

## ABSTRACT

The main aim of the research was to explore relationships between smartphone addiction, mental health conditions such as depression, anxiety, and stress, bedtime procrastination, sleep quality, and others among university students in Bosnia and Herzegovina. The research consisted of statistical testing, clustering analysis, regression, and causal inference techniques to analyze a dataset of approximately 500 participants, collected at International University of Sarajevo (IUS).

## GROUP COMPARISONS

Mann-Whitney U tests revealed that self-identified addicts reported significantly higher depression, anxiety, and stress scores. Anxiety showed the strongest association, suggesting a closer link between perceived smartphone addiction and anxious states. Females might use social media more, while also showing significantly higher smartphone addiction scores, suggesting a modest gender difference.

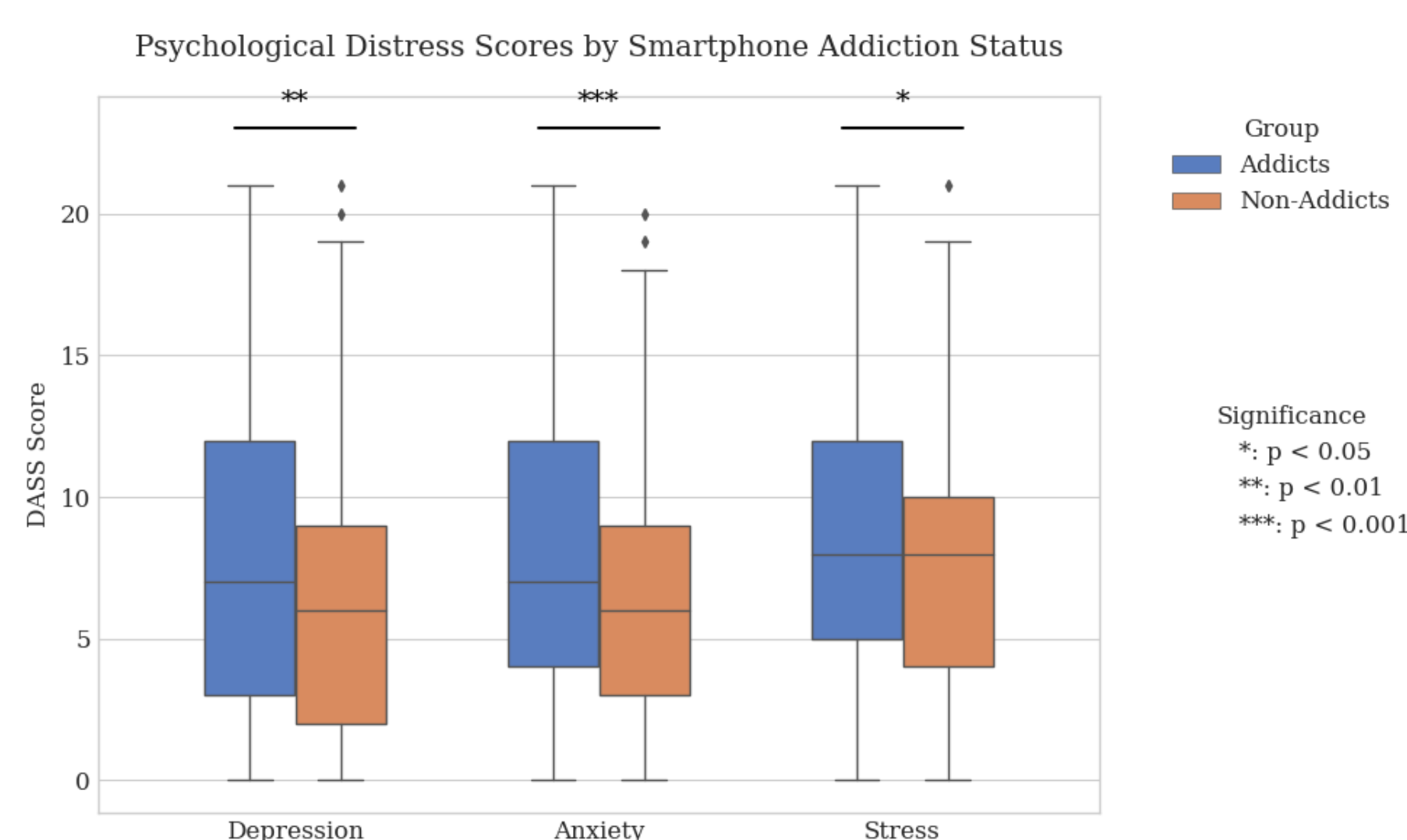


Figure 1

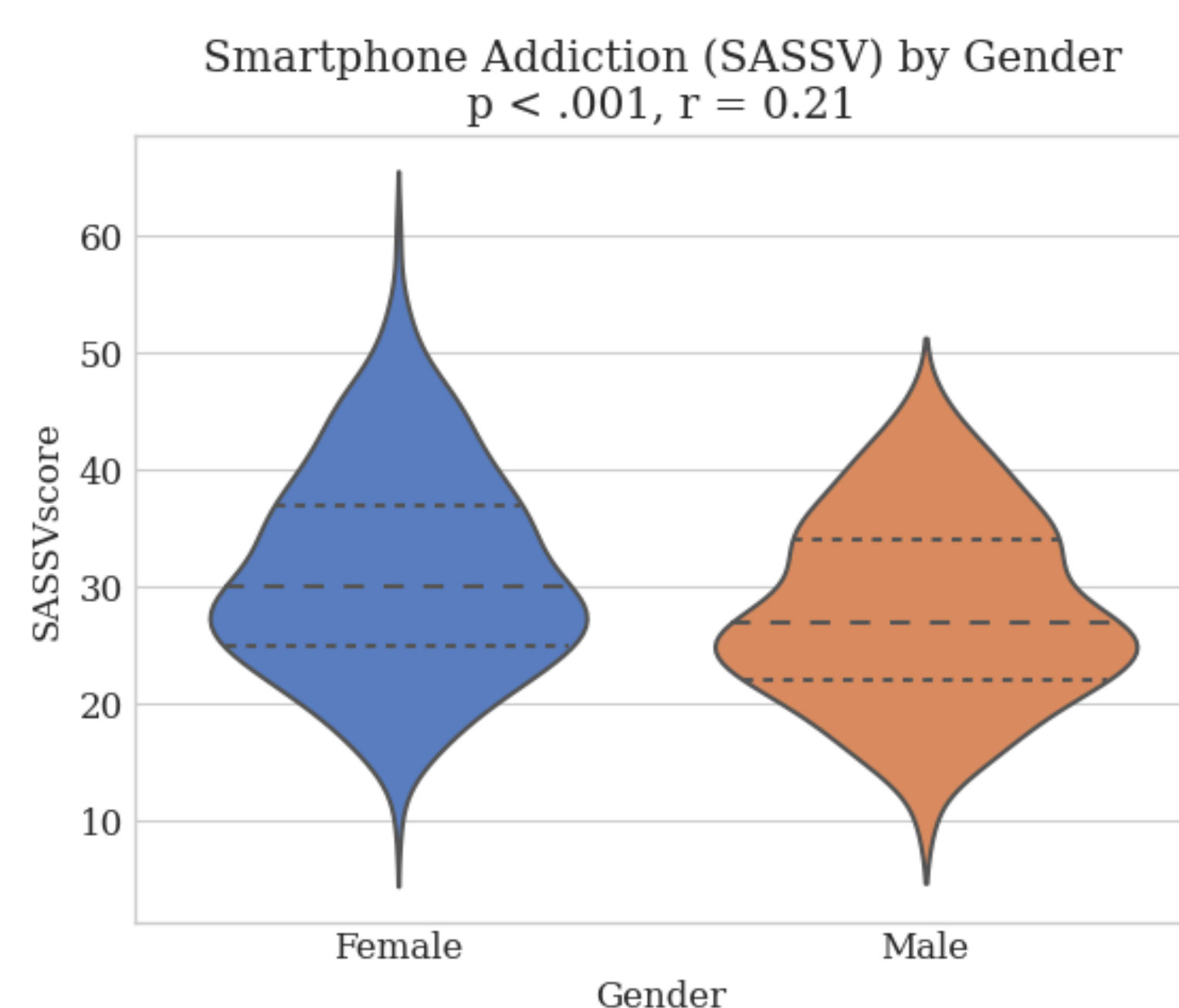


Figure 2

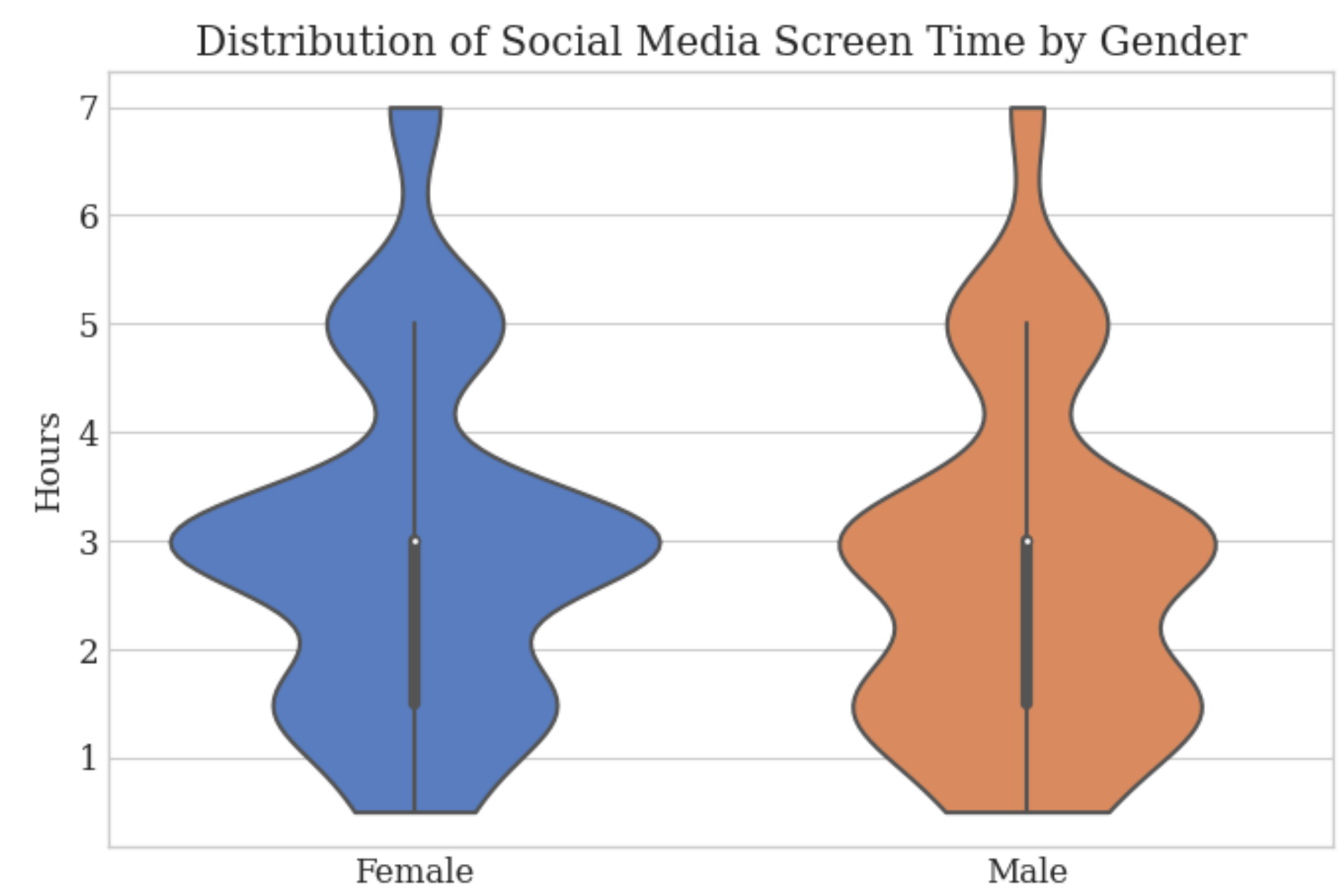


Figure 3

## BEHAVIORAL CLUSTERING

Cluster 1 exhibited the lowest, whereas Cluster 3 showed elevated addiction, poor sleep quality, and greater mental health symptoms.

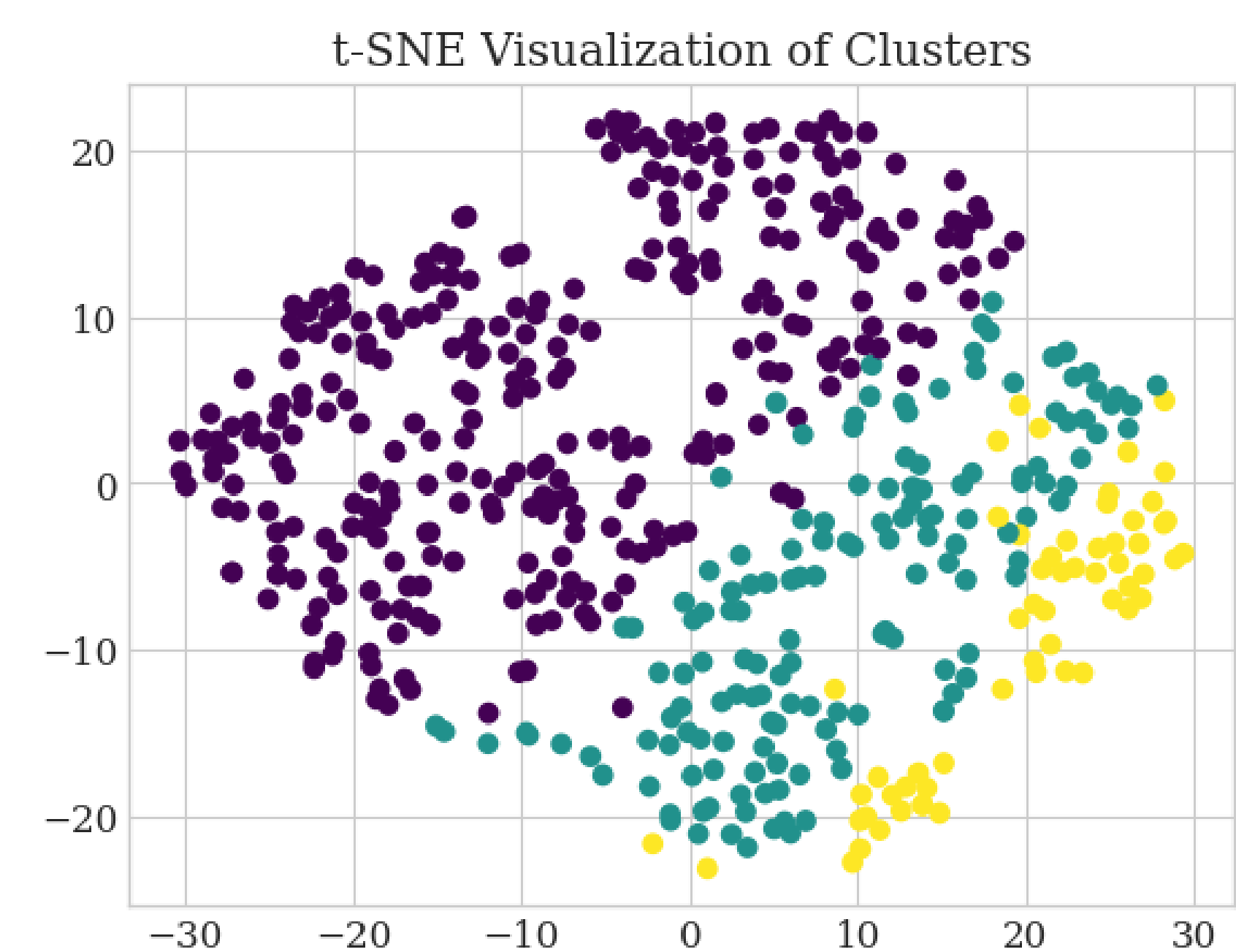


Figure 4

## CASUAL MODELING

Understanding these cause-and-effect relationships could help understand how to help university students in regards to smartphone addiction.

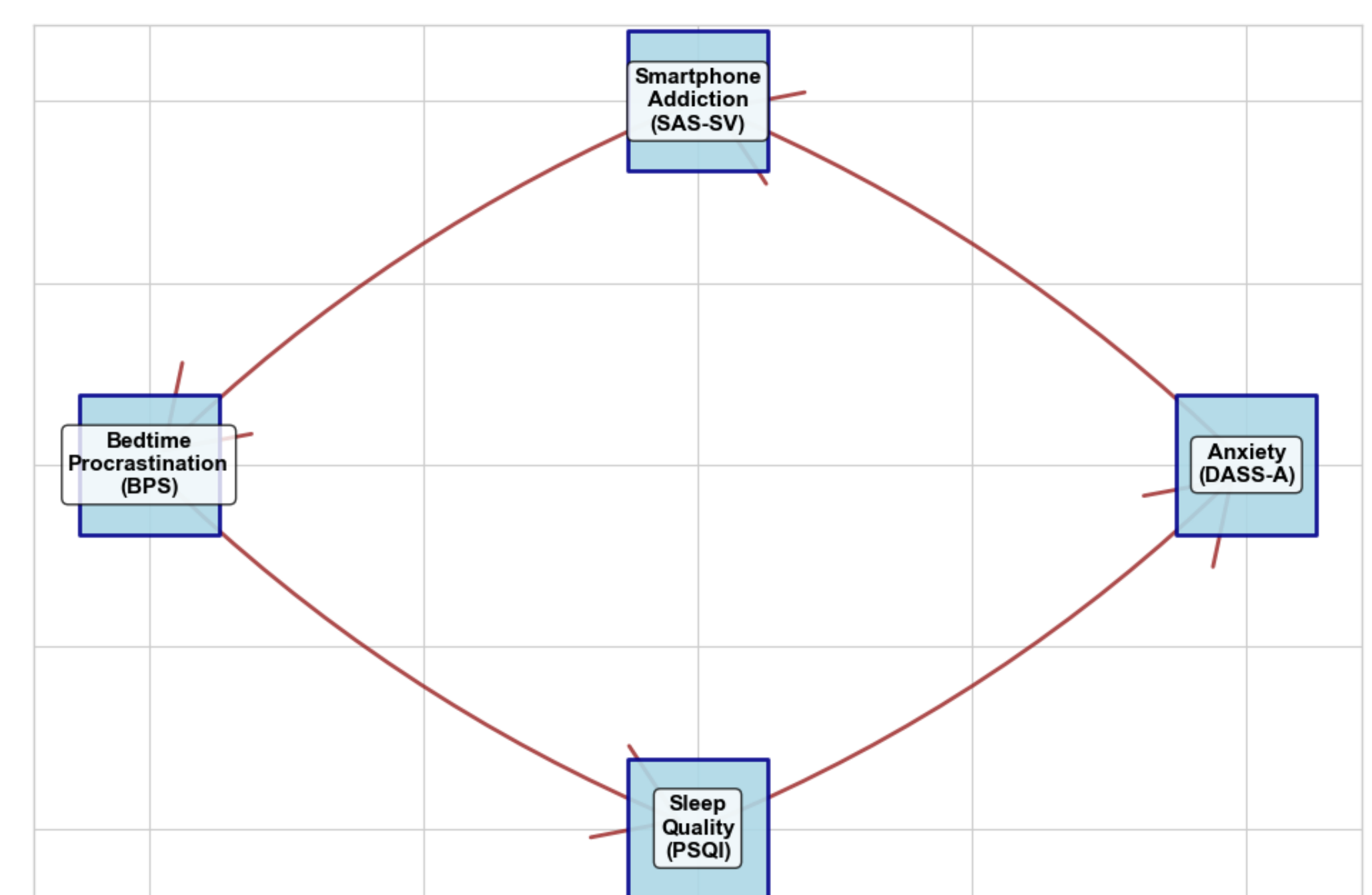


Figure 5

## References

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