Exploring Smartphone Usage Patterns among University Students: A Case Study of UPNG

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Introduction

- The usage of smartphones among university students has increased at an exponential rate over the last few years worldwide, and there is no exception among the students of the University of Papua New Guinea (UPNG).
- This research aims to comprehensively understand and analyze the patterns of smartphone usage among UPNG students.

Research Questions

1. For what academic purposes do university students use smartphones?

2. What are the non-academic purposes for which university students use smartphones?

3. What is the weekly time investment of university students in smartphone usage, for academic activities?

continuation

4. What is the weekly time investment of university students in smartphone usage, for non – academic activities?

5. How frequently do university students activate smartphone screens on a daily basis?

6. Is there any significant difference between students' year of study and their usage of smartphones for various academic and non –academic purposes ?

7. Is there any significant difference between gender and the use of smartphone for different academic activities?

Continuation:

8. Is there a significant difference between gender and the use of smartphones for non-academic purposes?
9. Is there a significant difference between students' year of study and the amount of time they spend with smartphones for academic and non-academic purposes?
10. Is there a significant variance between gender and the frequency of smartphone screen activations per day?

Methodology

- The data for this research was collected using the questionnaire method.
- Following an in-depth literature review, a questionnaire was crafted using Google Forms. The questionnaire's validity was assessed, leading to necessary adjustments.
- Subsequently, the modified questionnaire was distributed to UPNG students across all five schools via email.
- Participants were asked to fill out the online questionnaire and submit their responses.
- By the designated deadline, a total of 1180 responses were collected.

Table 1: Gender Distribution of Respondents

Gender	N	%
Male	526	46%
Female	654	54%
	1180	100

Table 1 : Gender Distribution of Respondents

Source: Researcher

Gender Distribution of Respondents

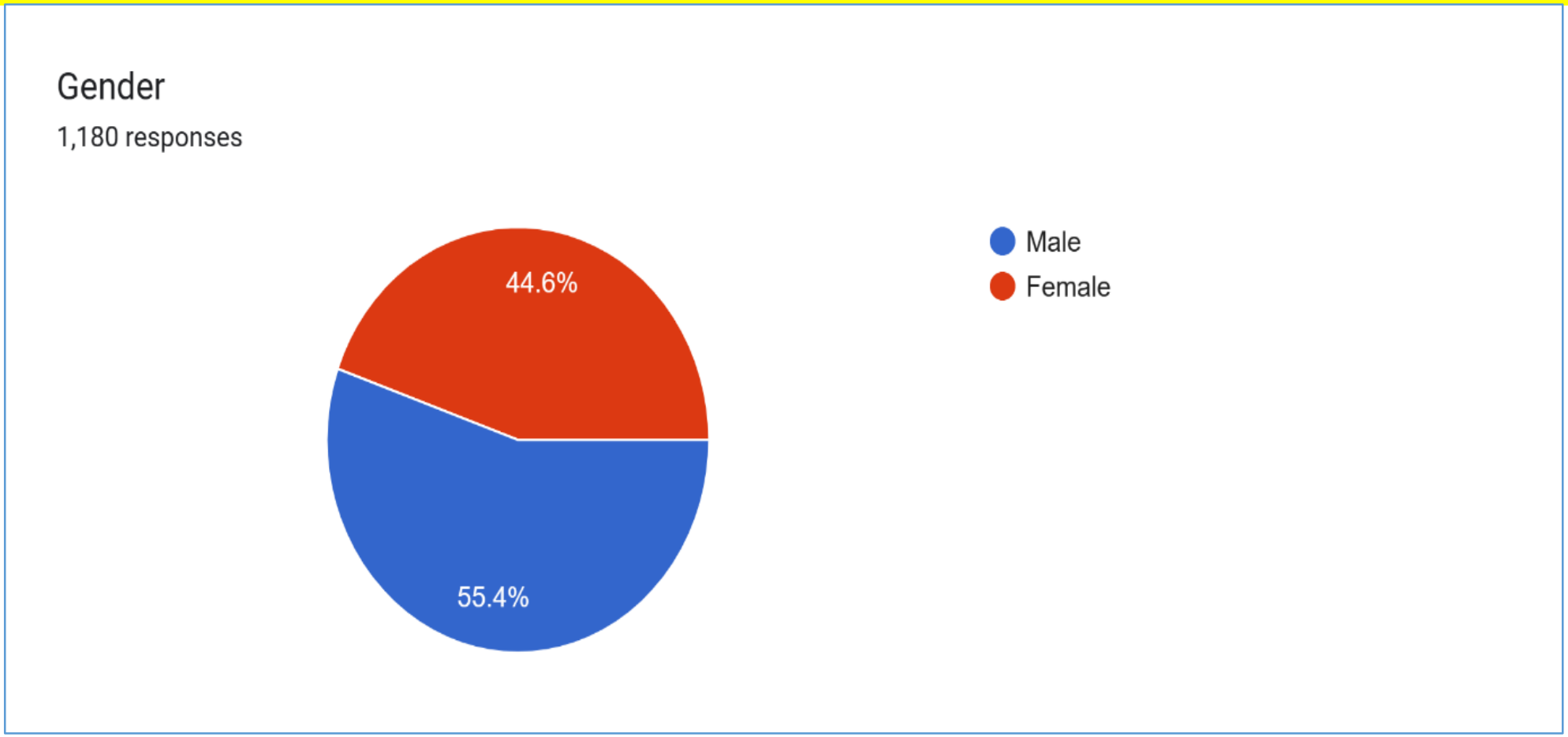


Table 2:Respondents'Gender Distribution among Schools

Schools	Female	Male	Grand Total
Business and Public Policy	242	329	571
Humanities and social sciences	59	51	110
Law	65	65	128
Medical and Health Science	12	16	28
Natural & Physical Sciences	148	195	343
Grand Total	526	654	1180
Table 2: Gender Distribution among Schools			
Source: Researcher			

School Wise Distribution of Respondents

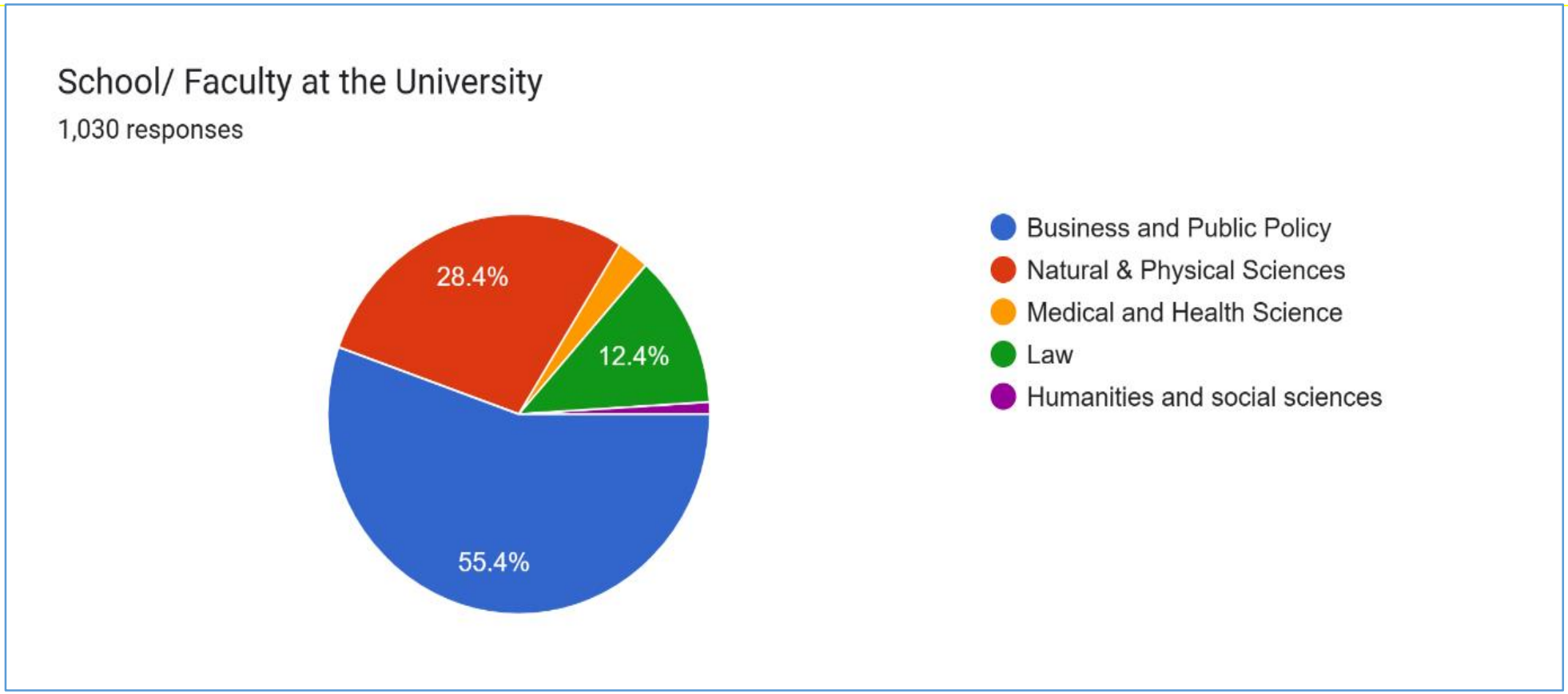


Table 3: Age Composition of Respondents

Age	Female	Male	Grand Total
20 -25 years	374	473	847
25 years and above	67	117	184
Below 20 years	85	64	149
Grand Total	**526**	**654**	**1180**
Table 3 : Age Composition of Respondents			
Source: Researcher			

Age Composition of Respondents

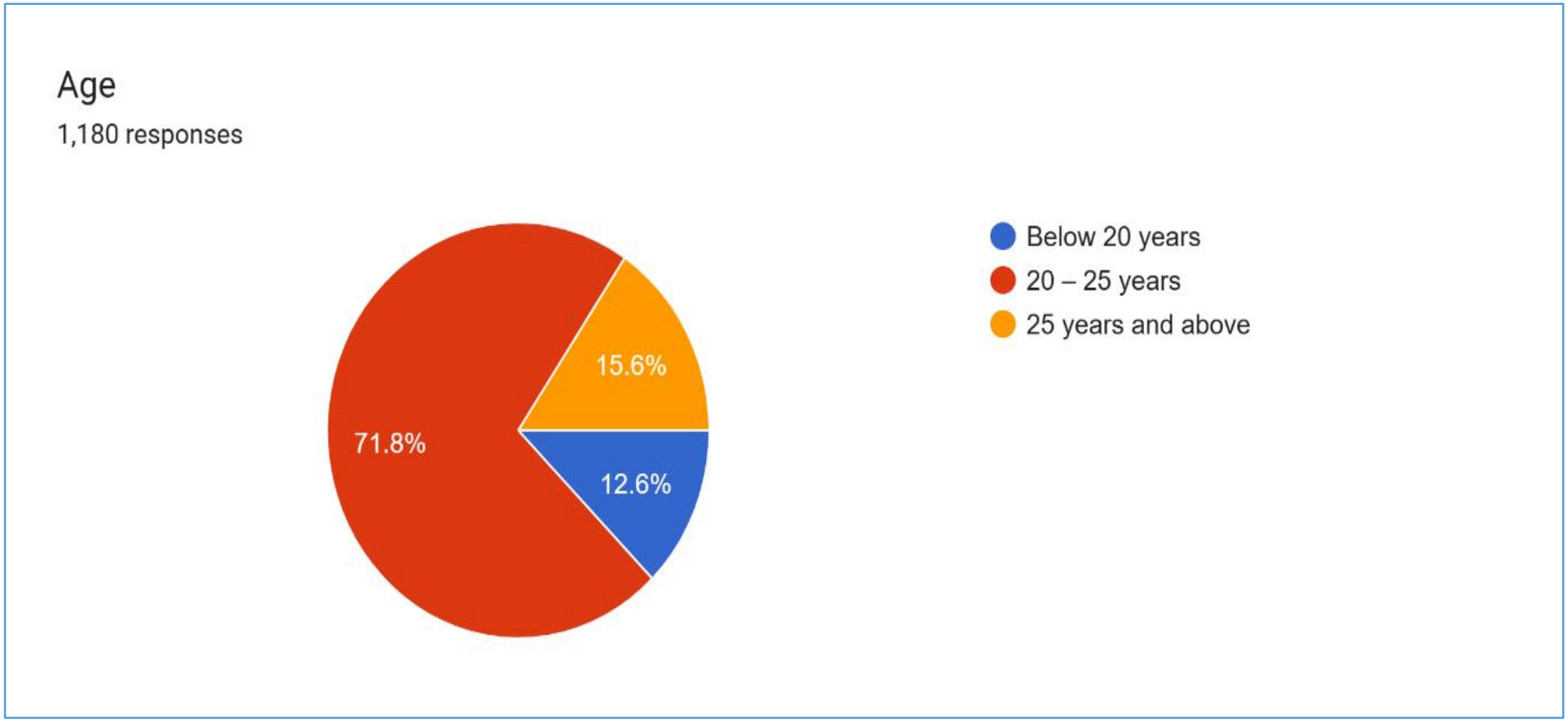
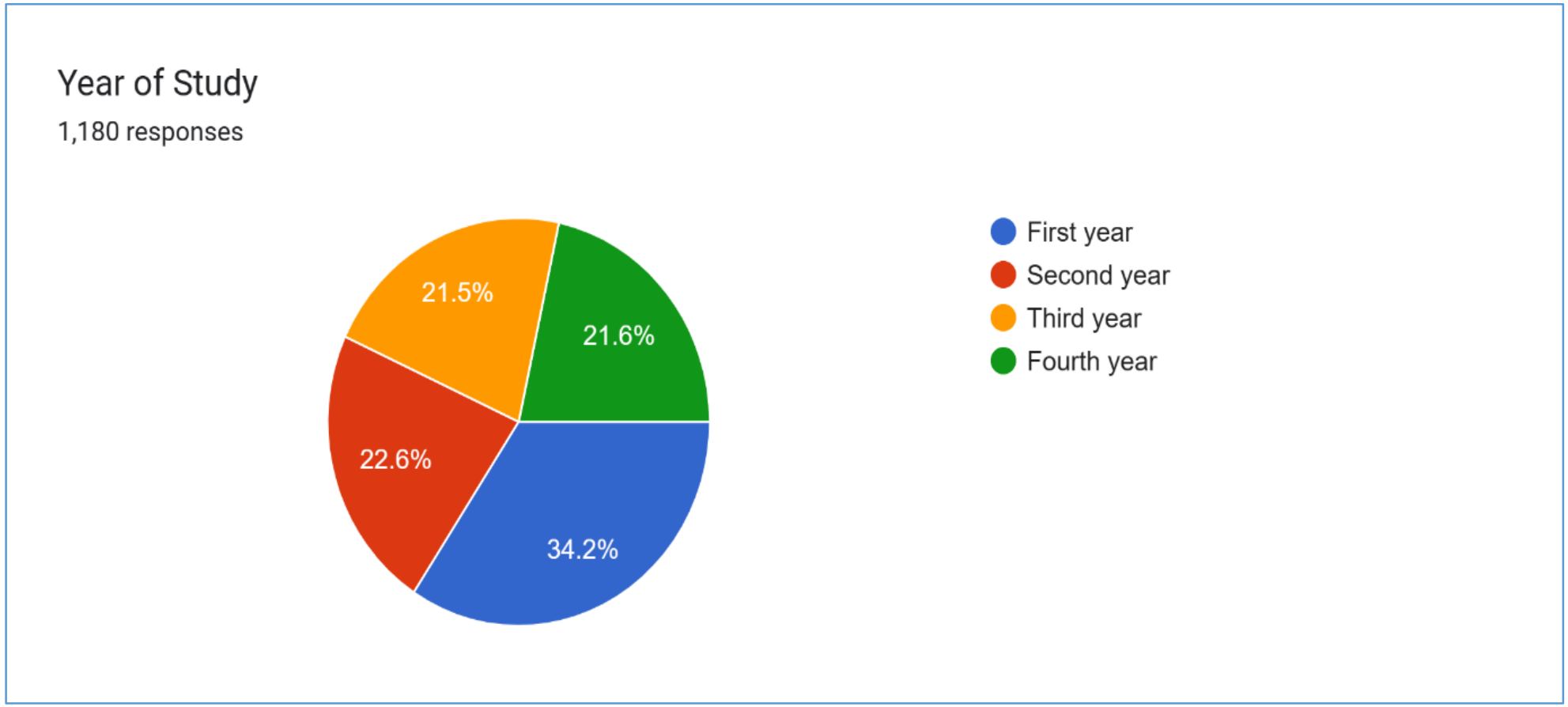


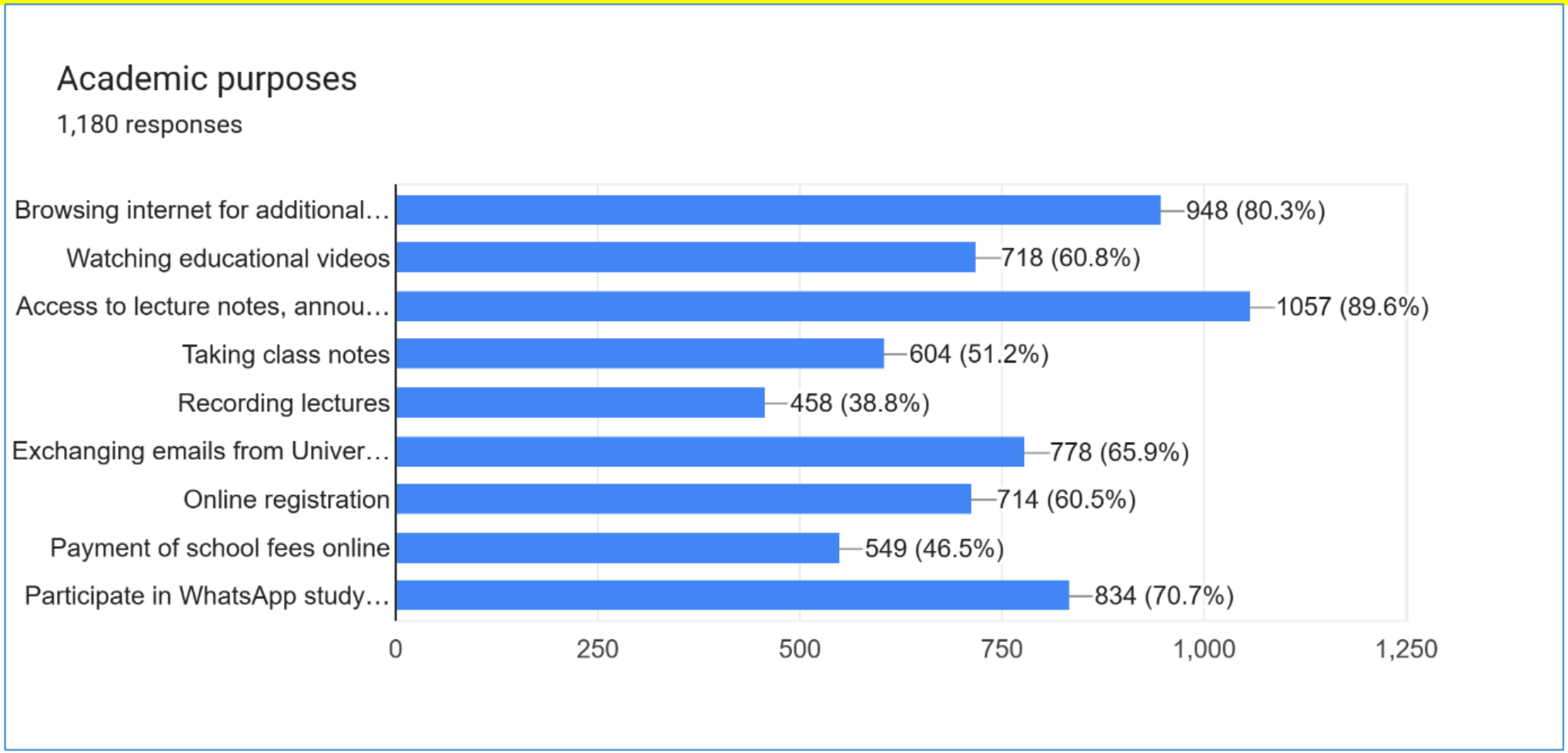
Table 4: Respondents’ Year of Study

Year of study	Female	Male	Grand Total
First year	166	238	404
Second year	117	150	267
Third year	126	128	254
Fourth year	117	138	255
Grand Total	**526**	**654**	**1180**
Table 4: Respondents' Year of Study			
Source: Researcher			

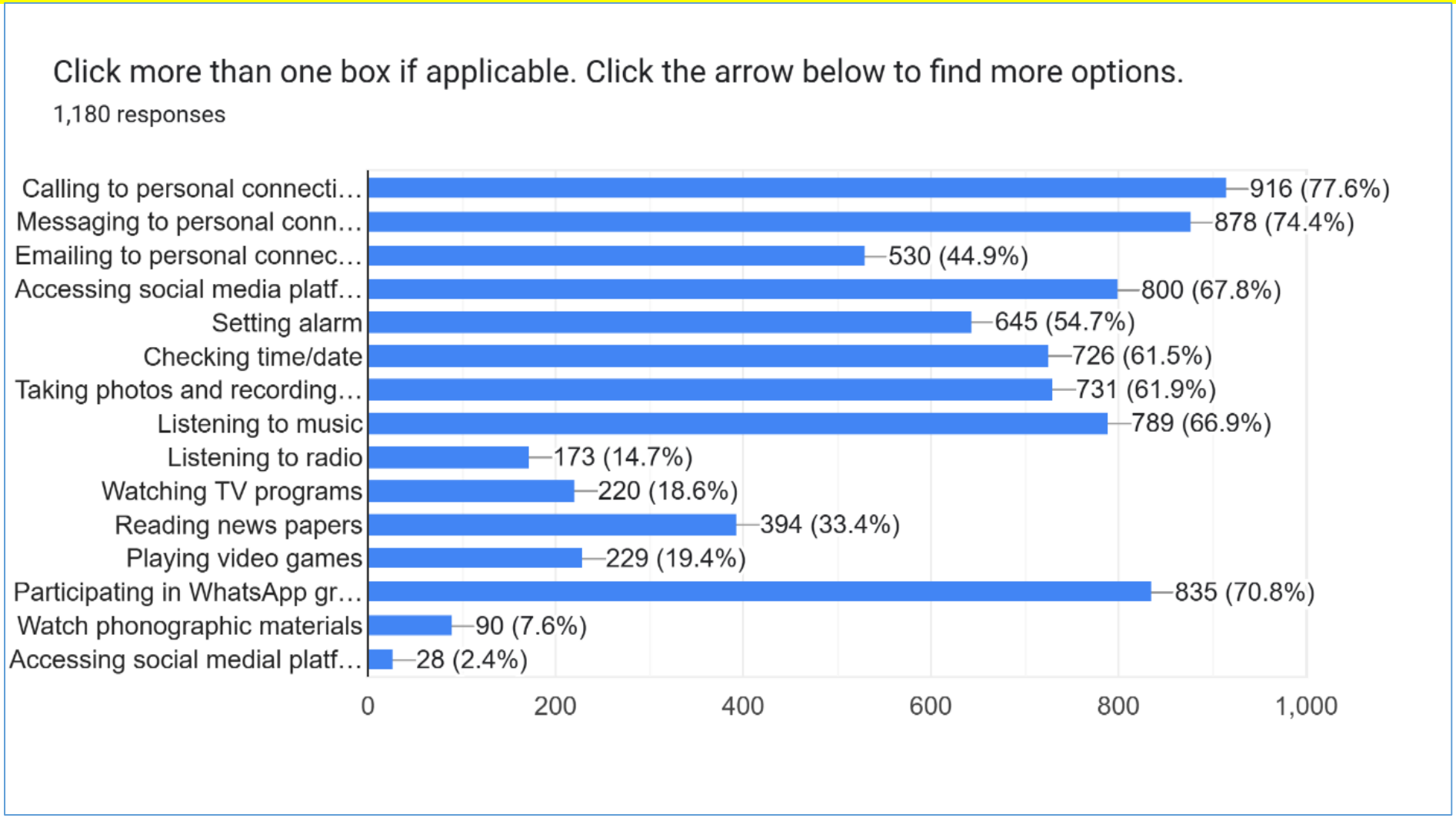
Respondents' Year of Study



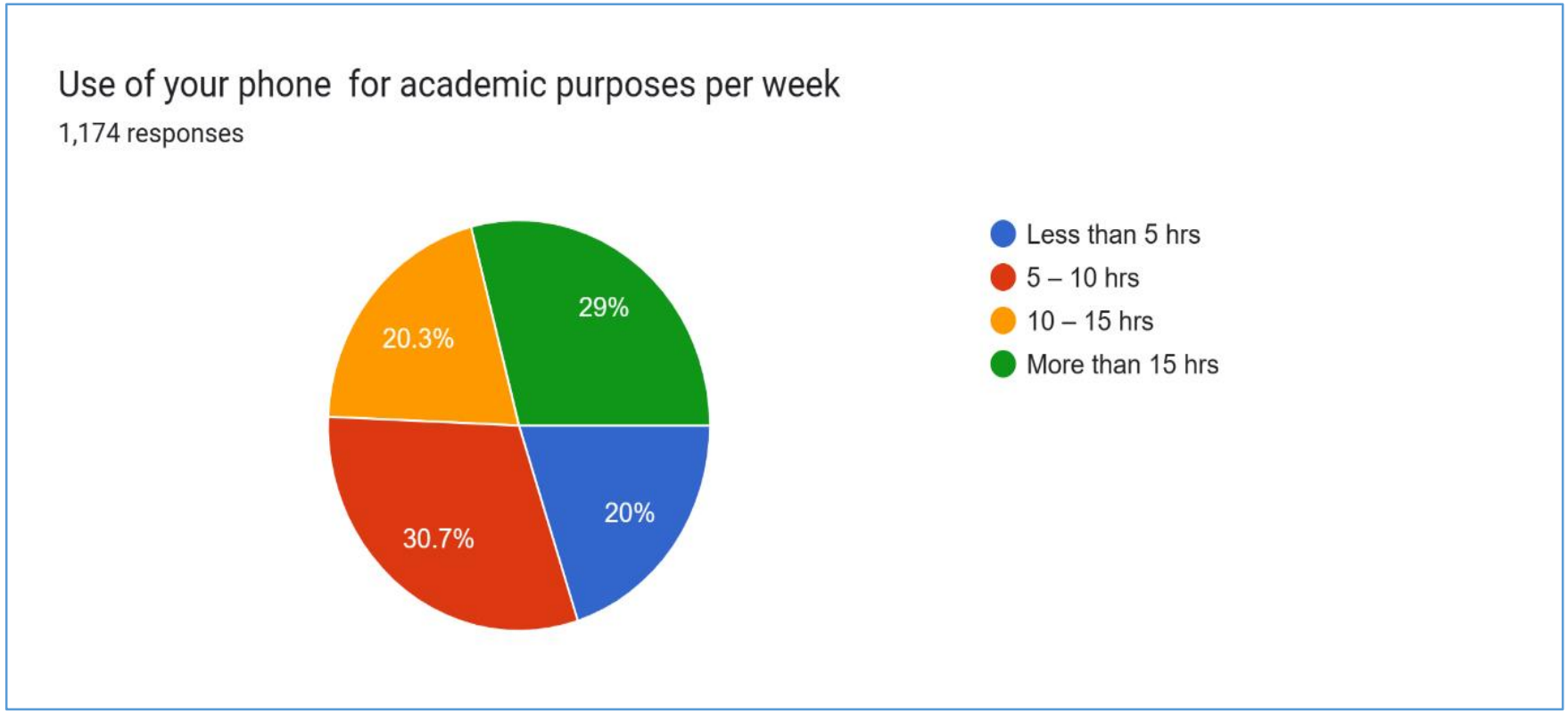
Q1:For What Diverse Academic Purposes do University Students use Smartphones?



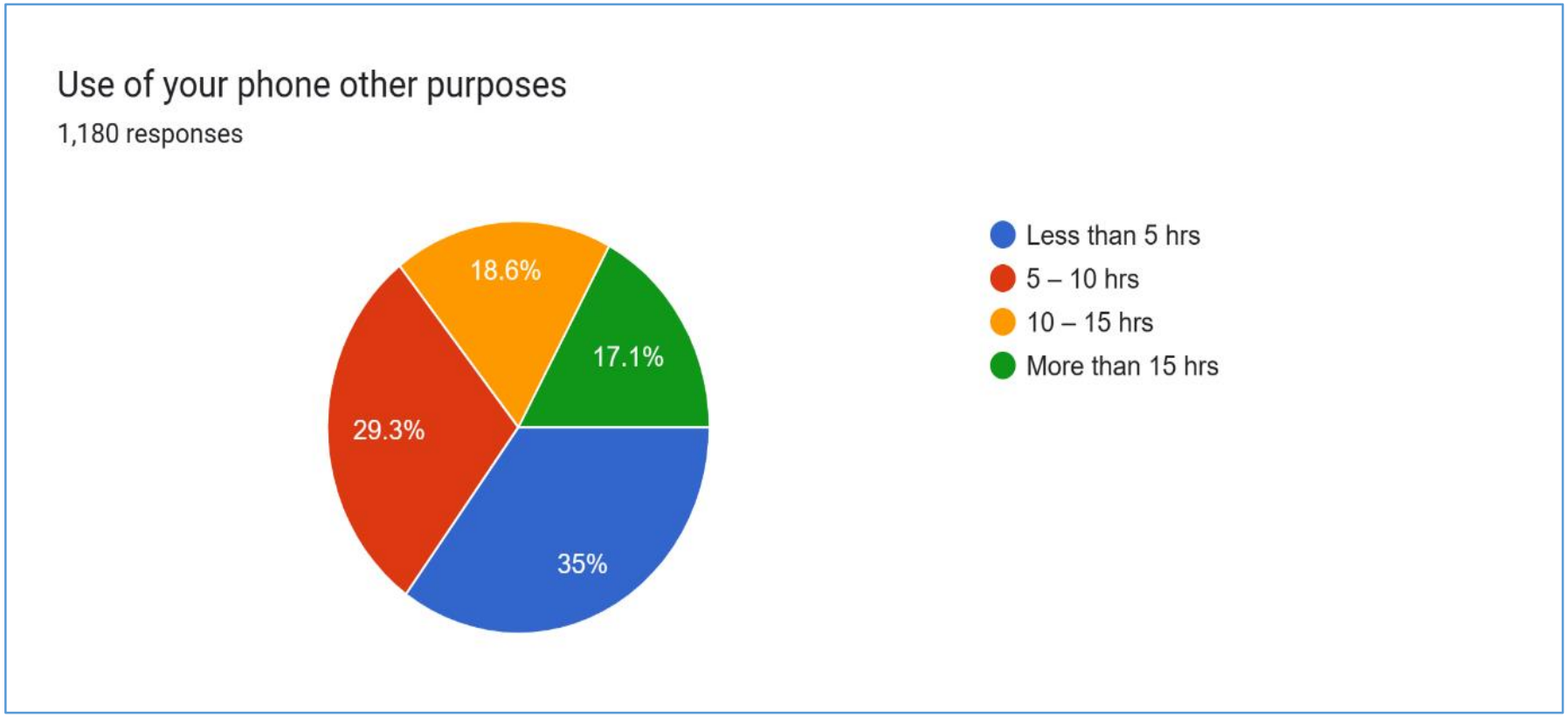
Q2:What are the Diverse Non-Academic Purposes for Which Students Use Smartphones?



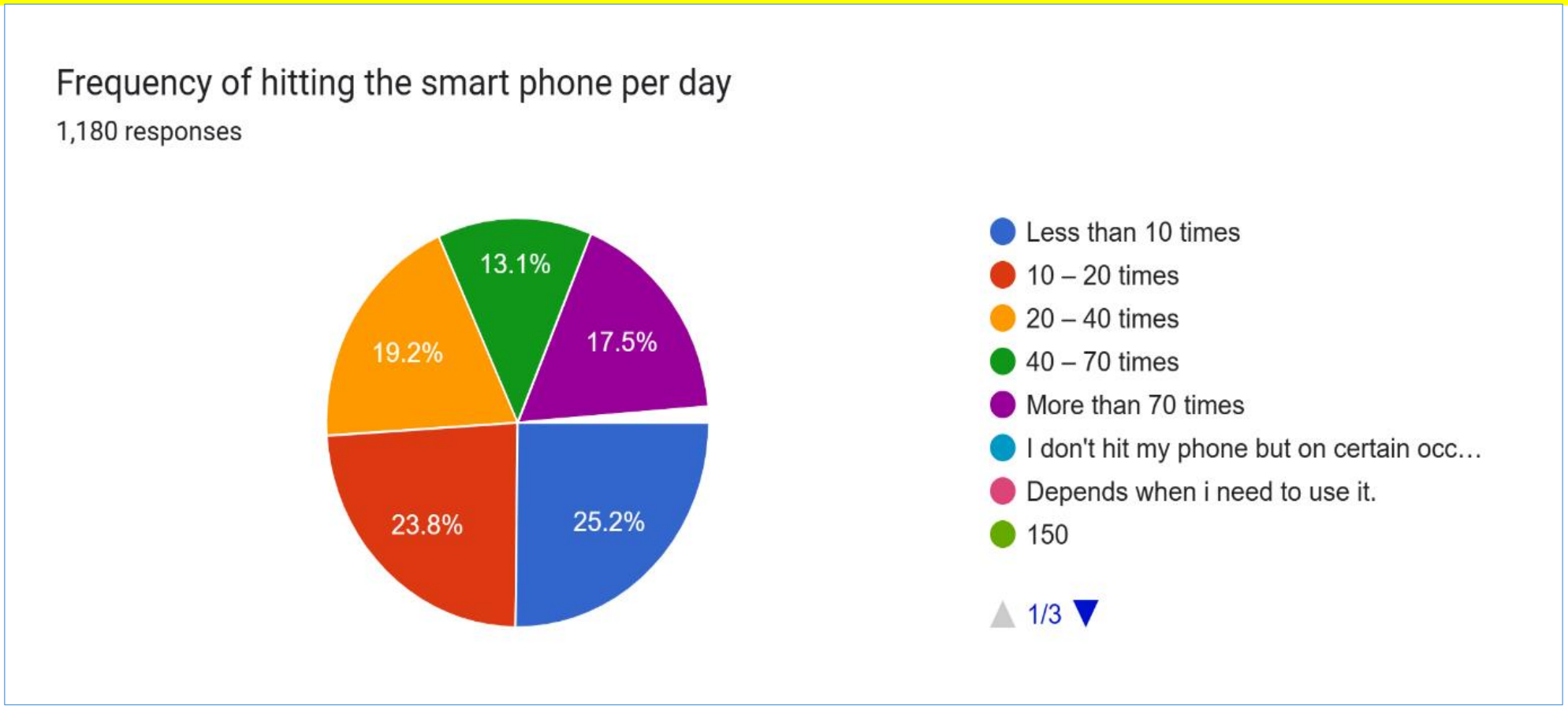
Q3:What is the Weekly Time Investment of University Students in Smartphone Usage for academic activities?



Q4:What is the Weekly Time Investment of University Students in Smartphone Usage for Non-academic activities?



Q5: How Frequently Do University Students Activate their Smartphones on a Daily Basis?



Analysis

Q 6: Is there a significant difference between students' year of study and their usage of smartphones for various academic and non-academic purposes?

- Table 1: ‘T’ test for mean score differences between academic purposes and non-academic purposes on the smartphone usages

Variables	N	Mean	SD	Mean differences	T-test	p-value*
Academic purposes	1174	293.5	72.54	0	-0.0291	0.977
Non-academic purposes	1180	295	72.91			
*P<0.05						

Conclusion:

In Table 1. p-value of 0.977 greater than the significance (0.977>0.05) level at 5%. This result suggests that there is no significant difference of uses of smartphones for academic or non-academic purposes.

Q 7: Is there a significant difference between gender and the use of smartphones for different academic activities?

- Table 2: ‘T’ test for mean score differences between male and female student’s smartphone usages for various academic purposes.

Variables	N	Mean	SD	Mean differences	T-test	p-value*
Male	525	131.25	34.31	0	-1.281	0.247
Female	649	162.25	34.13			
*P<0.05						

Conclusion:

- The findings suggest that there were no statistically significant variations in the means of smartphone usage for academic purposes between males and females, as illustrated in Table 1. The calculated p-value of 0.247 exceeds the significance threshold of 0.05 ($0.247 > 0.05$), indicating that the observed distinction lacks statistical significance at the 5% level. Thus, it can be inferred that gender does not significantly influence smartphone usage discrepancies.

Q 8: Is there a significant difference between gender and the use of smartphones for various non-academic activities?

- Table 3: ‘T’ test for mean score differences between male and female student’s smartphone usages for various other purposes.

Variables	N	Mean	SD	Mean differences	T-test	p-value*
Male	526	131.5	34.31	0	-0.797	0.455
Female	654	163.5	34.13			
*P<0.05						

Conclusion:

The results presented in Table 3 indicate that there is no significant difference between male and female students. The p-value of 0.455 is greater than the significance level of 0.05 at the 5% level. This suggests that the observed difference is not statistically significant.

Q 9: Is there a significant difference between students' year of study and the amount of time they spend with smartphones for academic and non-academic purposes?

- Table 4: One-way ANOVA for numbers of students use smartphone by year of study.

Variables	Mean	Variance	F	P Value	F Cri
First year	100.5	755	3.878	0.037	3.49
Fourth year	63.5	269.66			
Second year	66.25	127.58			
Third year	63.25	204.25			
*P<0.05					

Conclusion:

- The results presented in Table 4 demonstrate that the usage of smartphones among students has displayed statistically significant variations based on their year of study. The p-value of 0.037 is less than the alpha level of 0.05 ($0.037 < 0.05$), indicating a statistically significant difference.

Q 10: Is there a significant difference between gender and the frequency of smartphone screen activations per day?

Table 5: ‘T’ test for mean score differences between male and female student’s smartphone screen activating.

Variables	N	Mean	SD	Mean differences	T-test	p-value*
Male	526	87.66	42.78	0	-0.687	0.507
Female	654	109	62.83			
*P<0.05						

Conclusion:

- Table 5 indicates that there is no significant difference between gender and the frequency of activating the smartphone screen per day, as the p-value of 0.507 is greater than the significance level of 5%.

Summary

- The investigation revealed prominent patterns of smartphone utilization among students:

Academic Activities:

- The majority of students use artphones for the following academic activities:

1. Exploring the internet to access supplementary academic resources.

2. Gaining swift access to lecture notes, announcements, assignments, and results.

3. Engaging in active participation within WhatsApp study groups.

4. Corresponding via emails with university management.

Non-Academic Activities:

Students predominantly use smartphones for various non-academic pursuits:

1. Initiating personal calls to their contacts.
2. Messaging friends and family members.
3. Participating in informal WhatsApp groups.
4. Enjoying music through their devices.
5. Accessing social media platforms.

Moreover, the study indicated the following noteworthy insights:

- - There were no significant differences between students' year of study and their smartphone usage for both academic and non-academic activities.
- - Gender did not exhibit a significant influence on smartphone usage for various academic activities.
- - Similarly, gender did not significantly affect smartphone usage for different non-academic activities.
- - A significant disparity emerged between students' year of study and the time dedicated to smartphone engagement for academic and non-academic purposes.
- - Notably, gender exhibited a substantial impact on the frequency of smartphone screen activations per day.

Acknowledgments:

I wish to express my sincere gratitude to Dr. Ponnusamy Manohar for his invaluable assistance in meticulously analyzing the data for the successful completion of this research project.

Thank you.