Summary

Part 1 and 2

1. \*\*Independent Variable\*\*:

- Gaming Category:

- `Frequent Gamers`: Individuals playing online games daily or a few times a week.

- `Non-Gamers`: Individuals who do not frequently engage in online gaming.

2. \*\*Dependent Variable\*\*:

- Loneliness measured via:

- UCLA Loneliness Scale (`LONELY\_ucla\_loneliness\_scale\_left\_out`).

- De Jong Emotional Social Loneliness Scale (`LONELY\_dejong\_emotional\_social\_loneliness\_scale\_score`).

### \*\*Data Preparation\*\*

1. Extracted relevant columns.

2. Categorical variable (`CONNECTION\_activities\_onlinegames\_p3m`) was cleaned and categorized into `Frequent Gamers` and `Non-Gamers`.

3. Balanced the dataset by random sampling to ensure equal sample sizes for both groups.

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## \*\*Statistical Analyses\*\*

### \*\*Descriptive Statistics\*\*

Descriptive statistics (mean, standard deviation, and sample size) were calculated for the loneliness scores of frequent gamers and non-gamers.

T-test.

H0: there is no difference in loneliness scores between the two groups

Sample sizes of groups are balanced. T and P and calculated.

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## \*\*Results\*\*

Descriptive Statistics:

Group Mean Loneliness Std Loneliness

0 Frequent Gamers 3.701342 1.666080

1 Non-Gamers 3.779923 1.841022

t-statistic = -0.5250241450708119, p-value = 0.5997880617781706. although gamers have lower loneliness scores, fail to reject H0 with a 95% significance level

### \*\*Visualization\*\*

A box plot visualized the distribution of loneliness scores across gaming categories:

\*(Insert Box Plot Image Here)\*

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## \*\*Discussion\*\*

### \*\*Findings\*\*

1. \*\*Descriptive Analysis\*\*:

- Frequent gamers exhibited \*/lower\* loneliness scores compared to non-gamers.

2. \*\*Statistical Significance\*\*:

### \*\*Interpretation\*\*

These findings suggest that \*[Frequent gamers may experience reduced loneliness due to online social interactions]\*. However, additional factors, such as the quality of social interactions and gaming context, may influence this relationship.

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Part 3.

ANONVA test. H0: loneliness scores are all the same

Result: still fail to reject H0.

Two-way ANOVA test: examines the effects made by side factors such as age and gender in addition to video games playing.

Fail to reject H0 for gender category and the three way interaction

Part 4.

Cohen’s D. Reject H0 with a d=-1.0581