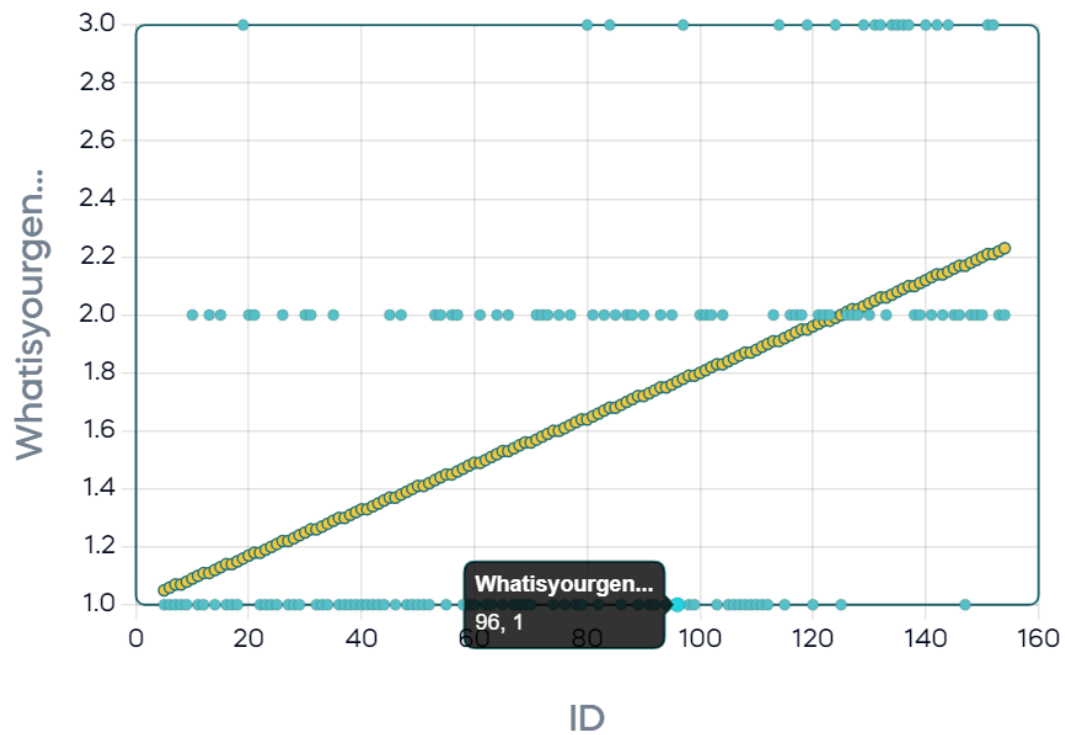*Figure 6:Q2-Estimated regression line*

ANOVA Table

	df	Sum of Squares (SS)	Mean Sum of Squares (MS)	F-Value	Probability (F-Value)
Regression	1	2.48	2.48	3.86	0.05
Residual	148	95.00	0.64		
Total	149	97.47			

Table 11:Q2-ANOVA Table

Coefficients Table

	Coefficients	Standard Error	P-value	t Stat	Lower 95%	Upper 95%	U
Intercept	2.08	0.14	4.24e-32	15.23	1.81	2.35	
ID Variable	-0.00	0.00	0.05	-1.96	-0.01	0.00	

Table 12:Q2- Coefficients Table

Correlations Analysis

What year are you currently in?	Pearson Correlation	1	-.159
	Sig. (2-tailed)		.051
	N	150	150
ID	Pearson Correlation	-.159	1
	Sig. (2-tailed)	.051	
	N	150	150

Table 13:Q2- Correlations Analysis

T-Test

One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
What year are you currently in?	150	1.85	.809	.066

Table 14:Q2-T-test

One-Sample Test

	Test Value = 0						
			Significance			**95% Confidence Interval of the Difference**	
	t	df	One-Sided p	Two-Sided p	Mean Difference	Lower	Upper
What year are you currently in?	27.963	149	<.001	<.001	1.847	1.72	1.98

Table 15:Q2-One sample test

One-Sample Effect Sizes

		Standardizer[a]	Point Estimate	95% Confidence Interval	
				Lower	Upper
What year are you currently in?	Cohen's d	.809	2.283	1.978	2.586
	Hedges' correction	.813	2.272	1.968	2.573

a. The denominator used in estimating the effect sizes.

Cohen's d uses the sample standard deviation.

Hedges' correction uses the sample standard deviation, plus a correction factor.

*Table 16:Q2-one sample effect size*
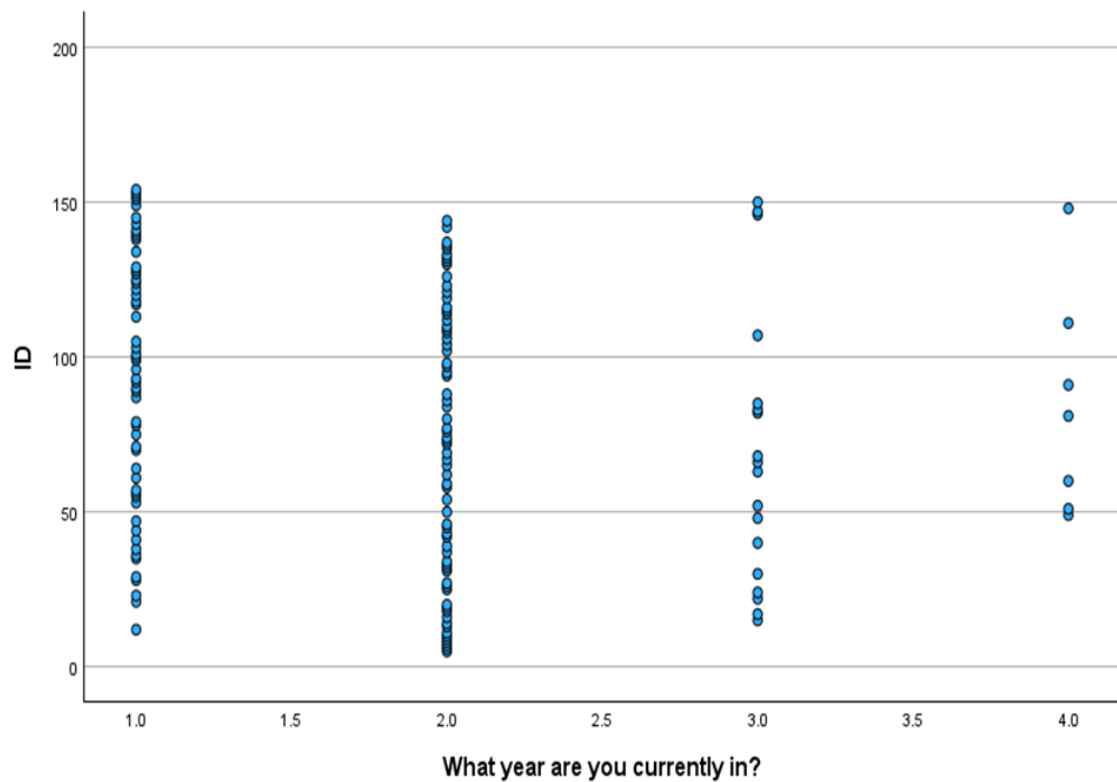
Scatter Plot

Figure 7:Q2-scatter plot:

In terms of private universities attended, the respondents were from the following institutions:

- 47.3% National Institute of Business Management (NIBM)
- 14% International College of Business and Technology (ICBT)
- 7.3% Open University of Sri Lanka
- 8.7% Sri Lanka Institute of Information Technology (SLIIT)
- 3.3% British College of Applied Studies (BCAS)
- 3.3% ESOFT Metro Campus
- 2% Australian College of Business and Technology (ACBT)
- 0.7% American College of Higher Education, Kandy
- 3.3% NSBM Green University
- 2.7% General Sir John Kotelawala Defense University (KDU)
- 0.7% Sri Lanka International Buddhist Academy (SIBA)
- 0.7% Nawaloka College of Higher Studies, Kandy (NCHS)
- 0.7% IMC AIC Campus, Kandy
- 0.7% IDM National Campus, Kandy
- 4.7% Others

What private higher educational institute are you attending?				
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	71	47.3	47.3	47.3
	2	21	14.0	14.0	61.3
	3	11	7.3	7.3	68.7
	4	13	8.7	8.7	77.3
	5	5	3.3	3.3	80.7
	6	5	3.3	3.3	84.0
	7	3	2.0	2.0	86.0
	8	1	.7	.7	86.7
	9	5	3.3	3.3	90.0
	10	4	2.7	2.7	92.7
	11	1	.7	.7	93.3
	12	1	.7	.7	94.0
	13	1	.7	.7	94.7
	14	1	.7	.7	95.3
	15	7	4.7	4.7	100.0
	Total	150	100.0	100.0	

Table 17: Q1- Demographic Composition of the Respondents

Assumptions:

- National Institute of Business Management (NIBM)- 1
- International College of Business and Technology (ICBT)- 2
- Open University of Sri Lanka- 3
- Sri Lanka Institute of Information Technology (SLIIT)- 4
- British College of Applied Studies (BCAS)- 5
- ESOFT Metro Campus- 6
- Australian College of Business and Technology (ACBT)- 7
- American College of Higher Education, Kandy- 8
- NSBM Green University – 9
- General Sir John Kotelawala Defence University (KDU)- 10

- Sri Lanka International Buddhist Academy (SIBA)- 11
- Nawaloka College of Higher Studies, Kandy (NCHS)- 12
- IMC AIC Campus, Kandy- 13
- IDM National Campus, Kandy- 14
- Others- 15

What private higher educational institute are you attending?
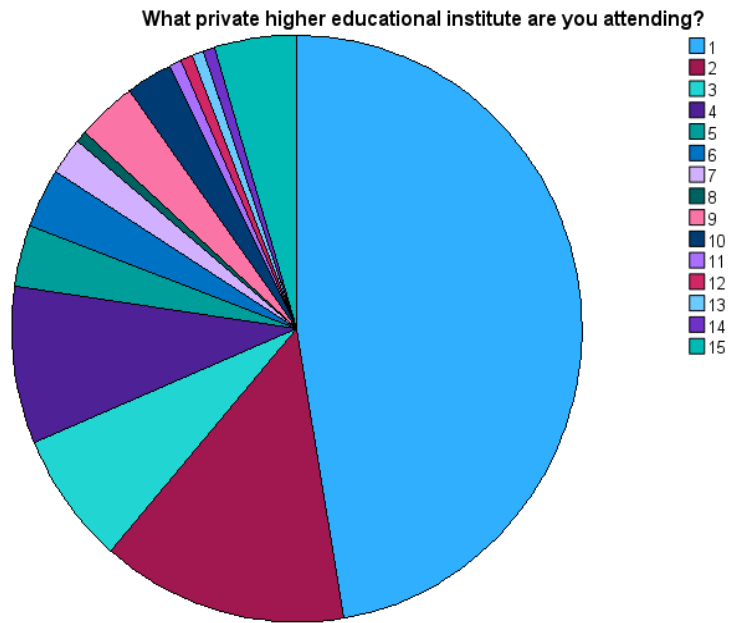
Figure 8: Q1-: Pie Chart Representing the Proportion of Private Higher Educational Institutes

Regression Analysis

Regression Equation:	$\hat{Y} = 2.98 + 0.01x1$
Correlation:	0.07
R Square:	0.01
Standard Error:	3.82
F-Value:	0.77
Probability (F-Value):	0.38

Table 18:Q1-Regression analysis
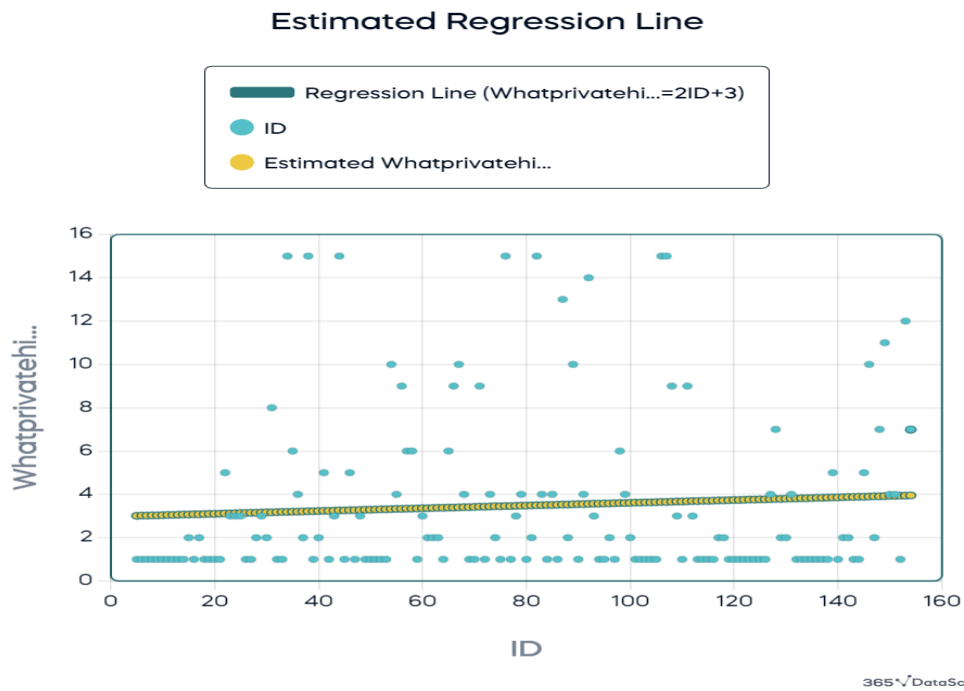
Figure 9:Q1-estimated regression line

ANOVA Table

	df	Sum of Squares (SS)	Mean Sum of Squares (MS)	F-Value	Probability (F-Value)
Regression	1	11.25	11.25	0.77	0.38
Residual	148	2160.19	14.60		
Total	149	2171.44			

Table 19:Q1-ANOVA Table

Coefficients Table

	Coefficients	Standard Error	P-value	t Stat	Lower 95%	Upper 95%	U
Intercept	2.98	0.65	0.00	4.56	1.69	4.27	
ID Variable	0.01	0.01	0.38	0.88	-0.01	0.02	

Table 20:Q1-Coefficients Table

Correlation Analysis

What private higher educational institute are you attending?	Pearson Correlation	1	.072
	Sig. (2-tailed)		.381
	N	150	150
ID	Pearson Correlation	.072	1
	Sig. (2-tailed)	.381	
	N	150	150

Table 21:Q1- Correlation Analysis

T-Test

One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
What private higher educational institute are you attending?	150	3.48	3.818	.312

Table 22:Q1-T-test

One-Sample Test							
	Test Value = 0						
			Significance			95% Confidence Interval of the Difference	
	t	df	One-Sided p	Two-Sided p	Mean Difference	Lower	Upper
What private higher educational institute are you attending?	11.165	149	<.001	<.001	3.480	2.86	4.10

Table 23:Q1-one sample test

Scatter Plot
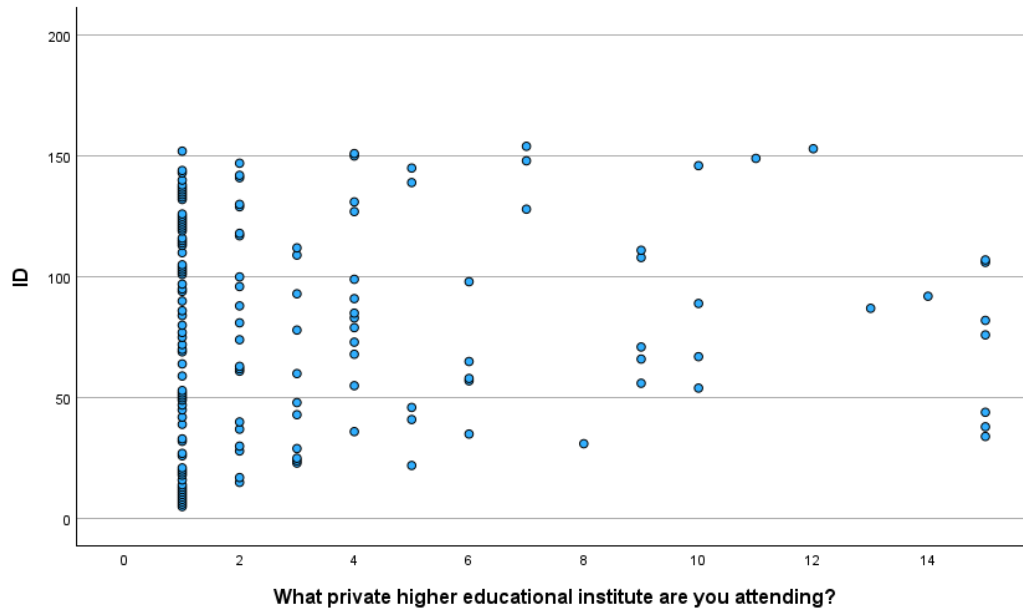
Figure 10:Q1-scatter plot

Respondents represented various fields of study:

- 12% Science and Engineering
- 2.7% Arts and Humanities
- 14% Business and Economics
- 1.3% Social Sciences
- 2.7% Law
- 54% Computing and IT
- 3.3% Medicine and Health Sciences
- 1.3% Education
- 0.7% Architecture and Design
- 0.7% Agriculture and Environmental Sciences

- 2% Language and Linguistics
- 0.7% Fashion Design
- 2% Media and Communication
- 2.7% Other

		Frequency	Percent	Valid Percent	Cumulative Percent
What is your field of study? **(Please select one option)**					
Valid	1	18	12.0	12.0	12.0
	2	4	2.7	2.7	14.7
	3	21	14.0	14.0	28.7
	4	2	1.3	1.3	30.0
	5	4	2.7	2.7	32.7
	6	81	54.0	54.0	86.7
	7	5	3.3	3.3	90.0
	8	2	1.3	1.3	91.3
	9	1	.7	.7	92.0
	10	1	.7	.7	92.7
	11	3	2.0	2.0	94.7
	12	1	.7	.7	95.3
	13	3	2.0	2.0	97.3
	14	4	2.7	2.7	100.0
	Total	150	100.0	100.0	

Table 24: Q4- Demographic Composition of the Respondents

Assumptions:

- o Science and Engineering - 1
- o Arts and Humanities- 2
- o Business and Economics - 3
- o Social Sciences- 4
- o Law -5
- o Computing and IT - 6
- o Medicine and Health Sciences - 7
- o Education - 8
- o Architecture and Design -9
- o Agriculture and Environmental Sciences - 10
- o Language and Linguistics - 11
- o Fashion Design - 12
- o Media and Communication - 13
- o Other – 14
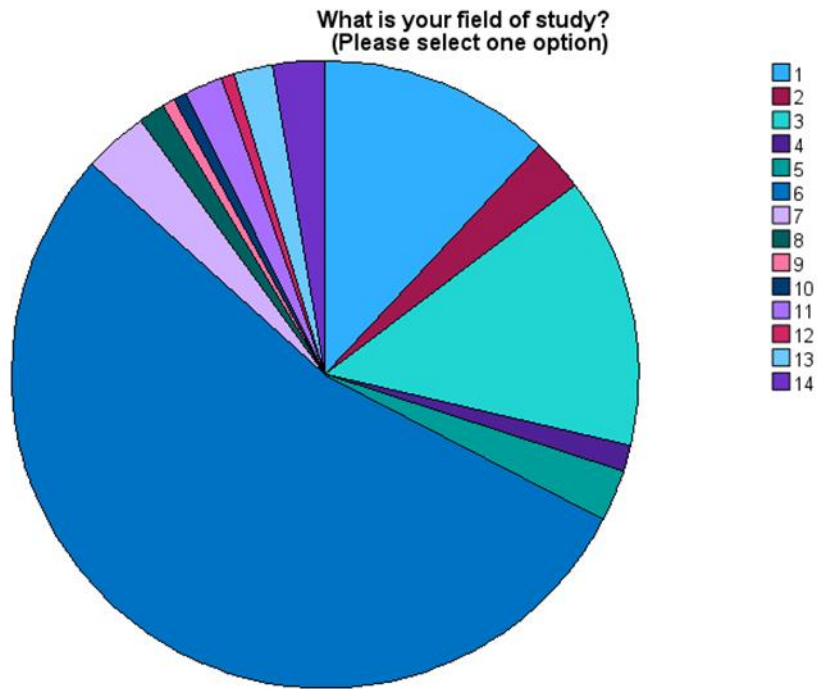
Figure 11:Q4-Pie Chart Representing the Proportion of Students by Field of Study

Regression Analysis

Regression Equation:	$Y^\wedge = 5.83 + -0.01x1$
Correlation:	**-0.08**
R Square:	0.01
Standard Error:	2.86
F-Value:	0.90
Probability (F-Value):	0.34

Table 25:Q4- Regression Analysis
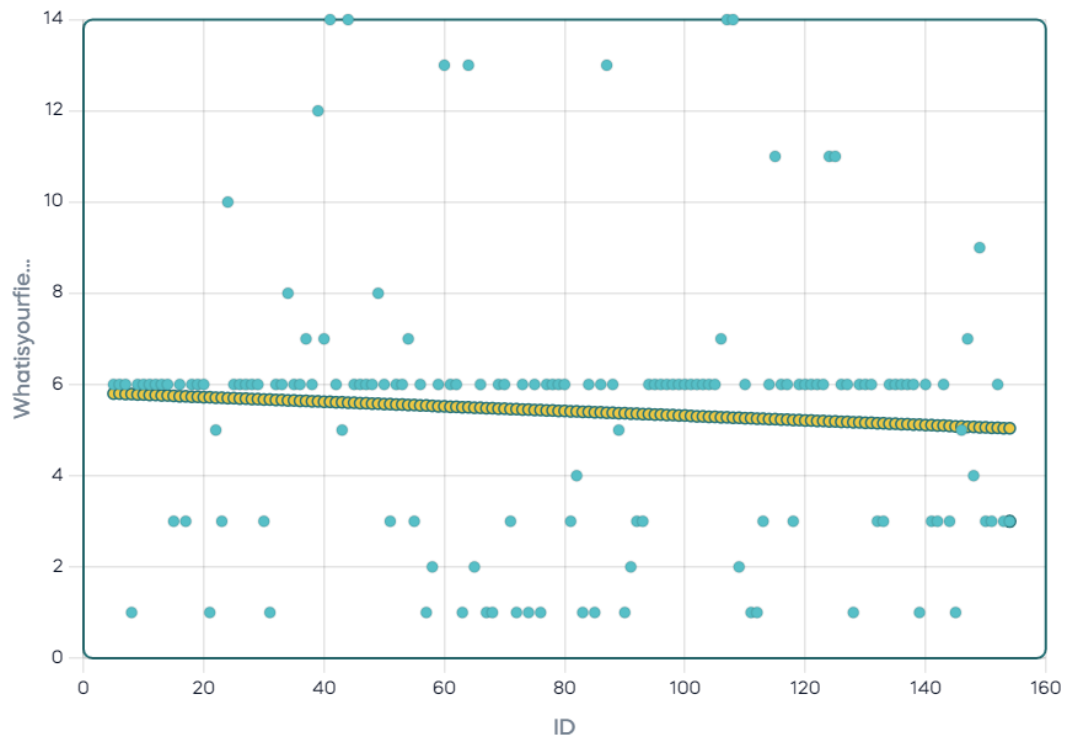
Figure 12:Q4 estimated regression line

ANOVA Table

	df	Sum of Squares (SS)	Mean Sum of Squares (MS)	F-Value	Probability (F-Value)
Regression	1	7.36	7.36	0.90	0.34
Residual	148	1209.18	8.17		
Total	149	1216.54			

Table 26:Q4-ANOVA Table

35

Coefficients Table

	Coefficients	Standard Error	P-value	t Stat	Lower 95%	Upper 95%	U
Intercept	5.83	0.49	1.92e-23	11.94	4.86	6.79	
ID Variable	-0.01	0.01	0.34	-0.95	-0.02	0.01	

Table 27:Q4- Coefficients Table

Correlation Analysis

What is your field of study? (Please select one option)	Pearson Correlation	1	-.078
	Sig. (2-tailed)		.344
	N	150	150
ID	Pearson Correlation	-.078	1
	Sig. (2-tailed)	.344	
	N	150	150

Table 28: Q4- Correlation analysis

T-Test

One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
What is your field of study? (Please select one option)	150	5.42	2.857	.233

Table 29:Q4: T-test

One-Sample Test

	Test Value = 0						
			Significance			95% Confidence Interval of the Difference	
			One-Sided p	Two-Sided p	Mean Difference		
	t	df				Lower	Upper
What is your field of study? (Please select one option)	23.231	149	<.001	<.001	5.420	4.96	5.88

Table 30:Q4-one sample test

One-Sample Effect Sizes

		Standardizer[a]	Point Estimate	95% Confidence Interval	
				Lower	Upper
What is your field of study? (Please select one option)	Cohen's d	2.857	1.897	1.627	2.164
	Hedges' correction	2.872	1.887	1.619	2.153
a. The denominator used in estimating the effect sizes.					
Cohen's d uses the sample standard deviation.					
Hedges' correction uses the sample standard deviation, plus a correction factor.					

Table 31:Q4-one sample effect size
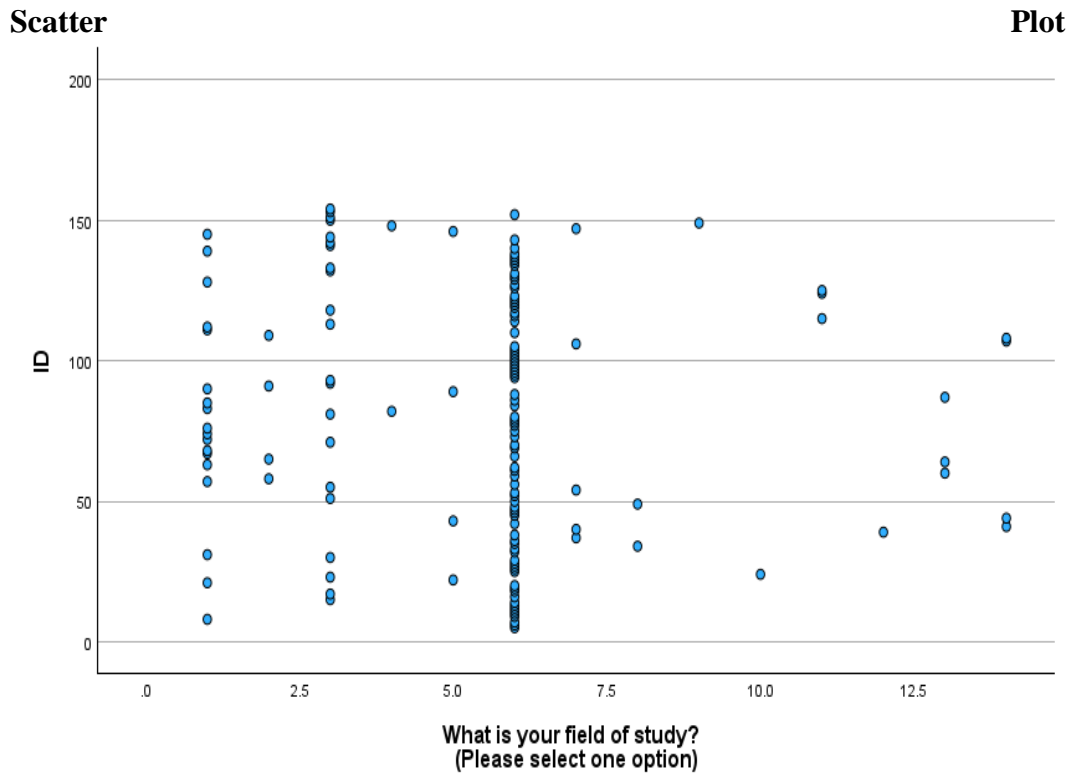
Scatter **Plot**

Figure 13:Q4 Scatter plot

4.2.2 Academic Satisfaction and Visual Data Representation

Objective: This section aims to evaluate students' satisfaction levels concerning academic aspects.

Key Factors Measured:

- Overall Academic Satisfaction
- Quality of teaching in the courses
- Satisfaction with the grading criteria
- Satisfaction with the learning outcomes provided in the program
- Manageability of the academic workload
- Difficulty level of the exams

How would you rate the quality of teaching in your courses?

- 2.7% Very Poor

- 0.7% Poor

- 28.7% Fair

- 57.3% Good

- 10.7% Excellent

Statement 1					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	4	2.7	2.7	2.7
	2	1	.7	.7	3.3
	3	43	28.7	28.7	32.0
	4	86	57.3	57.3	89.3
	5	16	10.7	10.7	100.0
	Total	150	100.0	100.0	

Table 32:Q5- Demographic Composition of the Respondents for Satisfaction level

Assumptions:

- o Very Poor – 1

- o Poor – 2

- o Fair – 3

- o Good – 4

- o Excellent – 5
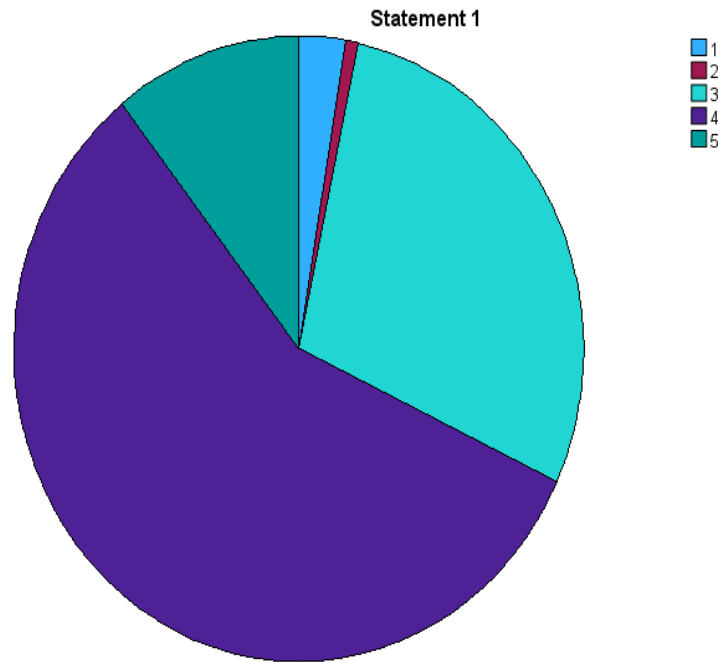
Figure 14:Q5- Pie Chart Representing the Quality of Teaching

How satisfied are you with the grading criteria at your institute?

- 1.3% Very Satisfied
- 6% Satisfied
- 34.7% Neutral
- 47.3% Dissatisfied
- 10.7% Very Dissatisfied

Statement 12				
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	2	1.3	1.3	1.3
	2	9	6.0	6.0	7.3
	3	52	34.7	34.7	42.0
	4	71	47.3	47.3	89.3
	5	16	10.7	10.7	100.0
	Total	150	100.0	100.0	

Table 33:Q6- Demographic Composition of the Respondents for Satisfaction level

Assumptions:

- o Very Satisfied - 1
- o Satisfied - 2
- o Neutral – 3
- o Dissatisfied - 4
- o Very Dissatisfied -5
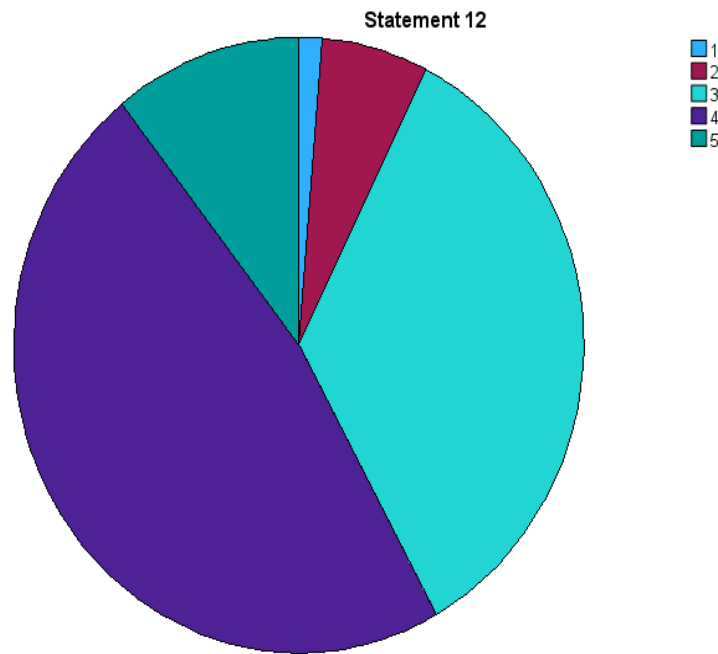
Figure 15: Pie Chart Representing Satisfaction with the grading criteria

How satisfied are you with the learning outcomes provided in your program?

- 1.3% Very Satisfied

- 8% Satisfied

- 29.3% Neutral

- 52% Dissatisfied

- 9.3% Very Dissatisfied

Statement 13				
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	2	1.3	1.3	1.3
	2	12	8.0	8.0	9.3
	3	44	29.3	29.3	38.7
	4	78	52.0	52.0	90.7
	5	14	9.3	9.3	100.0
	Total	150	100.0	100.0	

Table 34:Q7- Demographic Composition of the Respondents for Satisfaction level

Assumption

- o Very Satisfied - 1
- o Satisfied - 2
- o Neutral - 3
- o Dissatisfied - 4
- o Very Dissatisfied – 5
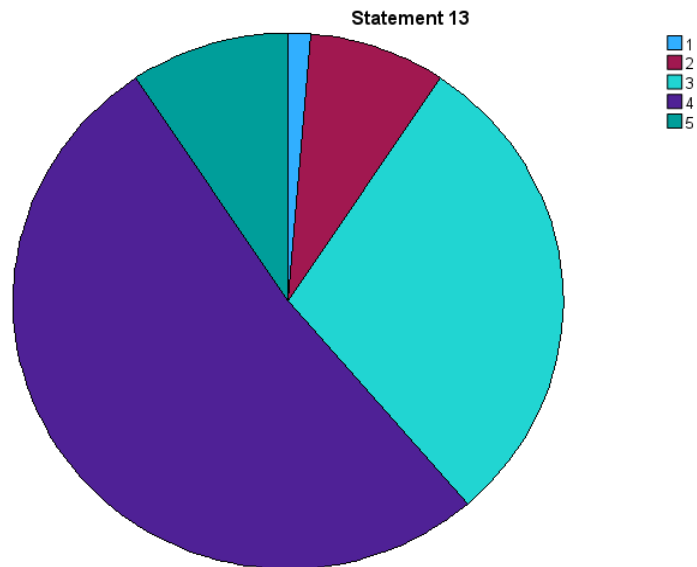
Figure 16:Q7- Pie Chart Representing Satisfaction with the learning outcomes provided in program

How manageable do you find your academic workload?

- Very Unmanageable
- Unmanageable
- Neutral
- Manageable
- Very Manageable

Statement 14					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	.7	.7	.7
	2	15	10.0	10.0	10.7
	3	55	36.7	36.7	47.3
	4	67	44.7	44.7	92.0
	5	12	8.0	8.0	100.0
	Total	150	100.0	100.0	

Table 35:Q8- Demographic Composition of the Respondents for Satisfaction level

Assumption

- Very Unmanageable - 1
- Unmanageable - 2
- Neutral - 3
- Manageable - 4
- Very Manageable -5
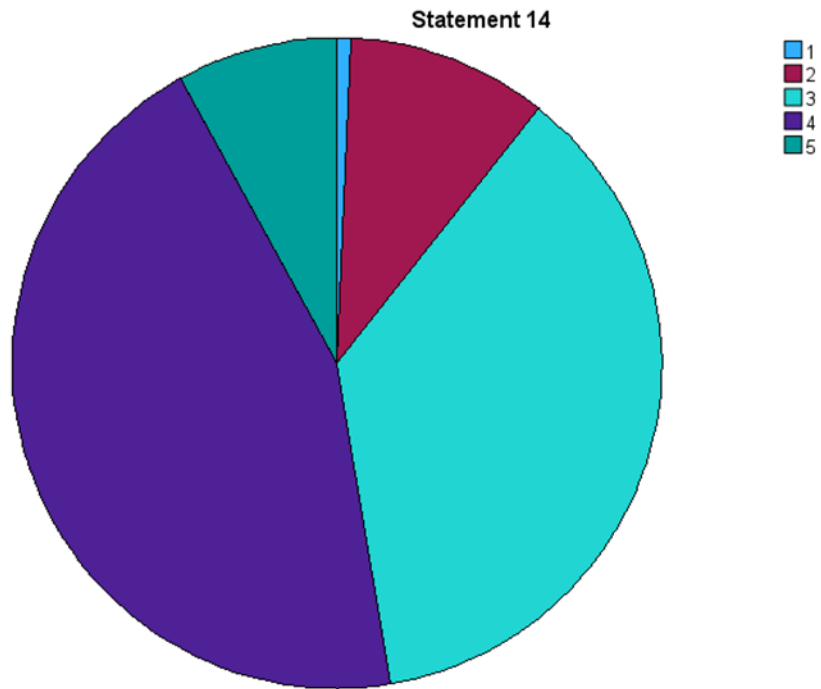
Figure 17: Pie chart representing Manageability of academic workload

How would you rate the difficulty level of your exams?

- 7.3% Extremely Difficult
- 44.7% Difficult
- 44.7% Manageable
- 2% Easy
- 1.3% Very Easy

Statement 15				
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	11	7.3	7.3	7.3
	2	67	44.7	44.7	52.0
	3	67	44.7	44.7	96.7
	4	3	2.0	2.0	98.7
	5	2	1.3	1.3	100.0
	Total	150	100.0	100.0	

Table 36:Q9- Demographic Composition of the Respondents for Satisfaction level

Assumptions

- o Extremely Difficult - 1
- o Difficult - 2
- o Manageable - 3
- o Easy - 4
- o Very Easy – 5
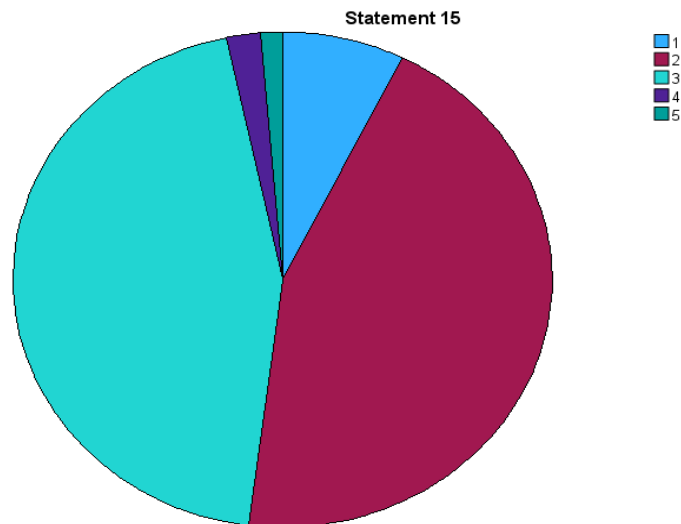
Figure 18: Pie chart Representing Difficulty level of your exams

Overall Academic Satisfaction:

- Quality of Teaching: 3.73

- Grading Criteria: 3.6

- Learning Outcomes: 3.6

- Manageability of Academic Workload: 3.49

- Difficulty Level of Exams: 2.45

Conclusion:

The average for general satisfaction is 3.57, falls between Neutral and Good on the Likert scale. This shows there is a fair level of satisfaction with the aspects assessed in the survey.

4.2.3 Financial Management and Visual Data Representation

Objective: The goal of this section is to find the degree of satisfaction among students in respect to financial aspects.

Key Factors Measured:

- Financial Management Ability

- Financial Stress

- Institutional Financial Support

How well are you able to manage your finances with your day-to-day life at the institute?

- 9.3% Extremely well

- 35.3% Somewhat well

- 49.3% Neutral

- 6.0% Somewhat not well

- 0.0% Extremely not well

How well are you able to manage your finances with your day-to-day life at the institute?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	14	9.3	9.3	9.3
	2	53	35.3	35.3	44.7
	3	74	49.3	49.3	94.0
	4	9	6.0	6.0	100.0
	5	0	0.0	0.0	
	Total	150	100.0	100.0	

Table 37:Q5- Demographic Composition of the Respondents for Satisfaction level

Assumptions:

- o Extremely well - 1
- o Somewhat well - 2
- o Neutral - 3
- o Somewhat not well - 4
- o Extremely not well - 5

How well are you able to manage your finances with your day-to-day life at the institute?
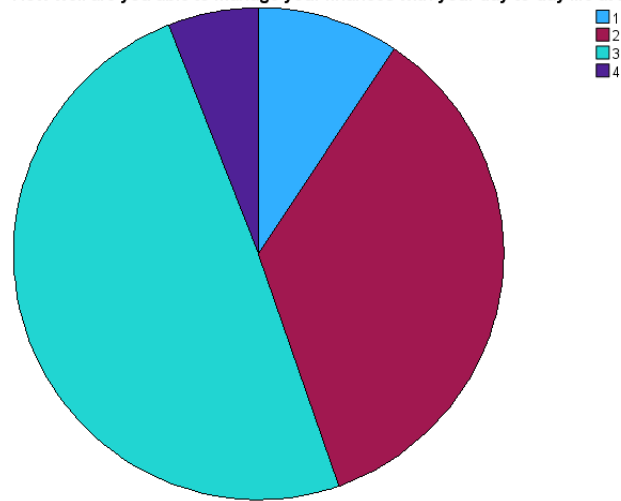
Figure 19:Q5- Pie Chart Representing the Student Financial Management Self-Assessment

Do you face financial stress while managing your expenses?

- 6% Very often
- 24.7% Often
- 56% Sometimes
- 8.7% Rarely
- 4.7% Never

Do you face financial stress while managing your expenses?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	9	6.0	6.0	6.0
	2	37	24.7	24.7	30.7
	3	84	56.0	56.0	86.7
	4	13	8.7	8.7	95.3
	5	7	4.7	4.7	100.0
	Total	150	100.0	100.0	

Assumption

- o Very often - 1
- o Often - 2
- o Sometimes - 3
- o Rarely - 4
- o Never - 5

Do you face financial stress while managing your expenses?

Figure 20:Q5- Pie Chart Representing the Student Financial Stress Levels

Do you feel your institute offers enough financial support options (e.g., scholarships, payment plans)?

- 10.0% Strongly Agree
- 34.7% Agree
- 24.7% Neutral

- 21.3% Disagree

- 9.3% Strongly disagree

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	14	9.3	9.3	9.3
	2	32	21.3	21.3	30.6
	3	37	24.7	24.7	55.3
	4	52	34.7	34.7	90.0
	5	15	10.0	10.0	100.0
	Total	150	100.0	100.0	

Do you feel your institute offers enough financial support options (e.g., scholarships, payment plans)?

Table 39: financial support options

Assumptions:

- Strongly Disagree - 1
- Disagree - 2
- Neutral - 3
- Agree - 4
- Strongly Agree - 5

Do you face financial stress while managing your expenses?
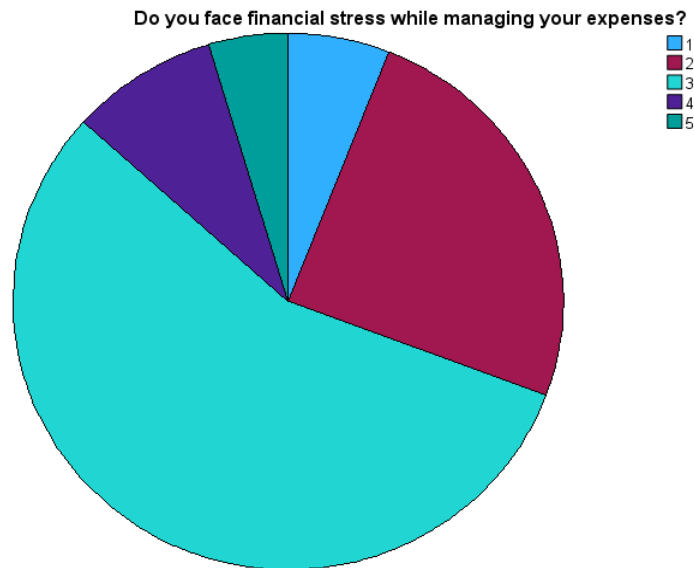
Figure 21:Q5- Pie Chart Representing the Student Satisfaction with Financial Support Options

Conclusion:

- Managing Finances: 2.52
- Financial Stress: 2.8
- Financial Support Options: 3.15
- Overall Financial Satisfaction Score: 2.82

The mean Overall Financial Satisfaction score of 2.82 falls between "Neutral" and "Somewhat Dissatisfied" on a typical Likert scale.

4.2.4 Institute Environment & Mental Health and Visual Data Representation

Objective: To determine and identify the level of mental satisfaction with regard to students in the higher educational institution.

Key factors measured:

- Satisfaction with Institute Environment
- Student Connectivity
- Impact of Environment on Mental Health

How satisfied are you with the overall environment at your institute (campus, facilities, support)?

- 2.0% Very satisfied
- 18.7% Somewhat satisfied
- 24.7% Neither satisfied nor dissatisfied
- 37.3% Somewhat dissatisfied
- 17.3% Very dissatisfied

How satisfied are you with the overall environment at your institute (campus, facilities, support)?		
	N	%
1	3	2.0%
2	28	18.7%
3	37	24.7%
4	56	37.3%
5	26	17.3%

Table 40; Q15-overall student satisfaction

Assumptions:

- Very Dissatisfied – 1
- Somewhat Dissatisfied - 2
- Neither Satisfied nor Dissatisfied – 3
- Somewhat Satisfied – 4
- Very Satisfied - 5
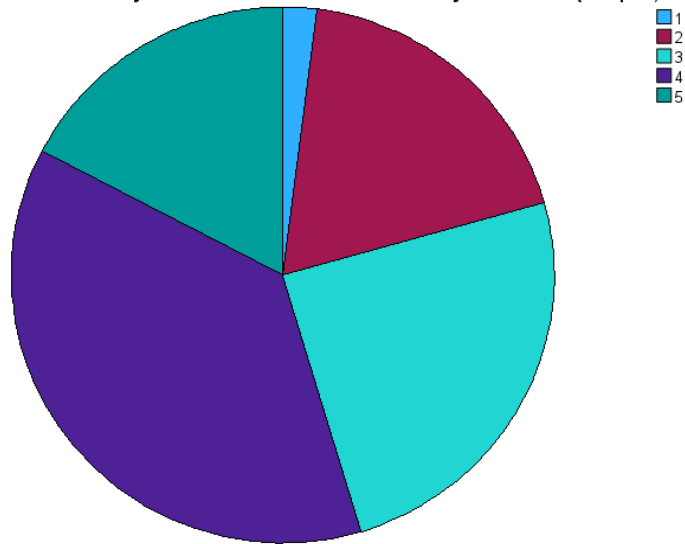
Figure 22: Pie Chart Representing the Student Satisfaction with Financial Support Options

Do you feel connected to your fellow students?

- 1.3% Strongly Disagree

- 4% Disagree

- 25.3% Neutral

- 56% Agree

- 13.3% Strongly Agree

	N	%
Do you feel connected to your fellow students?		
	N	%
1	2	1.3%
2	6	4.0%
3	38	25.3%
4	84	56.0%
5	20	13.3%

Table 41:Q16-results table

Assumptions

- Strongly Disagree – 1
- Disagree – 2
- Neutral – 3
- Agree – 4
- Strongly Agree – 5
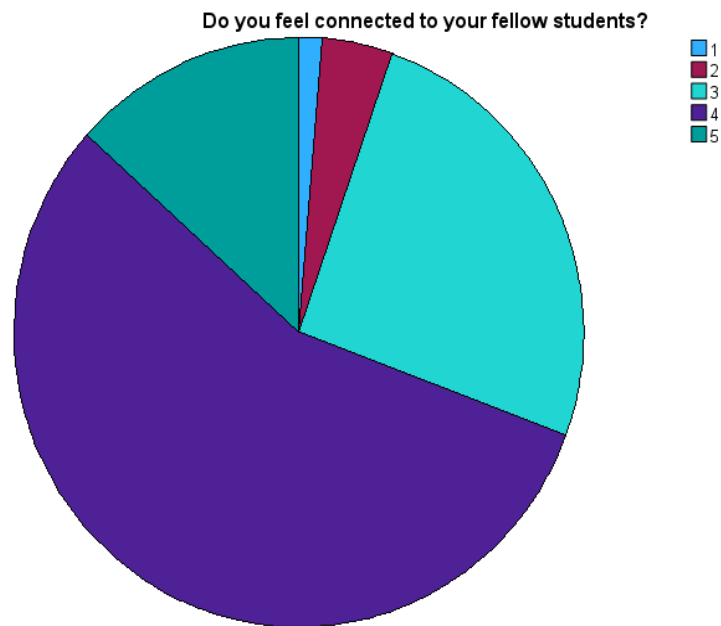
Figure 23: pie chart which represents Q16 results

How would you rate the impact of your institute environment on your mental health?

- 1.3% Very Negative
- 19.3% Negative
- 24.7% Neutral
- 42.7% Positive
- 12% Very Positive

How would you rate the impact of your institute environment on your mental health?		
	N	%
1	2	1.3%
2	29	19.3%
3	37	24.7%
4	64	42.7%
5	18	12.0%

Table 42:Q17 results table

Assumption

- Very Negative – 1
- Negative – 2
- Neutral – 3
- Positive – 4
- Very Positive – 5

How would you rate the impact of your institute environment on your mental health?

- 1
- 2
- 3
- 4
- 5
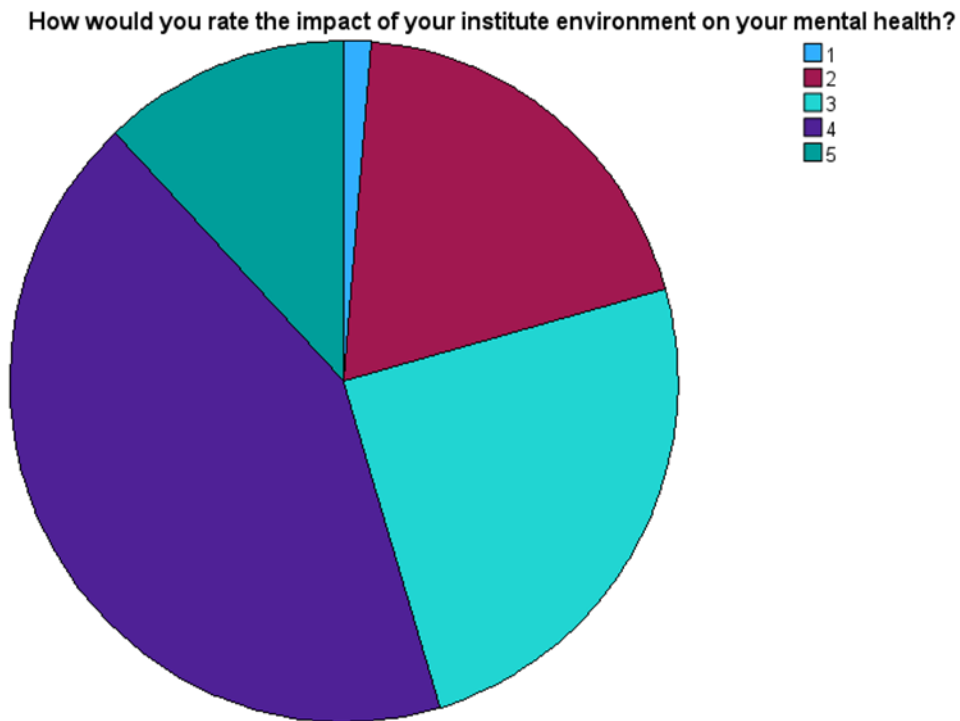
Figure 24: Pie chart which represents Q17 results

Conclusion:

- Satisfaction with Institute Environment =2.12
- Student Connectivity=3.68
- Impact of Environment on Mental Health=3.35
- Overall Institute Environment & Mental Health Satisfaction:3.05

The overall satisfaction with the institute's environment and its impact on mental health is 3.05, which falls between "Neutral" and "Somewhat Satisfied."

4.2.5 Work-Study Balance & Stress Levels

Objective: Evaluate and understand the impact of work-study balance and stress levels on students' overall well-being.

Key factors measured:

- Work-Life Balance
- Academic Stress Levels

How manageable do you find balancing academic work with your personal life?

- 0% Very Difficult
- 11.3% Difficult
- 36% Neutral
- 44% Manageable
- 8.7% Very Manageable

How manageable do you find balancing academic work with your personal life?		
	N	%
2	17	11.3%
3	54	36.0%
4	66	44.0%
5	13	8.7%

Table 43: balancing academic work with your personal life

Assumption

- Very Difficult - 1
- Difficult - 2
- Neutral - 3
- Manageable - 4
- Very Manageable – 5

How manageable do you find balancing academic work with your personal life?
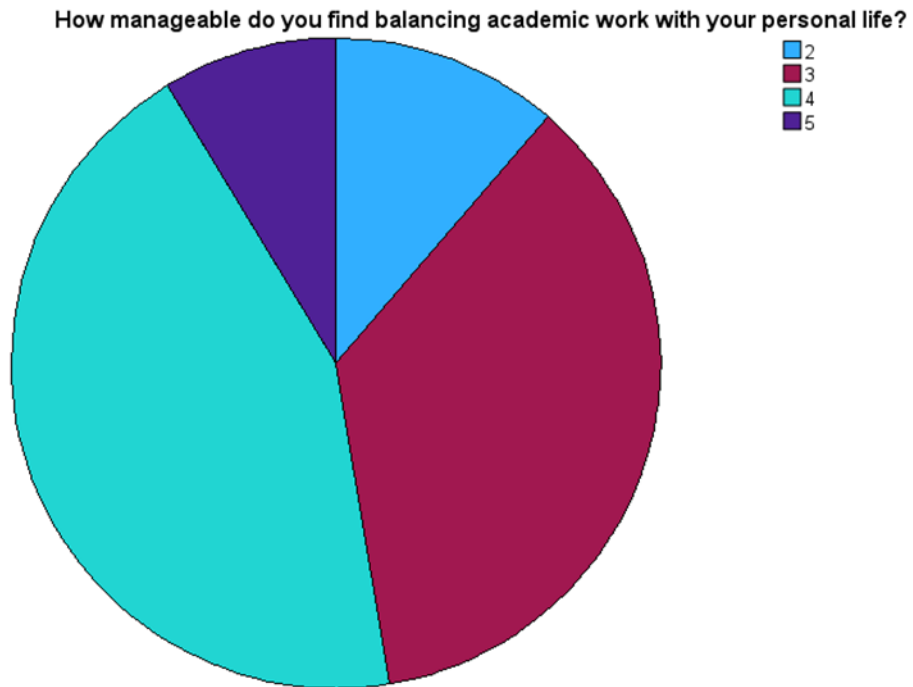
Figure 25: : balancing academic work with your personal life

How would you rate your stress levels related to academic work?

- 0% Very Low
- 1.3% Low
- 3.3% Moderate
- 57.3 High
- 33.3% Very High

How would you rate your stress levels related to academic work?

	N	%
1	2	1.3%
2	5	3.3%
3	86	57.3%
4	50	33.3%
5	7	4.7%

Table 44: stress level

Assumption:

- Very Low – 1
- Low – 2
- Moderate – 3
- High – 4
- Very High – 5

Figure 26:stress level

Conclusion:

- Work-Life Balance = 3.44
- Academic Stress Levels = 4.31
- Overall Work-Study Balance & Stress Levels Satisfaction= 3.38

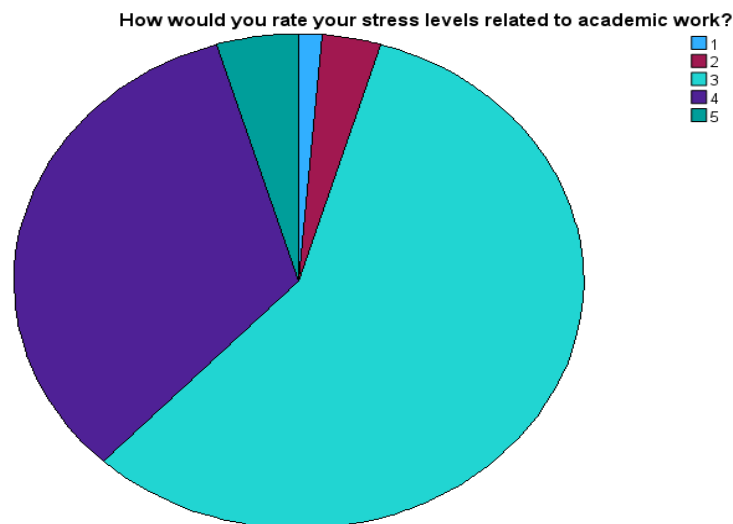The overall satisfaction rating for work-study balance and stress is 3.88, between "Neutral" and "Manageable" on the Satisfaction Scale, which points to a generally moderate level of satisfaction with the ability to balance academic and personal life and manage stress

Chapter 5: Discussion and Recommendations

5.1 Discussion

This chapter aims to synthesize the findings from the statistical analysis of the student satisfaction questionnaire and provide insights into the implications for higher educational institutions. The analysis focused on several key areas: academic satisfaction, financial management, institute environment, work-study balance, and stress levels.

5.1.1 Academic Satisfaction

- The overall academic satisfaction score of 3.57, which falls between Neutral and Good on the Likert scale, indicates a moderate level of satisfaction among students.

- Quality of Teaching: The highest rating given to the samples of students in this regard is for the quality of teaching-mean rating of 3.73, which indicated that, generally, students perceive their instructors as effective. However, since improvements are always possible, one-third of the students rated the quality of teaching as Fair-28.7%.

- Grading Criteria and Learning Outcomes: Both the grading criteria and learning outcomes received a mean score of 3.6, reflecting a moderate level of contentment. A significant portion of students (47.3%) expressed dissatisfaction with grading criteria, while 52% were dissatisfied with the

learning outcomes. This dissatisfaction suggests a need for clearer grading policies and improved transparency regarding learning objectives.

- Manageability of Workload and Difficulty Level of Exams: The mean score for the manageability of academic workload was 3.49, indicating that while many students find their workload manageable, others struggle. The difficulty level of exams, with a mean score of 2.45, suggests that a considerable number of students find exams challenging, which could impact their overall satisfaction.

5.1.2 Financial Management
This analysis of financial management revealed a mixed picture:

- Managing Finances: The mean score of 2.52 indicates that many students find it difficult to manage their finances effectively, reflecting quite a high level of struggle in financial management.

- Financial Stress: With a mean score of 2.8, students report experiencing moderate financial stress. This highlights the impact of financial pressures on their overall well-being.

- Financial Support Options: A mean score of 3.15 for the items dealing with financial support options suggests that whereas some of the students feel their institution provides adequate financial aid, there is still a significant proportion who believe more support about finances is needed.

- Overall Financial Satisfaction: An overall financial satisfaction score of 2.82 falls between Neutral and Somewhat Dissatisfied on the Likert scale, indicating that students are generally dissatisfied with the financial aspects of their education.

5.1.3 Institute Environment
The satisfaction with the institute's environment and its impact on mental health is as follows:

- Institute Environment: The mean satisfaction score for the institute environment is 2.12, indicating a general dissatisfaction with campus facilities and support services.
- Student Connectivity and Mental Health: This is because his connectivity stands at a relatively high 3.68, showing great peer relationships, while the environmental influence on mental health is at 3.35, showing that although mental health support is available, more work should be done to make it even more supportive.
- Overall Institute Environment & Mental Health Satisfaction: The overall score of 3.05 falls between Neutral and Somewhat Satisfied, suggesting a moderate level of satisfaction with the environment and its impact on mental health.

5.1.4 Work-Study Balance and Stress Levels

- Work-Study Balance: The mean score of 3.44 indicates that, on the whole, students find the balance of academic work to personal life manageable. However, the fact that 36% of students reported a neutral opinion would indicate that for many, this is still a concern.
- Academic Stress Levels This represents the highest mean score, 4.31, indicating that academics indeed stress students a great deal. This may have a deterring effect on their general well-being and satisfaction.
- Overall Work-Study Balance & Stress Levels Satisfaction: From the overall satisfaction score of 3.38, which falls into the middle of Neutral and Manageable along the satisfaction scale, it can be derived that there is the existence of moderate satisfaction in balancing academic and personal life with the management of stress.

5.2 Recommendations

Based on the analysis, the following recommendations are proposed to improve student satisfaction and well-being:

- Enhance Teaching Quality: Continuing to support and train faculty regarding teaching effectiveness, regular student feedback may highlight areas where the refinement of teaching methodology is required.
- Revise Grading Criteria and Learning Outcomes The institutions should look in the direction of making more transparent and consistent grading

criteria, coupled with learning outcomes. Detailed rubrics and feedback would go a long way in helping students understand how grades are determined and what is expected from students.

- Manage Academic Workload: Reassess the academic workload to ensure it is manageable for students. Offering support through academic advising and time management workshops can help students handle their workload more effectively.

- Address Exam Difficulty: Exams should be reviewed and revised to increase or decrease the level of difficulty as needed in order to meet learning objectives and teaching content. The availability of practice exams and/or study guides may further assist student preparation

- Improve Financial Support: Increase the availability of financial aid options, such as scholarships and flexible payment plans, to alleviate financial stress. Institutions should also provide financial counseling to help students manage their finances effectively.

- Enhance Campus Environment: Invest in improving campus facilities and support services. Regular surveys and feedback mechanisms can help identify specific areas that need improvement.

Support Mental Health: Develop and promote mental health resources and support services for students. Programs that address stress management and provide counseling can help students cope with academic and personal pressures.

5.3 Conclusion

These findings, obtained through statistical analysis, now provide useful insights into what factors are associated with the level of students' satisfaction. The issues pointed out could be addressed and improvements suggested could be implemented at the educational institution for improvement in the students' overall experience, academic success, and a positive learning environment. This standard shall be maintained or improved through regular assessment and continuous feedback.

Chapter 6: Appendices

6.1 Questionnaire

The questionnaire used for this survey can be accessed via the following link:

https://forms.office.com/r/pJYrV3twHd

Table 45: QR code to access the questionnaire

Note: Scan the QR code with your mobile device to directly access the questionnaire.

6.2 Survey Results

- Overall Academic Satisfaction

Aspect	Mean score
Quality of teaching	3.73
Grading criteria	3.6
Learning Outcome	3.6
Manageability of academic workload	3.49
Difficulty level of exams	2.45
Overall academic satisfaction	3.57

Table 46: Overall Academic Satisfaction

- Financial Management

Aspect	Mean score
Managing finances	2.52
Financial stress	2.8
Financial support opportunities	3.15
Overall financial satisfaction score	2.82

Table 47: Overall financial management

- Institute Environment and Mental Health

Aspect	Mean score
Student connectivity	3.68
Impact of environment on Mental Health	3.35
Satisfaction with institutional environment	2.12
Overall institute environment and mental health satisfaction	3.05

Table 48: Institute Environment and Mental Health

- Work-Study Balance and Stress Levels

Aspect	Mean score
Work-life balance	3.44
Academic stress level	4.31
Overall work study balance and stress level satisfaction	3.38

Table 49: Work-Study Balance and Stress Levels

Chapter 7: References

1. 365 Data Science. (n.d.). *Linear Regression Calculator*. [online] Available at: https://365datascience.com/calculators/linear-regression-calculator/.

2. Youtu.be. (2024). - YouTube. [online] Available at: https://youtu.be/ZpwZS3XnEZA?si=VAtLyDLji1kTyCbK].

3. www.sciencedirect.com. (n.d.). Statistics - an overview | ScienceDirect Topics. [online] Available at: https://www.sciencedirect.com/topics/mathematics/statistics.

4. model, C. (2024). Conceptual model with hypothesized mediation and moderation paths ... [online] www.google.com. Available at: https://images.app.goo.gl/eiAZWL5Rf3w9dHSD7

5. Statistical Software:
    a. SPSS
    b. R Studio