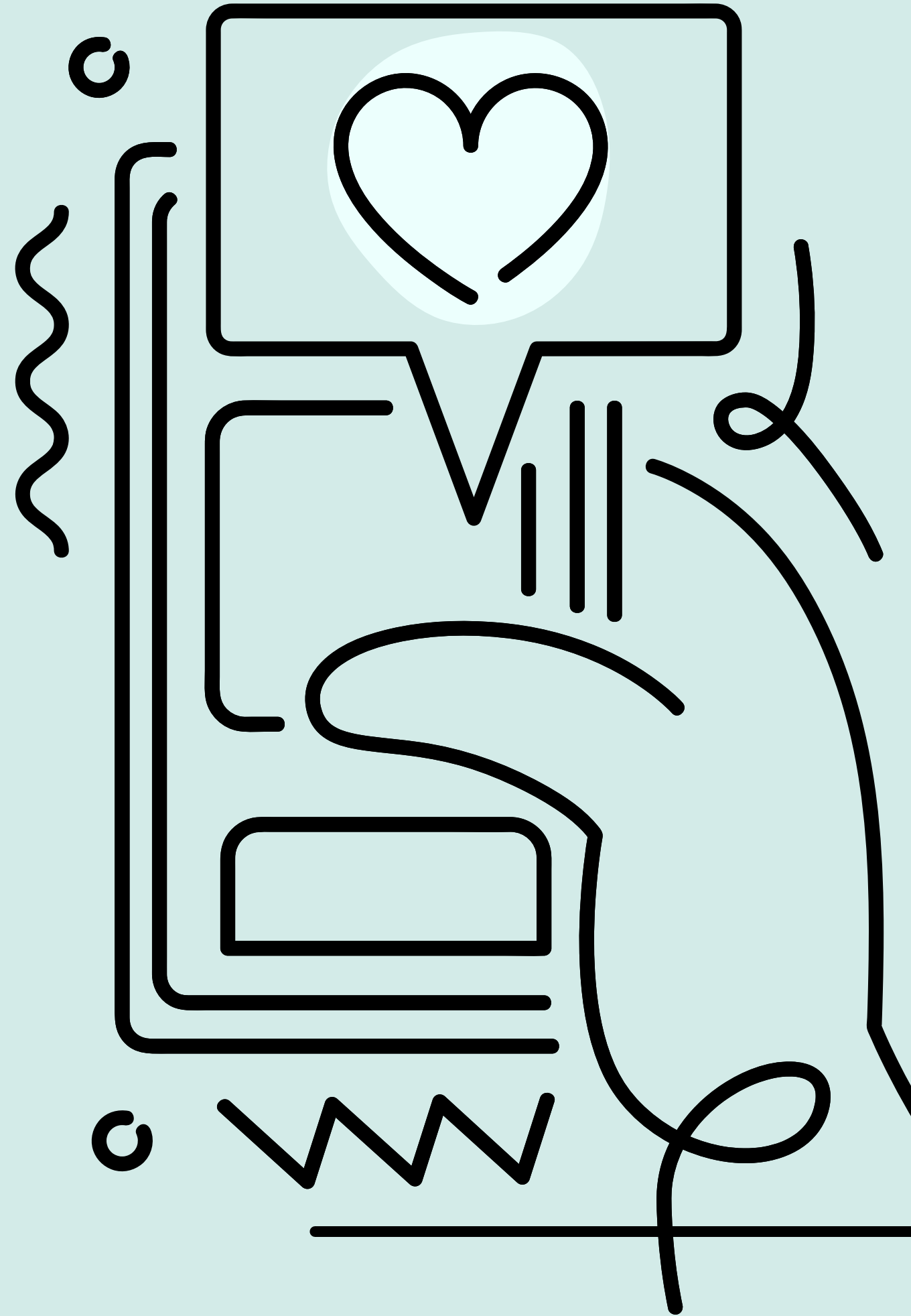


THE EFFECTS OF INTERNET USAGE ON MENTAL HEALTH

Date: December 14th, 2023
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Montana State University



TOPIC AND MOTIVATION

Topic:

- Increased internet usage and mental health
- COVID-19 caused an increase in internet usage

Public Health Impact:

- Understanding the effects of internet usage on mental health is crucial for shaping public health strategies in the digital age.
- **Risk Identification:**
- Studying this relationship helps identify potential risk factors, contributing to targeted interventions and preventive measures.

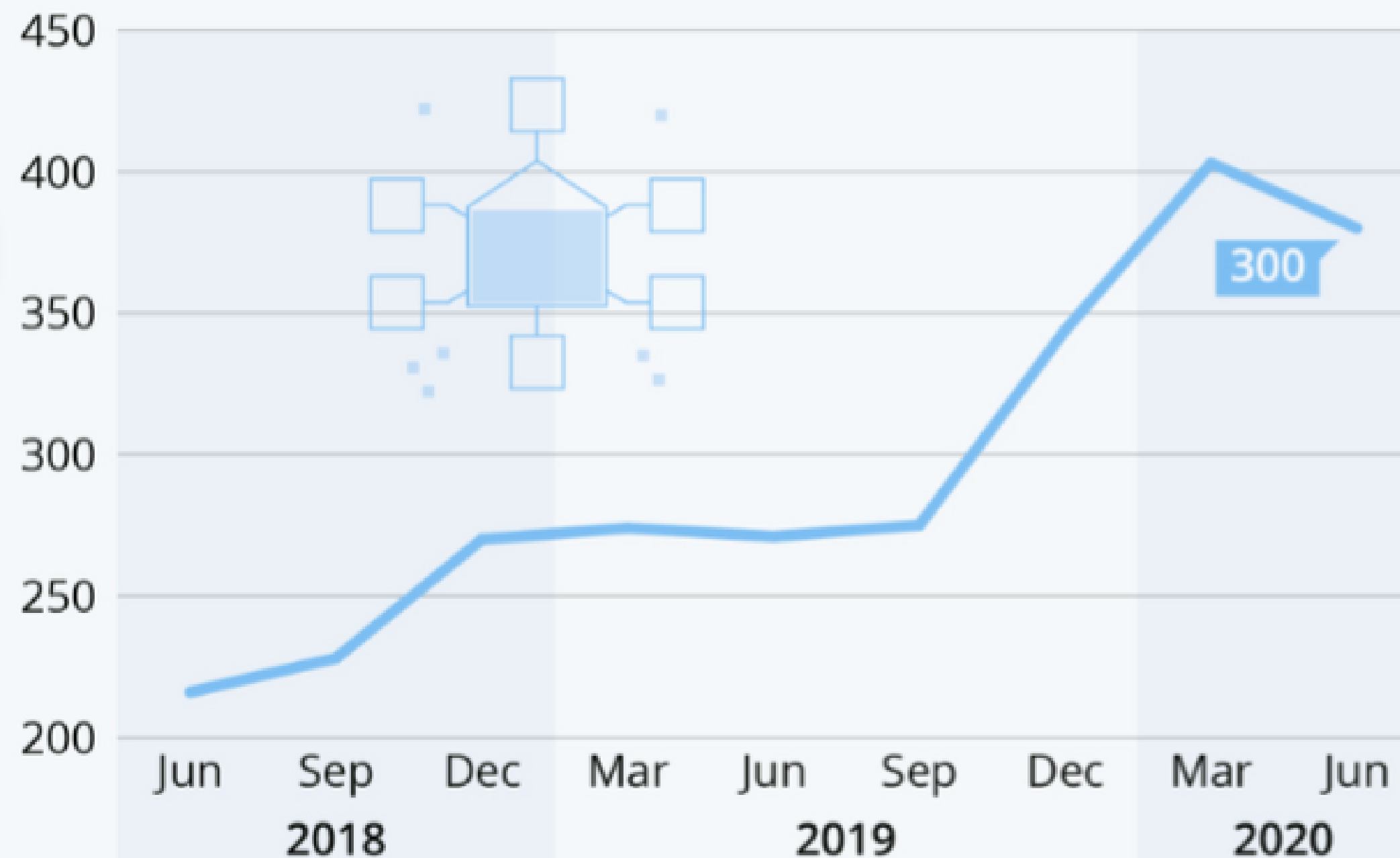
Adapting to Technological Changes:

- Insights into the impact of internet use on mental health inform adaptations of mental health support systems to the evolving digital landscape.



Internet Data Spikes in U.S. Households

Average monthly internet usage in the U.S. (in gigabytes)



RESEARCH QUESTION

What are the effects of daily screen time on mental health at an individual level in the United States?



DATA

- National Center for Health Statistics' Research and Development Survey (RANDS)



- Pew Research Center's American Trends Panel (ATP)



PRE-COVID DATA

Data Preparation:

- cleaned and streamlined pre-COVID datasets, reducing over 100 variables to a focused set of 12 for efficiency.

Year-wise Comparison:

- Introduced a year column to distinguish datasets, ensuring demographic comparability before merging using the `rbind()` function.

Age and Data Format Standardization:

- Standardized age ranges in pre-COVID data to match COVID data format using the `cut()` function.

Internet Usage Harmonization:

- Employed vectorized operations and indexing to adjust 'AWEBOFNO_N' values based on 'AWEBOFNO_F' conditions, converting reported usage to a daily level.

Missing Data Handling:

- Ensured dataset integrity by removing rows with non-responses (recorded as "."), utilizing logical indexing for complete cases and absence of the character ".".



COVID DATA

COVID Dataset Challenges:

- Cleaning, manipulating, and combining COVID datasets presented significant challenges.

Alternative Data Source Exploration:

- Due to a lack of internet usage reportings in the RANDS dataset, alternative sources, specifically the Pew Research Center's American Trends Panel (ATP), were explored.

Data Selection from ATP:

- Sifting through 102 waves of ATP data, only waves 72 and 93 were utilized for their pertinent information on internet usage during COVID-19.

Categorical Internet Usage Records:

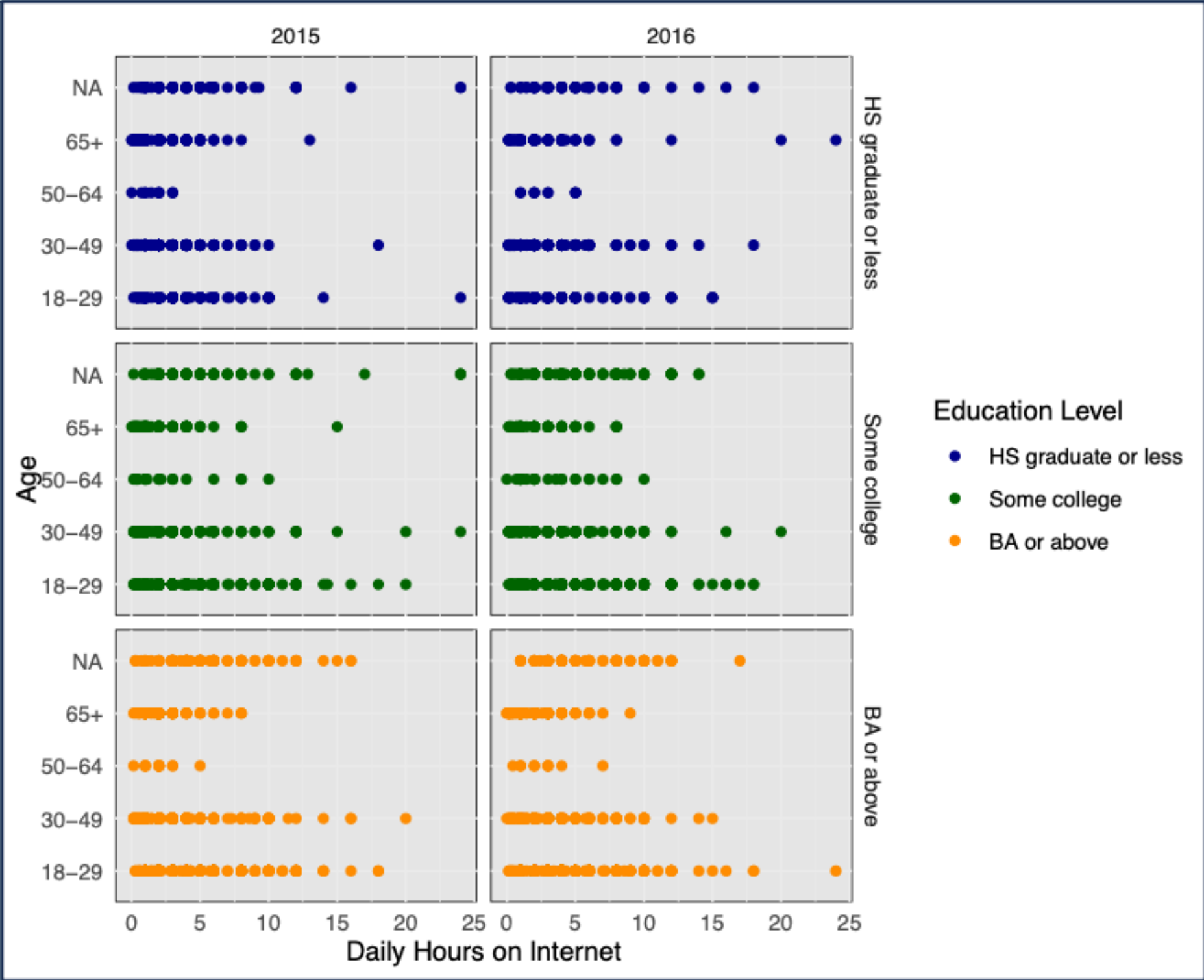
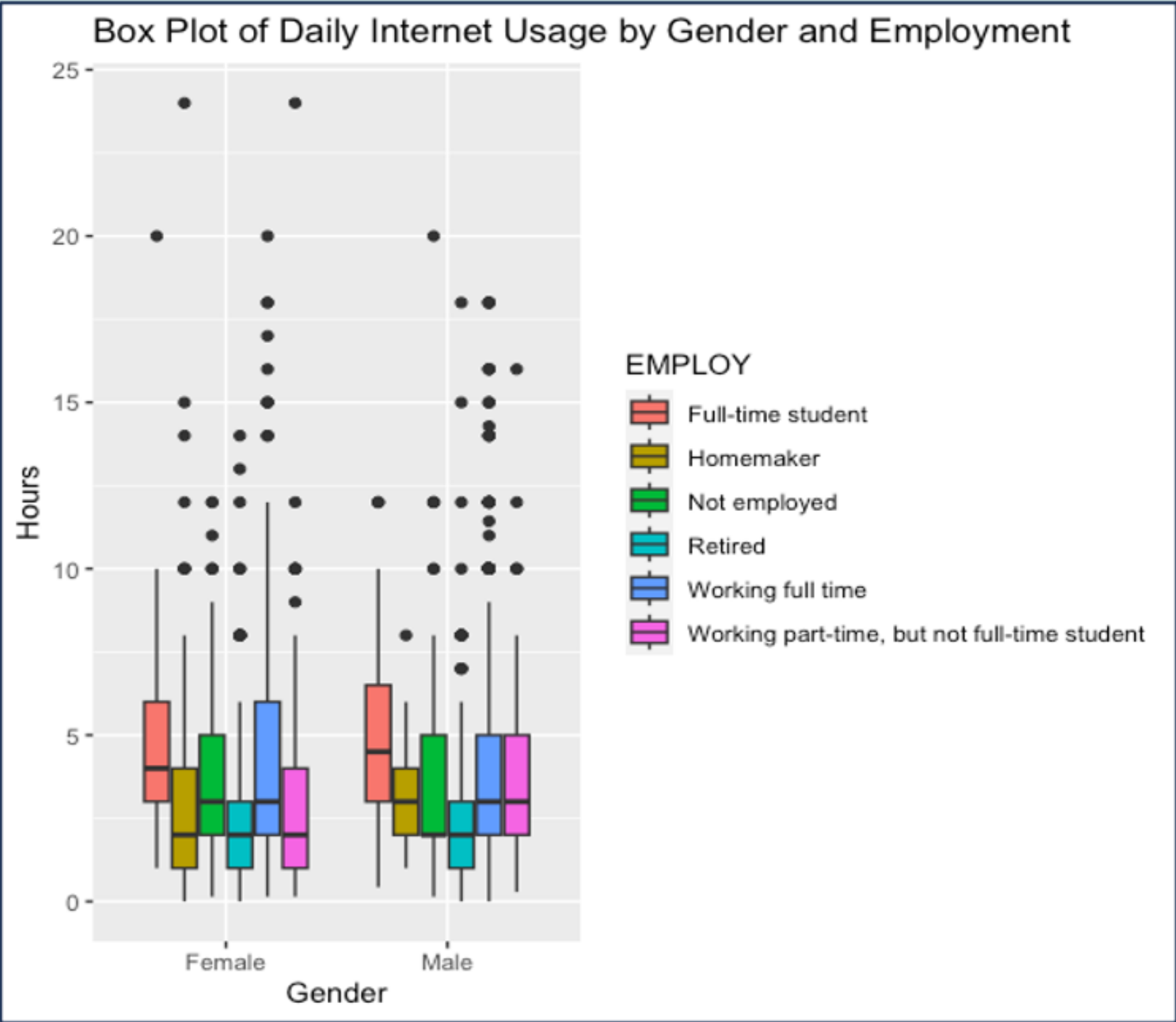
- Unlike pre-COVID data, ATP datasets recorded internet usage categorically, posing a challenge for direct numerical comparison, a topic to be addressed later in the presentation.

Consistent Cleaning Approach:

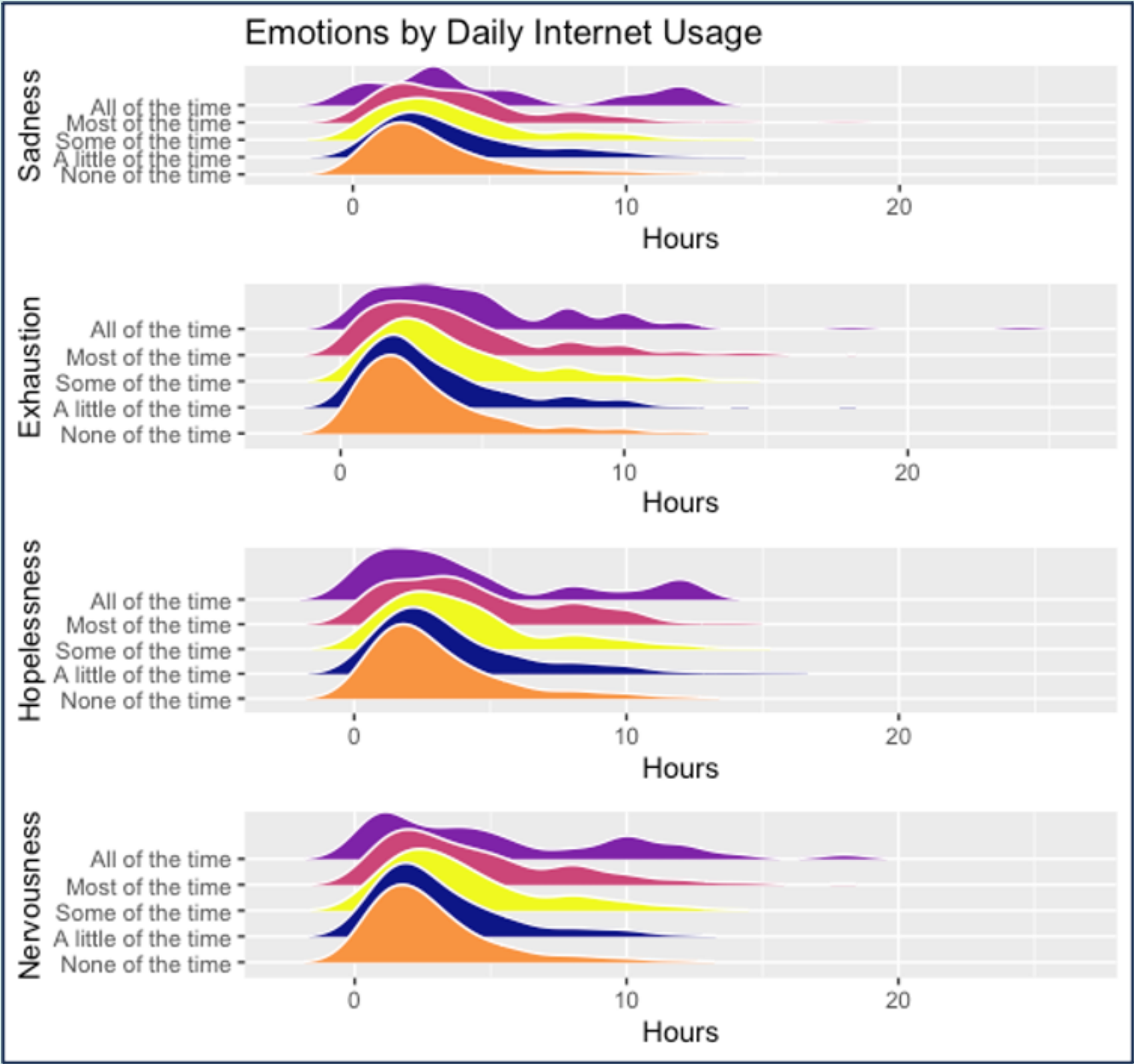
- Subset key variables, introduce a 'YEAR' column, and merge using `rbind()` for consistent and comparable demographic data in RANDS COVID datasets.



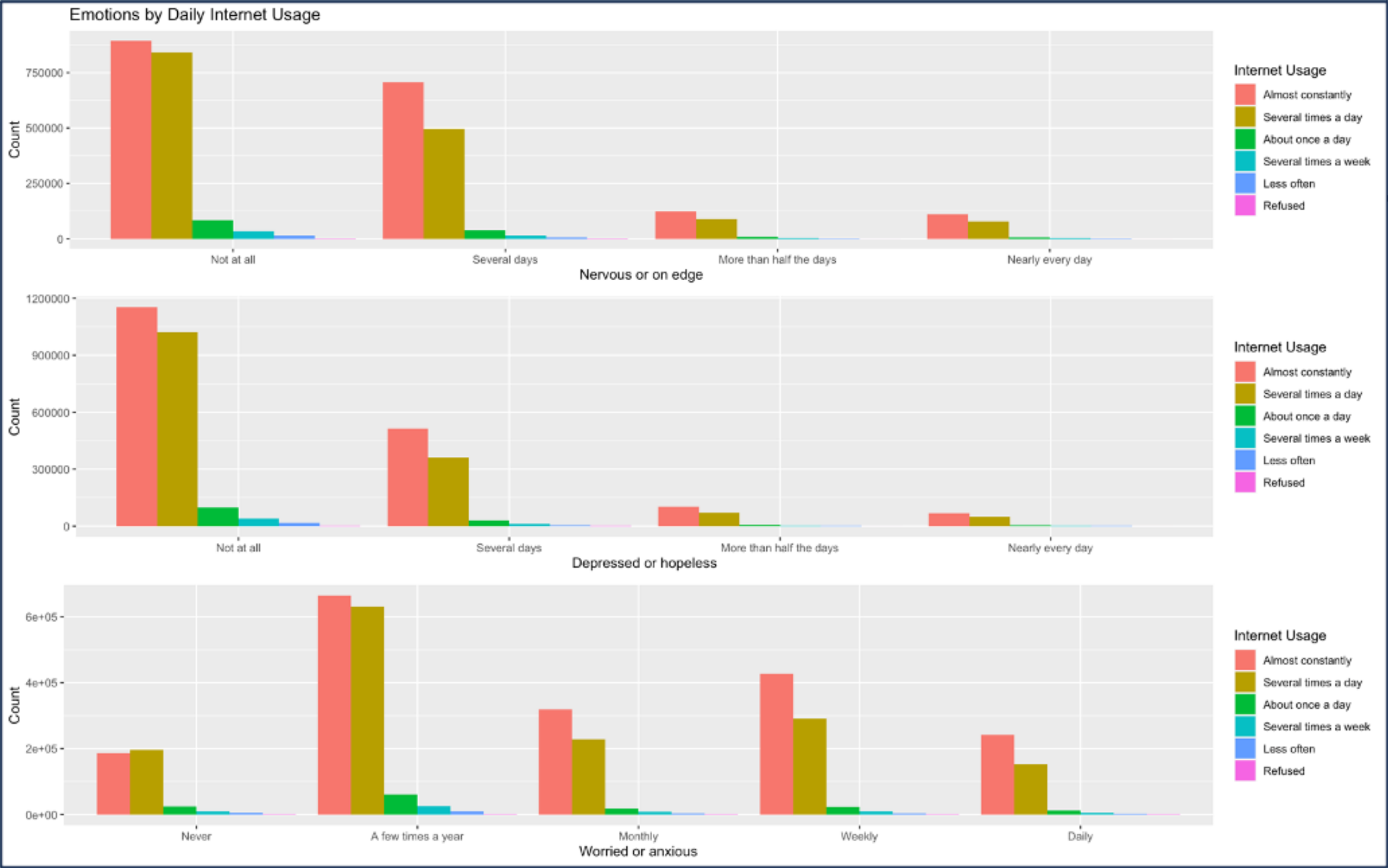
PRE-COVID DEMOGRAPHIC RESULTS



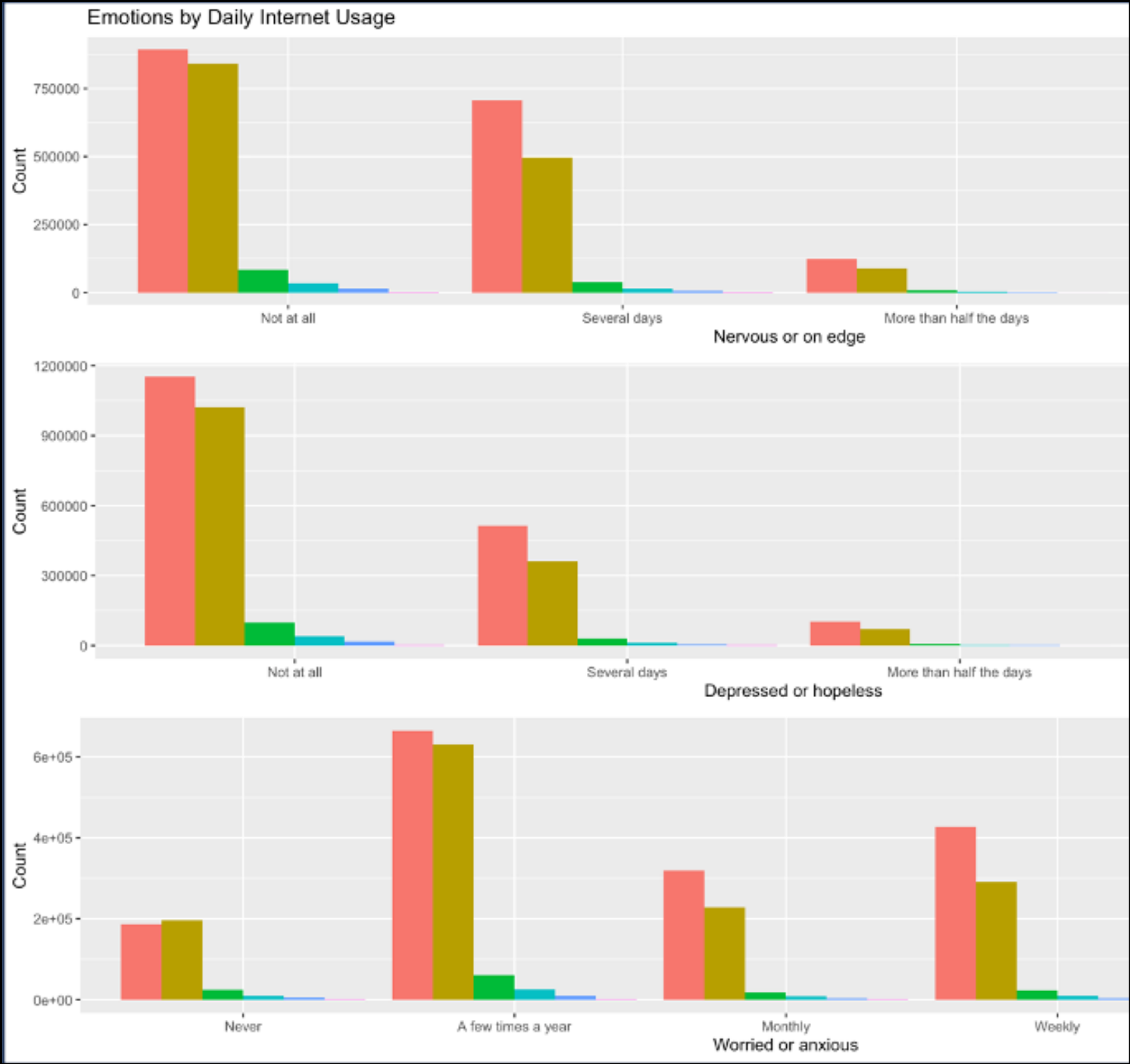
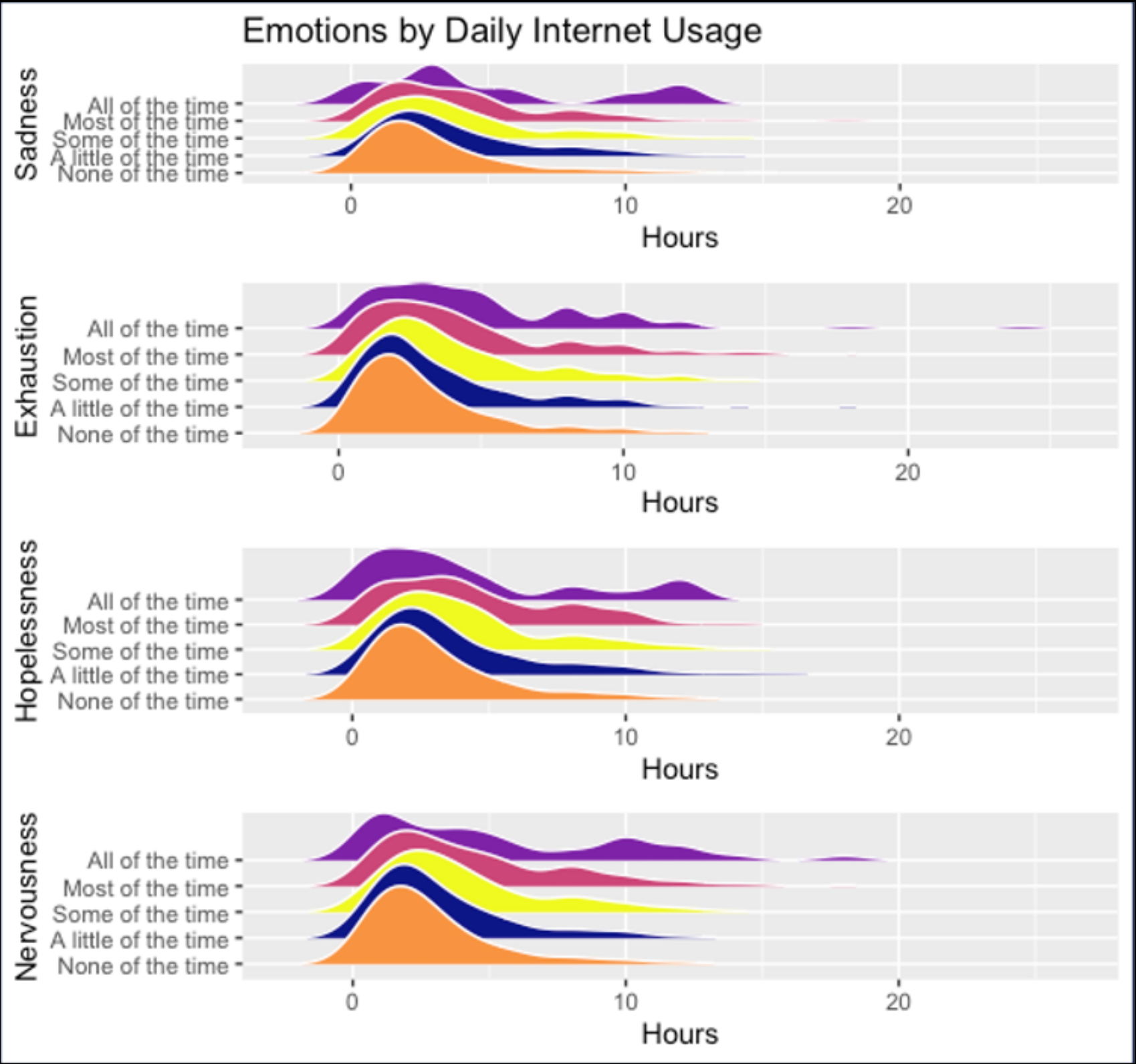
PRE-COVID SCREEN TIME & EMOTIONS RESULTS



COVID SCREEN TIME & EMOTIONS RESULTS



CONCLUSION





THANK YOU