



Social Life & Campus Integration Among Second-Year Undergraduates

DATA ANALYSIS REPORT
Group 2C
IS 3005

Background

- University life extends beyond academics to include social engagement and campus participation.
- Not all students feel equally connected to campus life, and levels of integration may vary based on activities, demographics, and personal factors.
- Social connections and active participation play a significant role in student wellbeing, engagement, and overall satisfaction.
- Despite its importance, there is limited understanding of how these factors influence campus integration among science undergraduates.

Introduction

Objectives

- 01** To describe the demographic and background characteristics of second-year undergraduates in the Faculty of Science
- 02** To examine the level of campus integration among second-year undergraduates
- 03** To assess the relationship between participation in extracurricular activities and campus integration
- 04** To identify whether demographic and personal factors are associated with levels of campus integration

Target Population & Sampling

- Target population** :- 2nd-year undergraduates, Faculty of Science
- Sampling method** :- Convenience sampling
- Sample size** :- ~60 responses
- Data collection method** :- Online Questionnaire

Variables Used

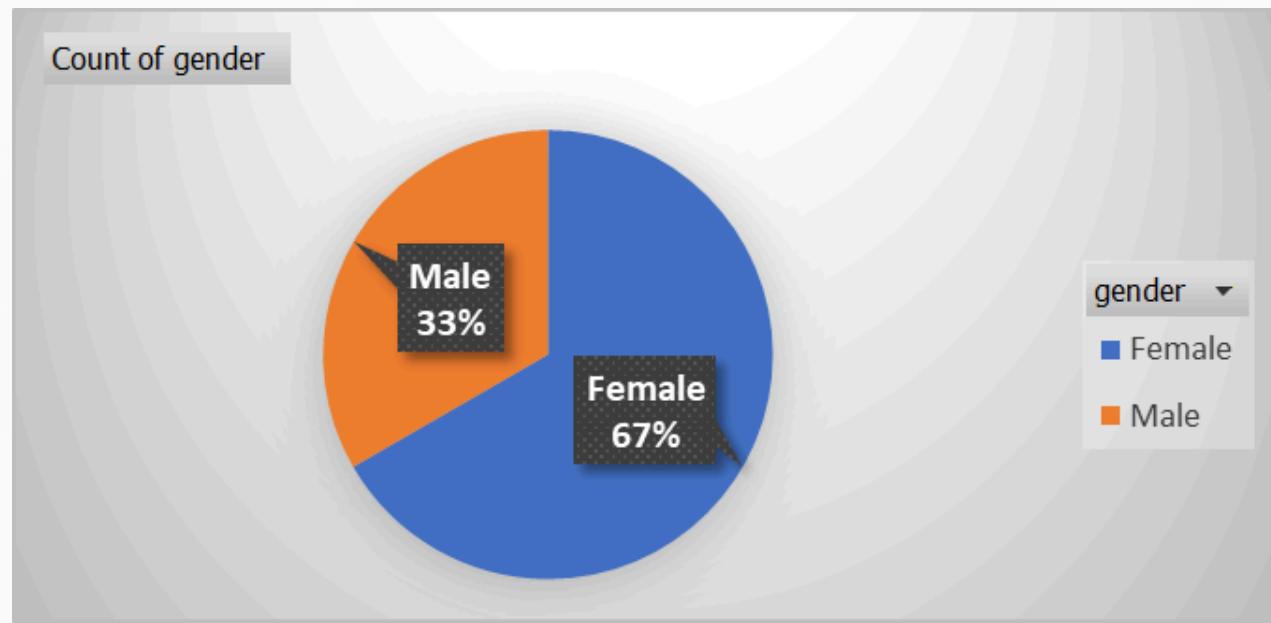
- gender (categorical)
- residence_type (categorical)
- monthly_allowance (categorical)
- no_clubs (categorical: 0,1,2,3+)
- no_sports (categorical)
- event_frequency (ordinal)
- Relationship Status (categorical)
- Several Likert Scale Response Variables (to calculate the campus_integration_score)

Objective 1

To describe the demographic and background characteristics of second-year undergraduates in the Faculty of Science.

Descriptive Analysis

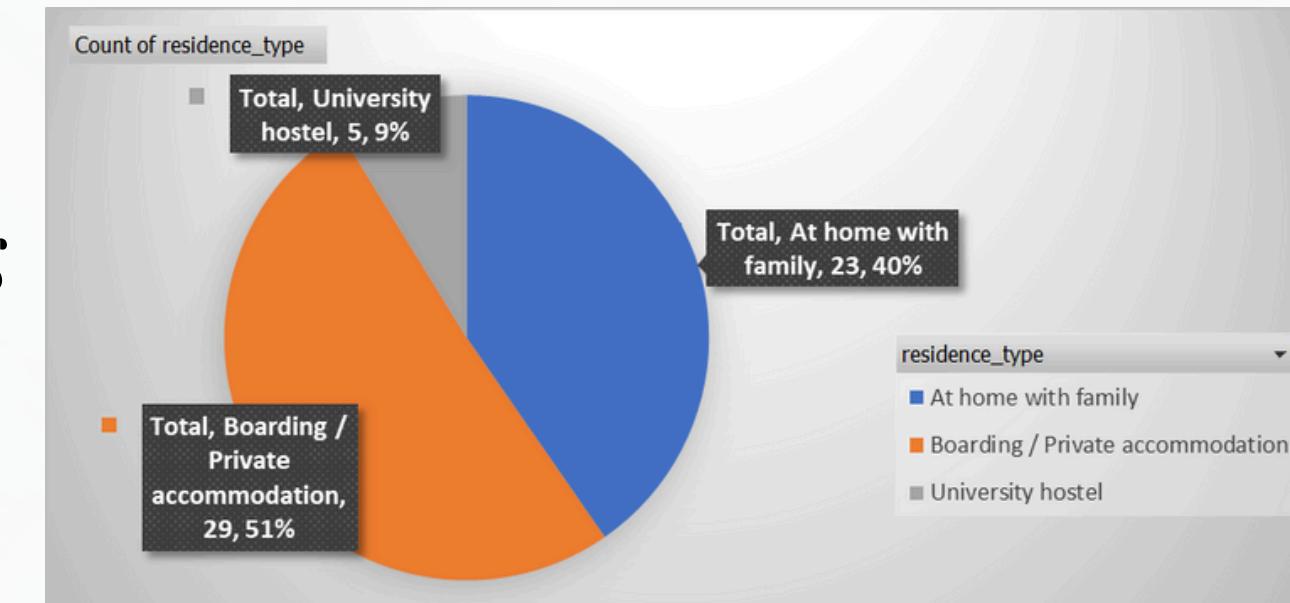
Distribution of Respondents by Gender



Distribution of respondents by gender showing a higher proportion of female students compared to male students.

Residential background of respondents, showing a higher proportion of students living in boarding or private accommodation

Distribution of Students by Type of Residence



Descriptive Analysis

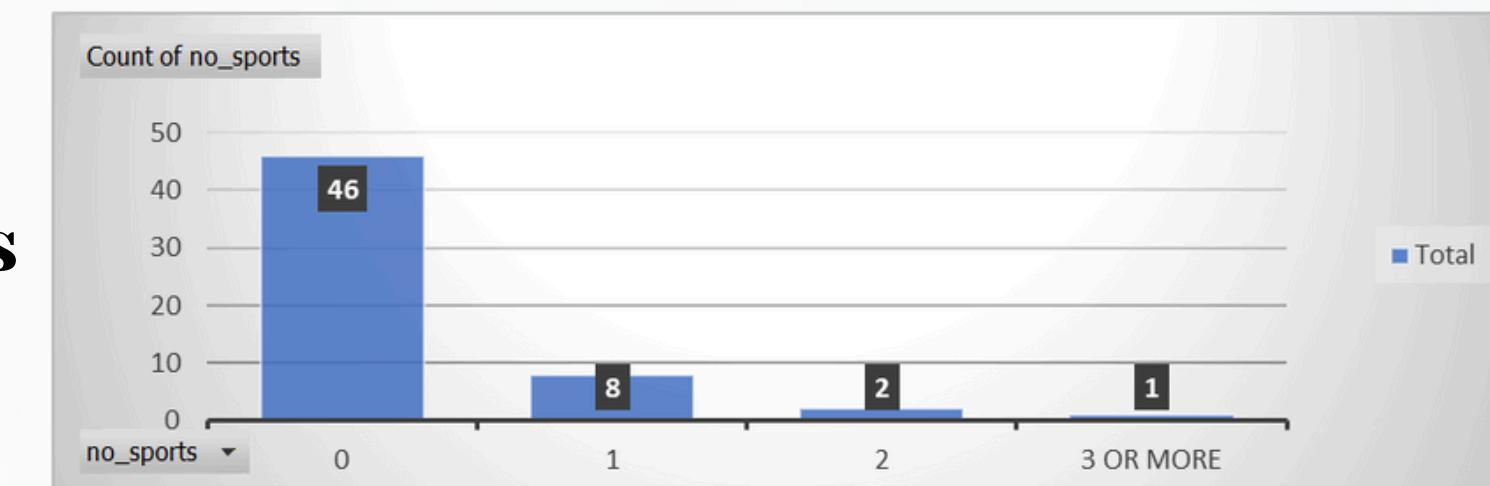
Frequency of Club Participation Among Undergraduates



Distribution of respondents based on the number of clubs or societies joined, indicating moderate club involvement

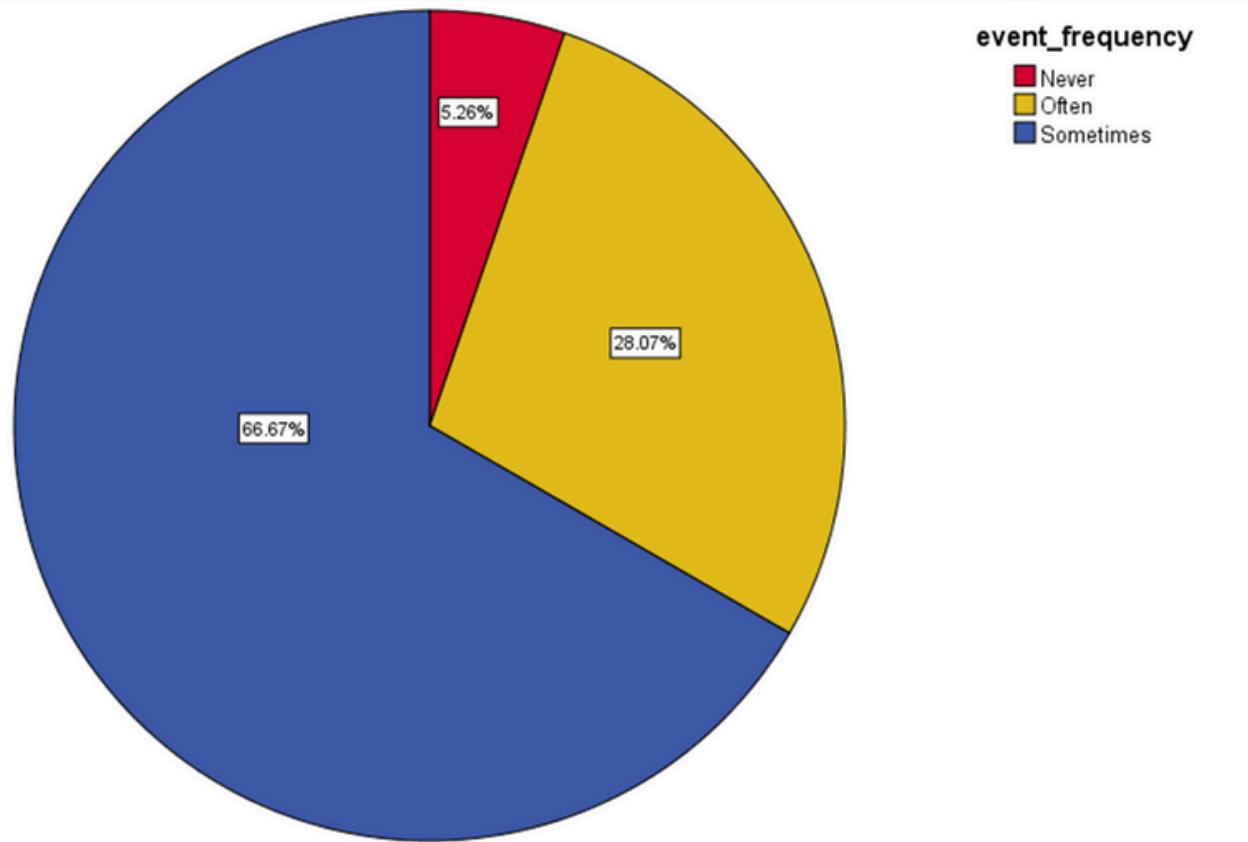
Number of sports activities participated in by students, highlighting low overall sports participation

Frequency of Sports Participation Among Undergraduates



Descriptive Analysis

Event frequency



Frequency of participation in campus events, with most students reporting occasional involvement

Objective 2

To examine the level of campus integration among second-year undergraduates.

Objective 2

Measurement of Campus Integration

The score was created using seven Likert-scale statements (1–5) that capture different dimensions of campus integration:

- Q1: I feel a sense of belonging at my university.
- Q2: I feel comfortable interacting with my classmates.
- Q3: I actively participate in group activities on campus.
- Q4: I feel supported by my peers.
- Q5: I feel supported by academic staff or mentors.
- Q6: I have built strong friendships within my university community.
- Q7: I feel included in the larger university community.

Each item was measured on a 5-point scale
(1 = Strongly disagree, 5 = Strongly agree)

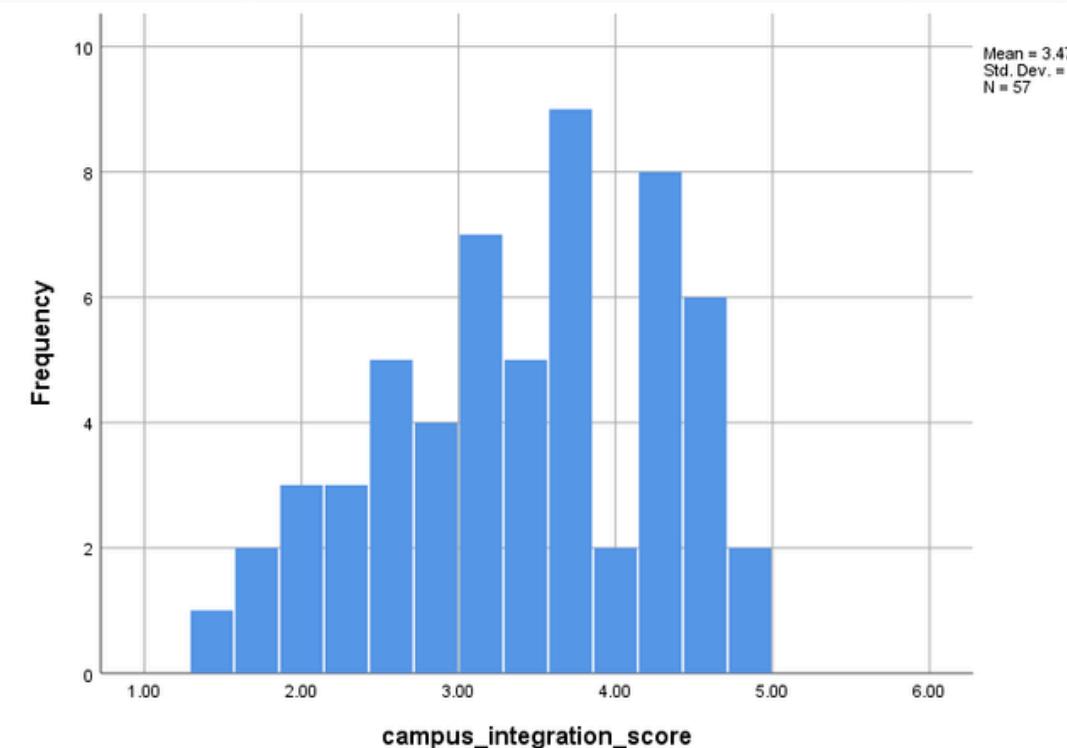
(Cronbach's Alpha Method)

campus_integration_score =

$$\frac{Q1+Q2+Q3+Q4+Q5+Q6+Q7}{7}$$

Objective 2

Distribution of Composite Campus Integration Scores



This graph shows campus integration scores of students. Most students have scores between 3 and 4. The average score is about 3.5, which means students feel moderately integrated. Only a few students have very low or very high scores. Overall, students feel fairly comfortable on campus.

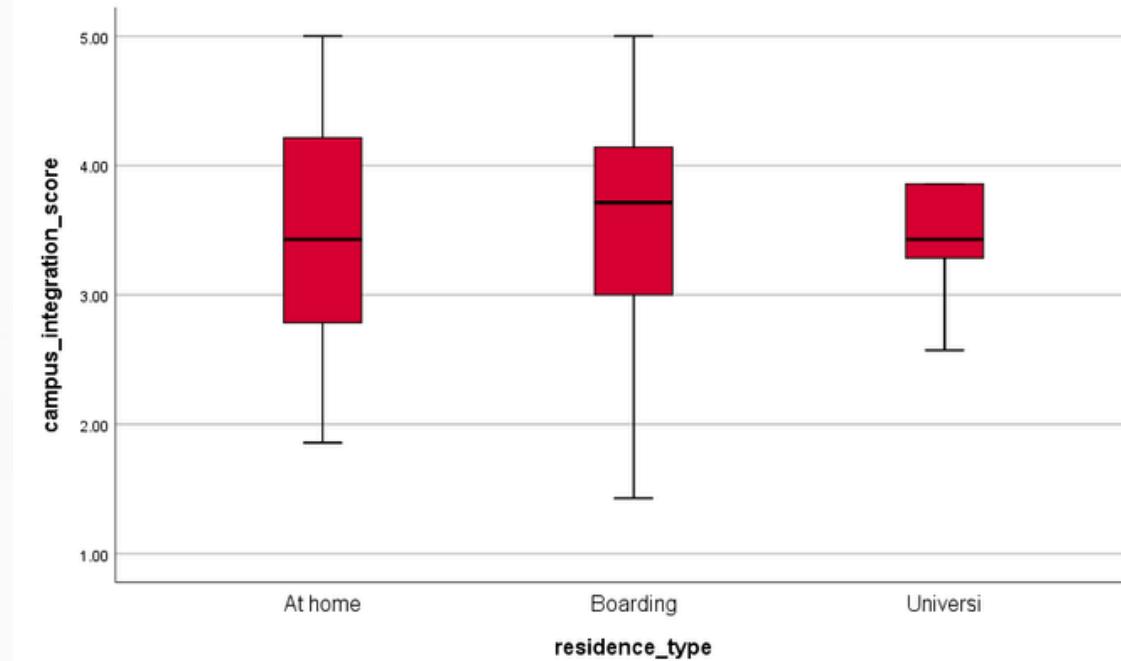
► Descriptives

Descriptive Statistics

	N Statistic	Minimum Statistic	Maximum Statistic	Mean		Std. Deviation Statistic	Variance Statistic
campus_integration_score	57	1.428571429	5.000000000	3.476190476	.1191013126	.8991951914	.809
Valid N (listwise)	57						

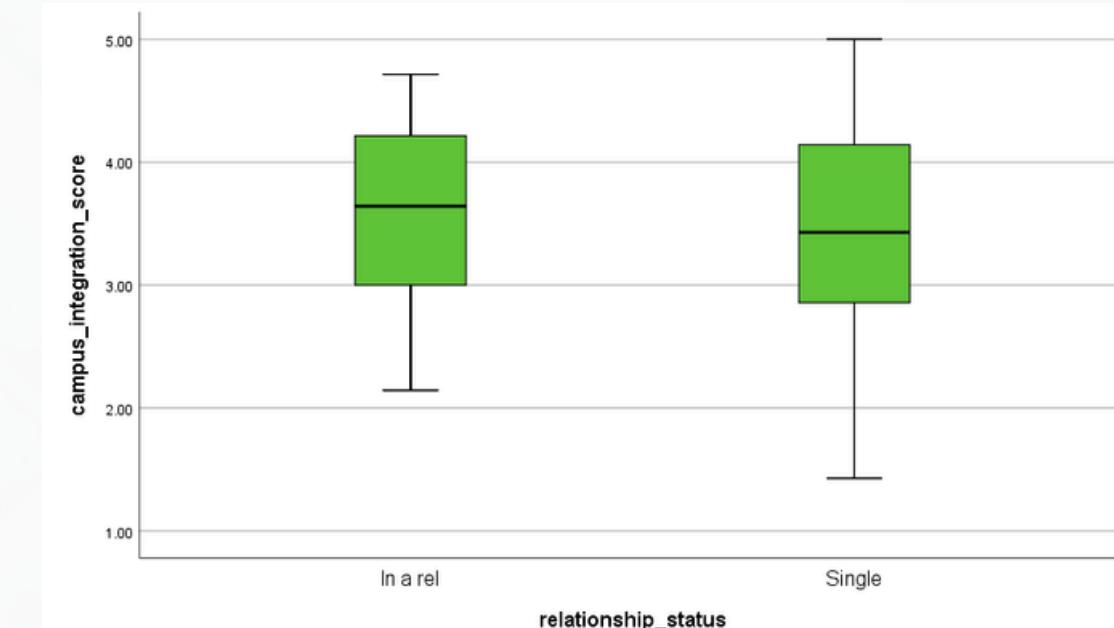
Objective 2

Comparison of Campus Integration score by residence type



Students living in boarding houses and university hostels generally report higher median integration scores than those living at home. This suggests that living closer to campus may enhance opportunities for social interaction and participation.

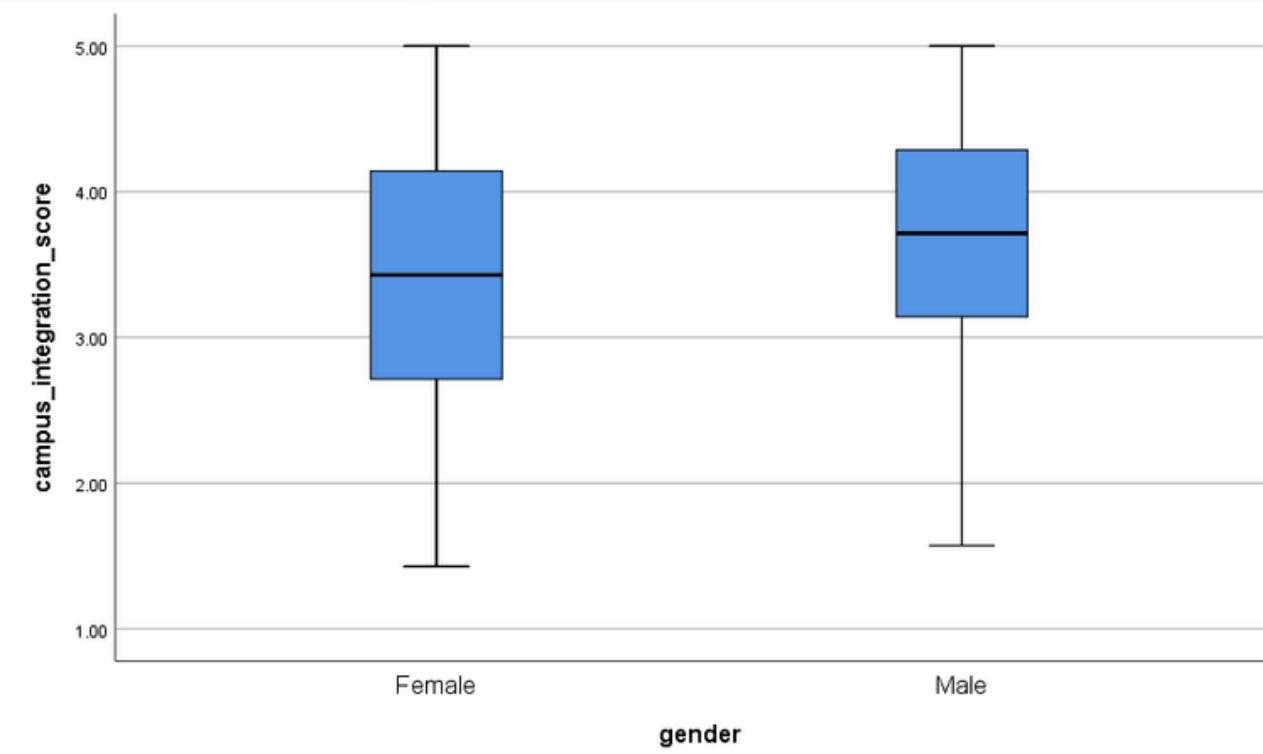
Comparison of Campus Integration score by relationship status



Students who are in a relationship show a slightly higher median campus integration score compared to single students. However, both groups display overlapping score ranges, indicating that relationship status alone does not create a large difference in integration levels.

Objective 2

Comparison of Campus Integration Scores by Gender



Male students show a slightly higher median integration score compared to female students, though the score distributions overlap considerably, indicating no strong gender-based disparity.

Objective 3

To assess the relationship between participation
in extracurricular activities and campus
integration.

Response Variable : **campus_integration_score**

Predictors : **no_clubs (categorical: 0,1,2,3+)**
no_sports (categorical)
event_frequency (ordinal)

Clubs & Societies Participation

H0 : There is no difference in mean campus integration scores among students with different numbers of clubs.

$$H0: \mu_0 = \mu_1 = \mu_2 = \mu_3 +$$

H1 : At least one group has a different mean campus integration score.

H1:At least one μ differs

One-way ANOVA

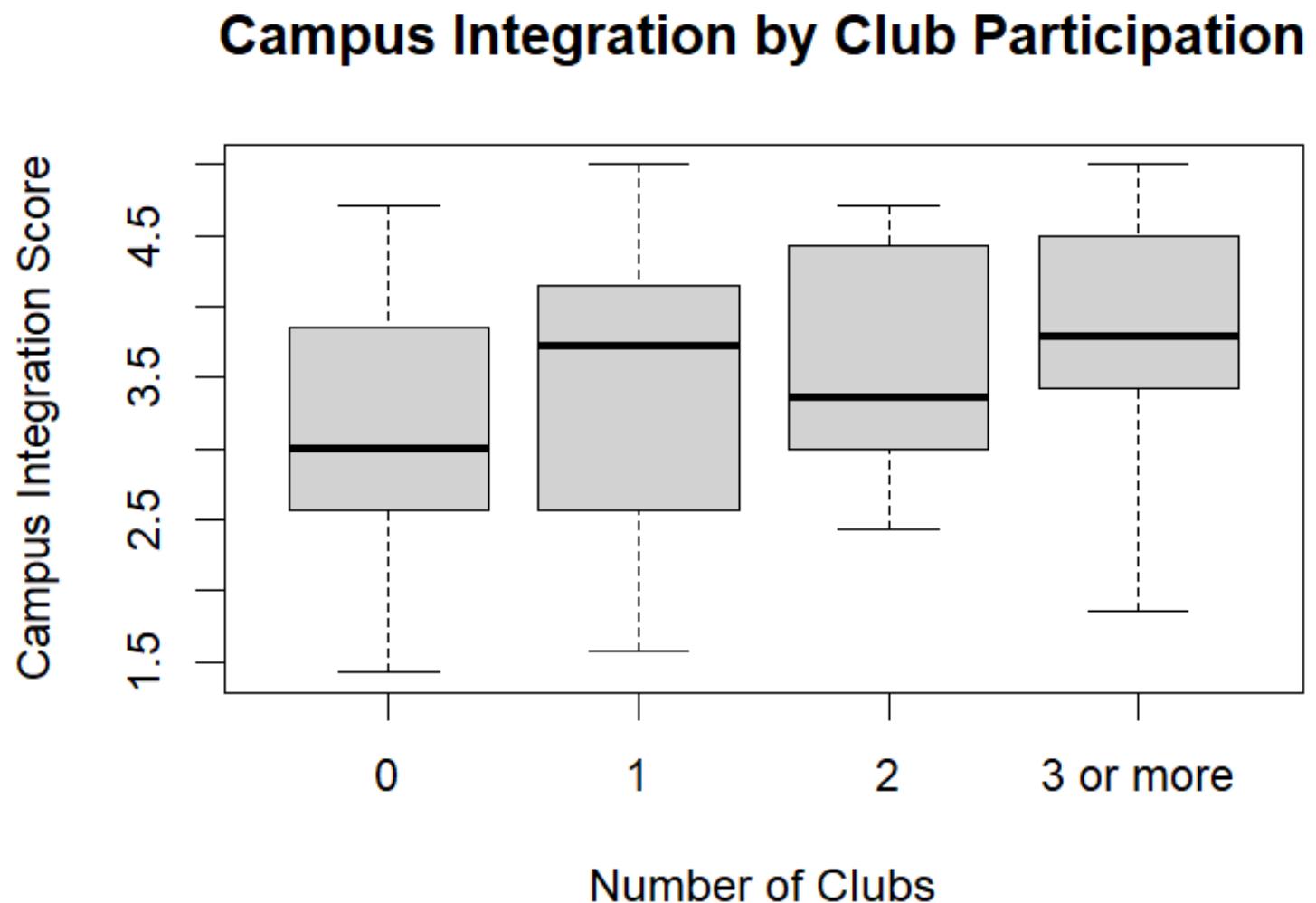
```
> anova_clubs <- aov(campus_integration_score ~ no_clubs, data = dataset1)
> summary(anova_clubs)
```

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
no_clubs	3	3.09	1.030	1.294	0.286
Residuals	53	42.19	0.796		

Interpretation :

F value = 1.204 p value = 0.286

no statistical significance



Sports Participation

H0 : There is no association between participation in sports activities and campus integration.

H1 : Mean campus integration differs for at least one sports participation group.

One-way ANOVA

```
> summary(anova_sports)
```

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
no_sports	3	3.09	1.030	1.294	0.286
Residuals	53	42.19	0.796		

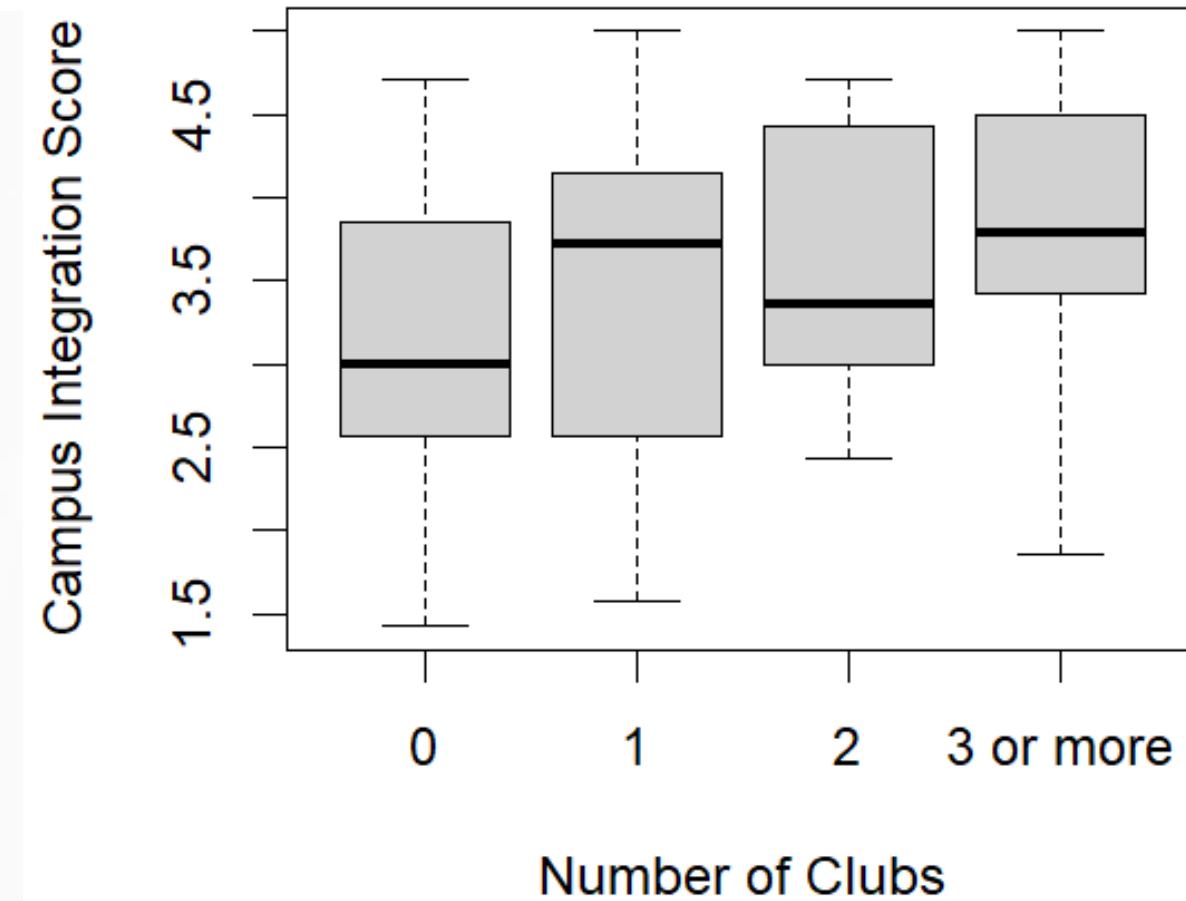
Interpretation :

F value = 1.294

p value = 0.286

no statistical significance

Campus Integration by Sports Participation



Event Participation Frequency

H0 : There is no significant difference in campus integration across different levels of event participation frequency.

H1 : There is a significant difference in campus integration across different levels of event participation frequency.

Objective 3

Normality of Residuals

```
> #normality assumption check  
> shapiro.test(residuals(anova_event))  
  
Shapiro-Wilk normality test  
  
data: residuals(anova_event)  
W = 0.97963, p-value = 0.4479
```

p value = 0.4479 (>0.05)

Residuals are normal.

Normality Assumption Satisfied

Homogeneity of Variance

```
> LeveneTest(campus_integration_score ~ event_frequency, data  
= dataset1)  
Levene's Test for Homogeneity of Variance (center = median)  
Df F value Pr(>F)  
group 2 5.0773 0.009539 **  
54  
---  
signif. codes:  
0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

p value = 0.009539 (<0.05)

Unequal Variances

Assumption of homogeneity of variances was violated, we used the KruskalWallis test

Kruskal Test

```
> kruskal.test(campus_integration_score~ event_frequency,data=dataset1)
```

Kruskal-Wallis rank sum test

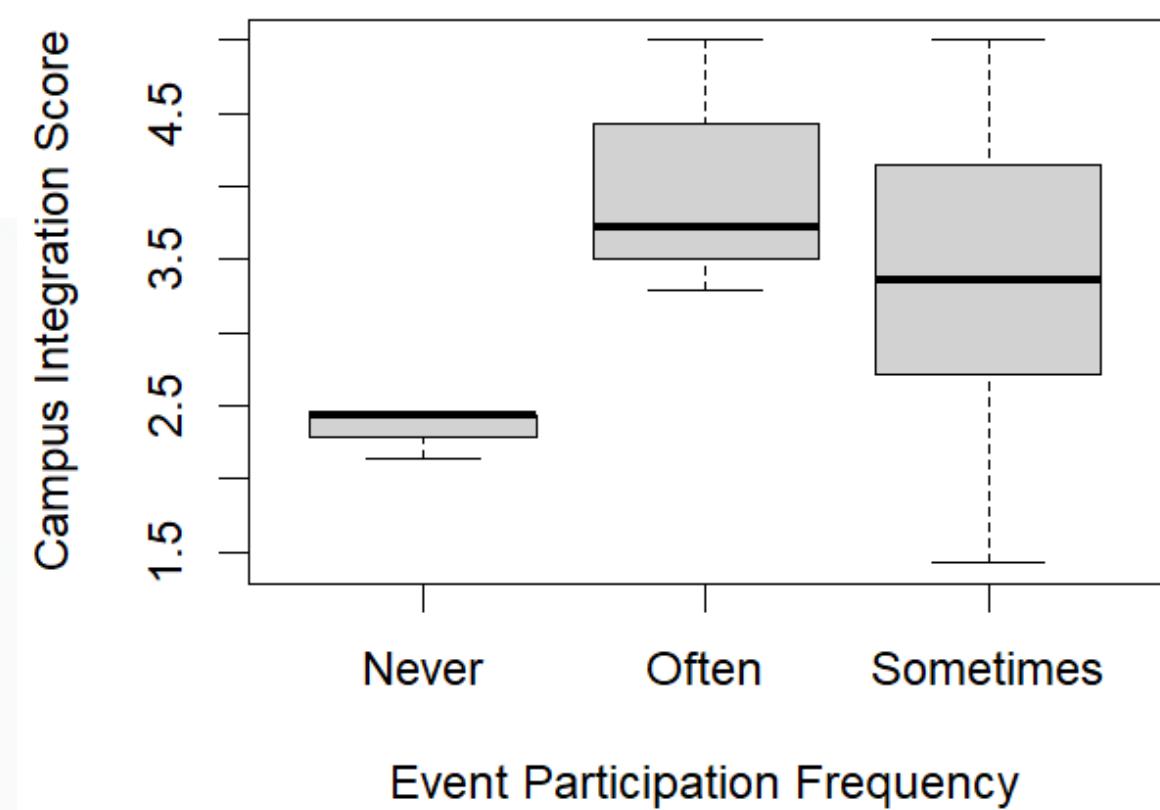
```
data: campus_integration_score by event_frequency  
Kruskal-Wallis chi-squared = 8.9012, df = 2, p-value  
= 0.01167
```

Interpretation :

p value = 0.01167 (<0.05)

Statistically Significant

Campus Integration by Event Participation



Post-hoc Dunn's Test

```
> dunnTest(campus_integration_score~event_frequency, data = dataset1, method = "bonferroni")  
  
Dunn (1964) Kruskal-Wallis multiple comparison  
p-values adjusted with the Bonferroni method.  
  
Comparison      Z    P.unadj    P.adj  
1 Never - Often -2.807486 0.004992987 0.01497896  
2 Never - Sometimes -2.007278 0.044720117 0.13416035  
3 Often - Sometimes 1.887654 0.059072372 0.17721712
```

Never-Often : Significant

Never-Sometimes : Insignificant

Often-Sometimes : Insignificant

Students who often attend campus events had significantly higher campus integration scores than those who never attend events ($p < 0.05$).

Objective 4

To identify whether demographic and personal factors are associated with levels of campus integration.

Response Variable : **campus_integeration_score**

Variables : **gender (categorical)**

monthly_allowance (categorical)

residence_type (categorical)

Gender

H0 : Mean campus integration is the same across genders

H1 : Mean campus integration differs by gender

One-way ANOVA

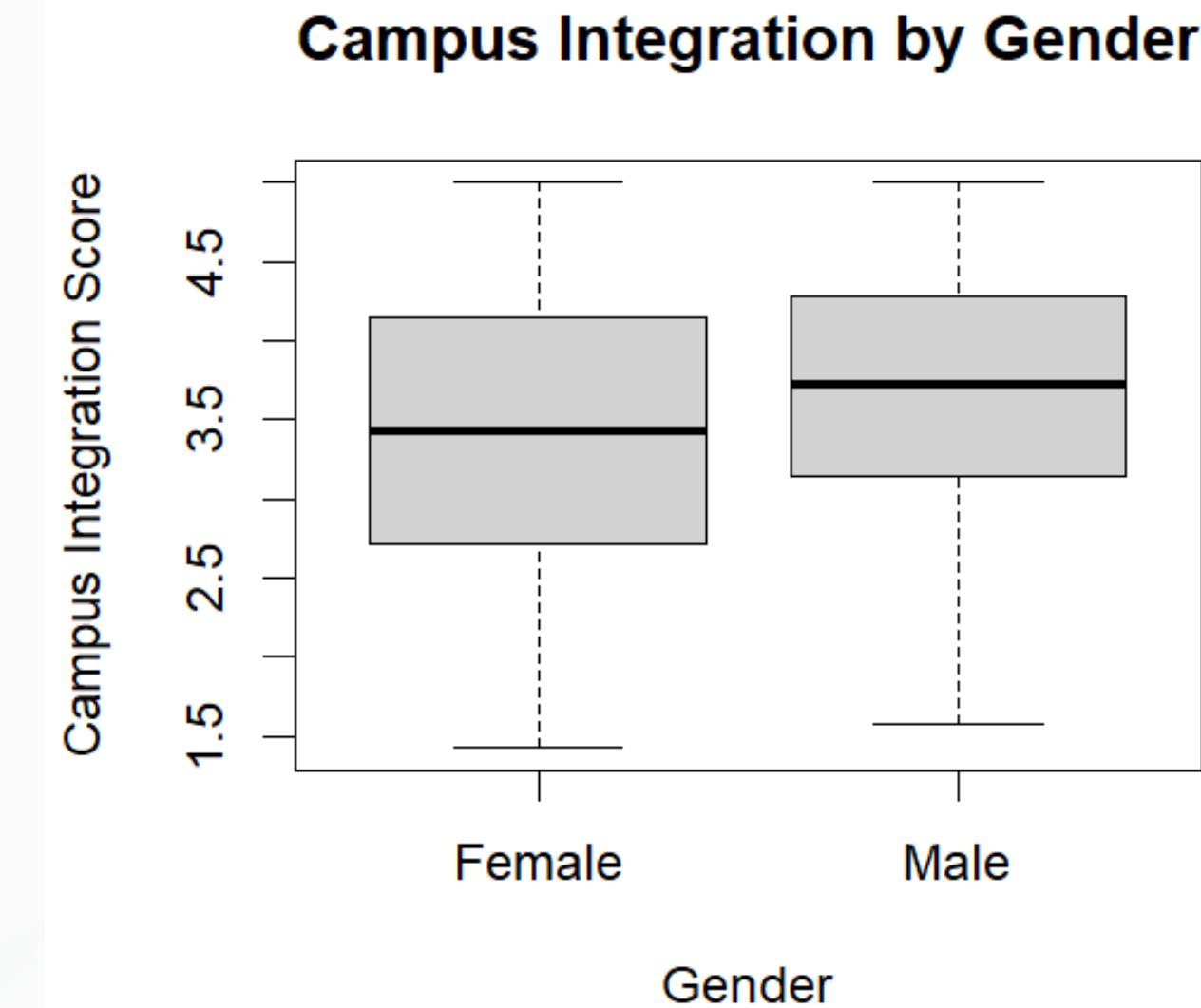
```
> summary(anova_gender)
```

	Df	Sum Sq	Mean Sq	F value
gender	1	0.35	0.3466	0.424
Residuals	55	44.93	0.8170	
				Pr(>F)
gender				0.518
Residuals				

Interpretation :

F value = 0.424 p value = 0.518 (>0.05)

no statistical significance



Monthly Allowance

H0 : Monthly allowance is not associated with campus integration.

H1 : Monthly allowance is associated with campus integration.

One-way ANOVA

```
> summary(anova_allowance)
```

	Df	Sum Sq	Mean Sq	F value
monthly_allowance	3	1.35	0.4512	0.544
Residuals	53	43.93	0.8288	

Pr(>F)

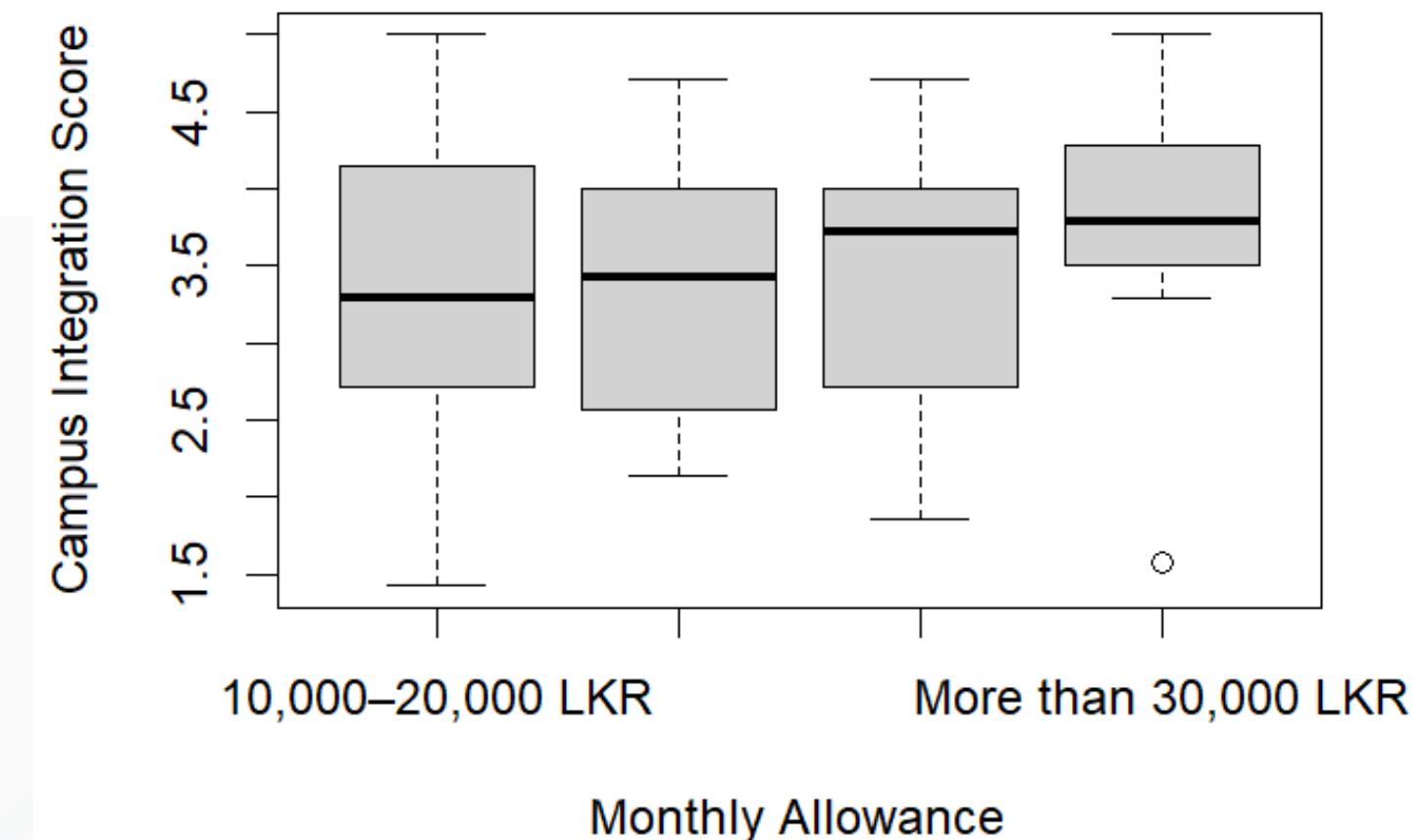
monthly_allowance	0.654
Residuals	

Interpretation :

F value = 0.544 p value = 0.654

no statistical significance

Campus Integration by Monthly Allowance



Residence Type

H0 : Residence type is not associated with campus integration.

H1 : Residence type is associated with campus integration.

One-way ANOVA

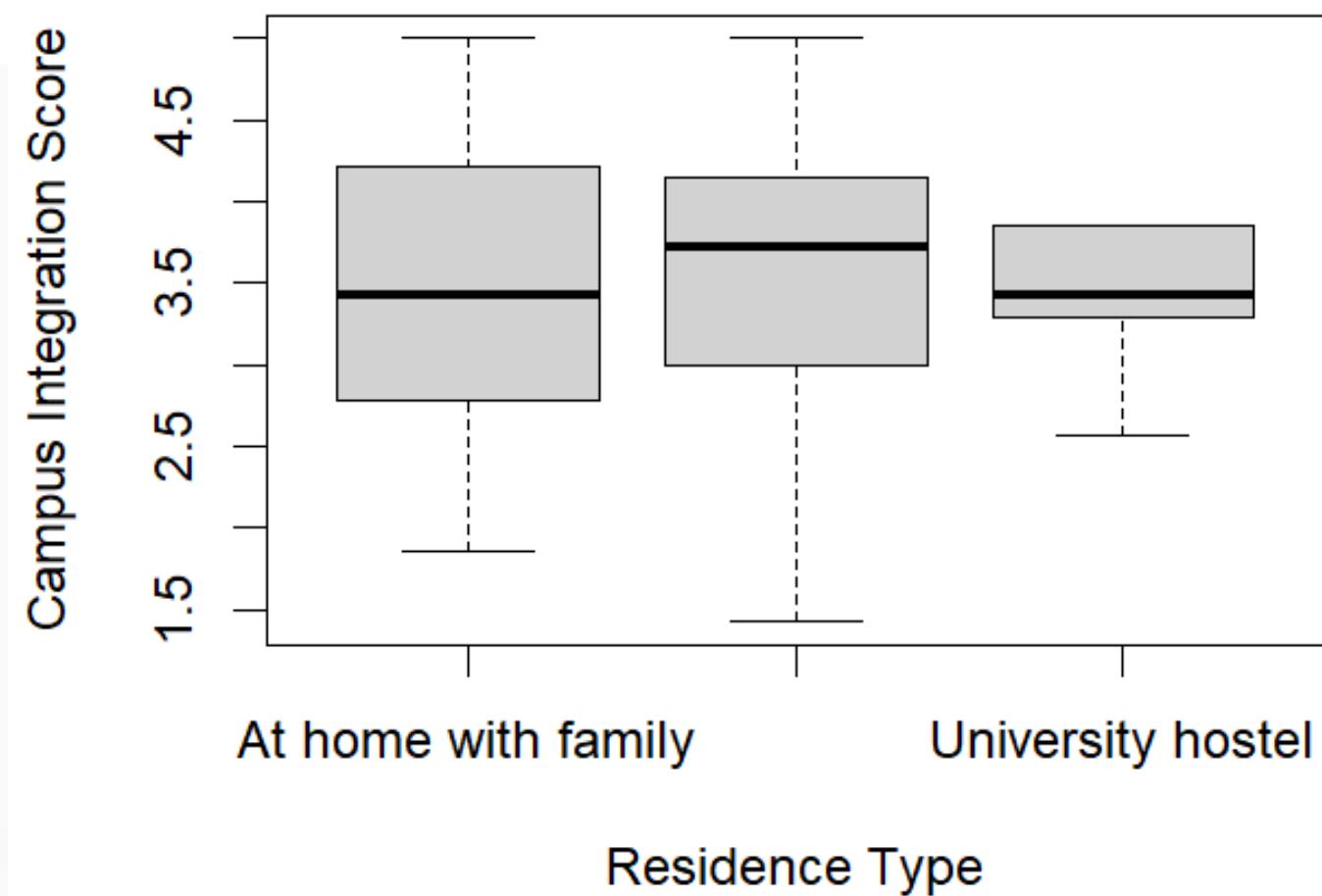
```
> summary(anova_residence)
    Df Sum Sq Mean Sq F value Pr(>F)
residence_type  2   0.03  0.0165   0.02  0.981
Residuals      54  45.25  0.8379
>
```

Interpretation :

F value = 0.02 p value = 0.981

no statistical significance

Campus Integration by Residence Type



Conclusion

- 01 Event participation significantly improves campus integration.**
- 02 Students' sense of integration appears to be shaped more by engagement and experiences rather than background characteristics.**
- 03 Demographic factors (gender, allowance, residence) show no significant effect.**
- 04 Overall campus integration is moderate among second-year students.**

Limitations

01 Small Sample Size

The study is based on 58 responses out of approximately 600 second-year undergraduates, which limits the generalisability of the findings.

02 Sampling method

Convenience sampling was used, as data were collected only from second-year students of the Faculty of Science, University of Colombo. Therefore, results may not represent all undergraduates or other faculties.

03 Measurement constraints

Although a composite campus integration score was created, perceptions such as belonging and support are subjective and may vary across individuals.

Recommendations

Incorporate qualitative methods (e.g., interviews or open-ended questions) to gain deeper insights into student experiences.

Increase the sample size and include students from multiple faculties or universities to improve representativeness.

Thank You

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