Impact of Screen Time on Mental

January 30, 2026

Introduction - Why we chose this topic

An analysis of digital habits and their effect on our well-being.

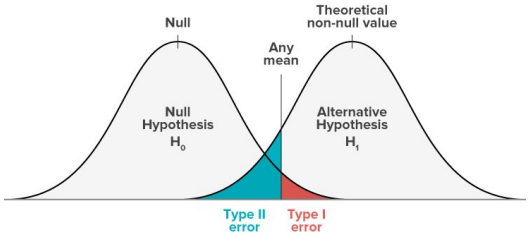
This report analyzes the connection between digital device usage and mental well-being.
We explore how hours spent on screens correlate with factors like anxiety and sleep, offering insights backed by data to understand this modern challenge and its implications for our health, and also how we can rest those negative effects.

Dataset Overview

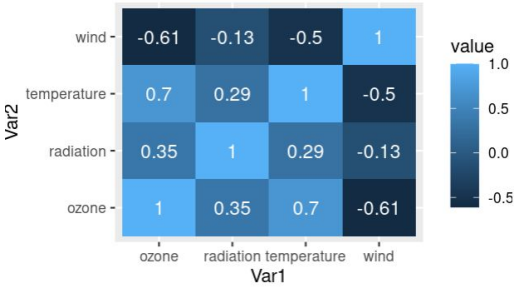
- From: Kaggle
- Rows: 2,000
- Variables: 25
  - Age
  - Gender
  - Daily Screen Time
  - Phone Usage
  - Physical Activity Hour
  - Mental Health Score
  - ….

Our Analytical Approach

Exploratory Data Analysis



Hypothesis Testing



Correlation Testing

Exploratory Data Analysis

Data Quality Check

2,000 observations.

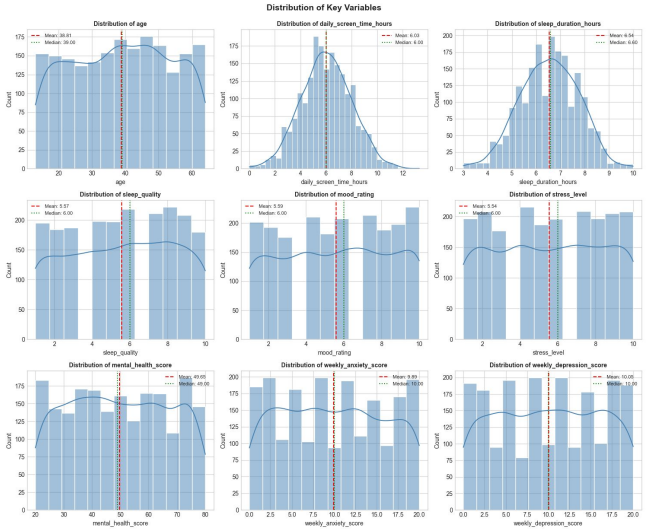
No missing values.

Data types validated.

Descriptive Statistics

Calculated mean, median, standard deviation.

Distribution of key variables (screen time, sleep, stress)



Data Exploration

Histograms and boxplots.

Group comparisons (High vs. Low Screen Time)

Preliminary trends identified.

Hypothesis

- Do high screen time users have lower mental health scores ?
- Wellness app users have better mental health scores ?
- Higher physical activity have associated with lower anxiety ?

Hypothesis 1- Do High screen user have lower MH scores ?

H_0: No difference between groups

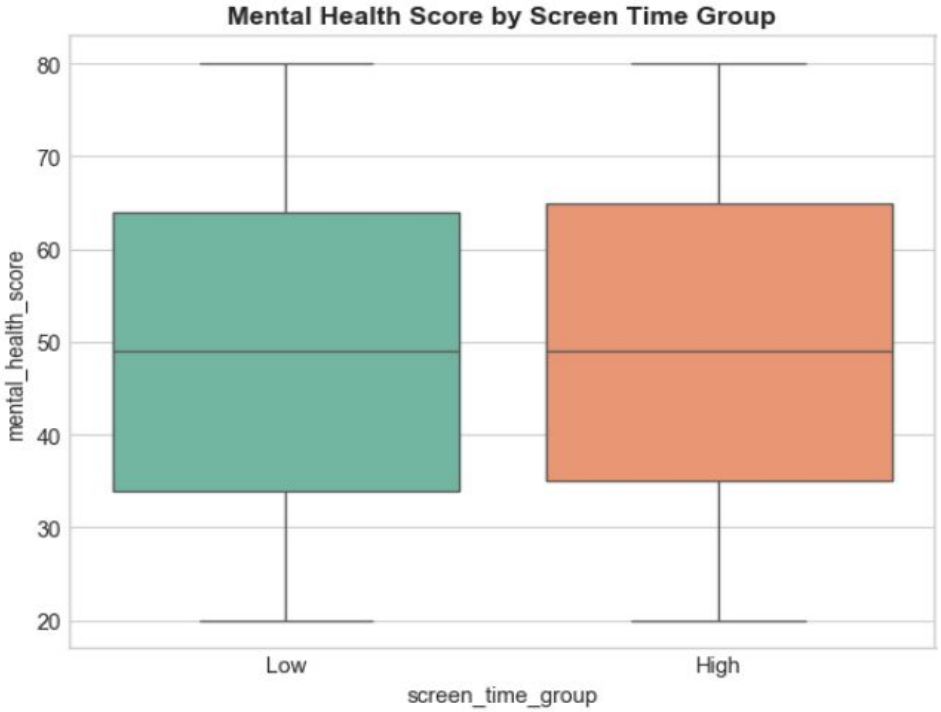
H_1: High screen time users have lower scores

Results:

- **Mean (High) = 49.73**
- **Mean (Low) = 49.57**
- **t = 0.20**
- **p = 0.84**

Interpretation:

- **Fail to reject H_0**
- **Screen time level was not significantly associated with mental health scores**



Hypothesis 2 - Wellness app users have better MH scores ?

Hypotheses

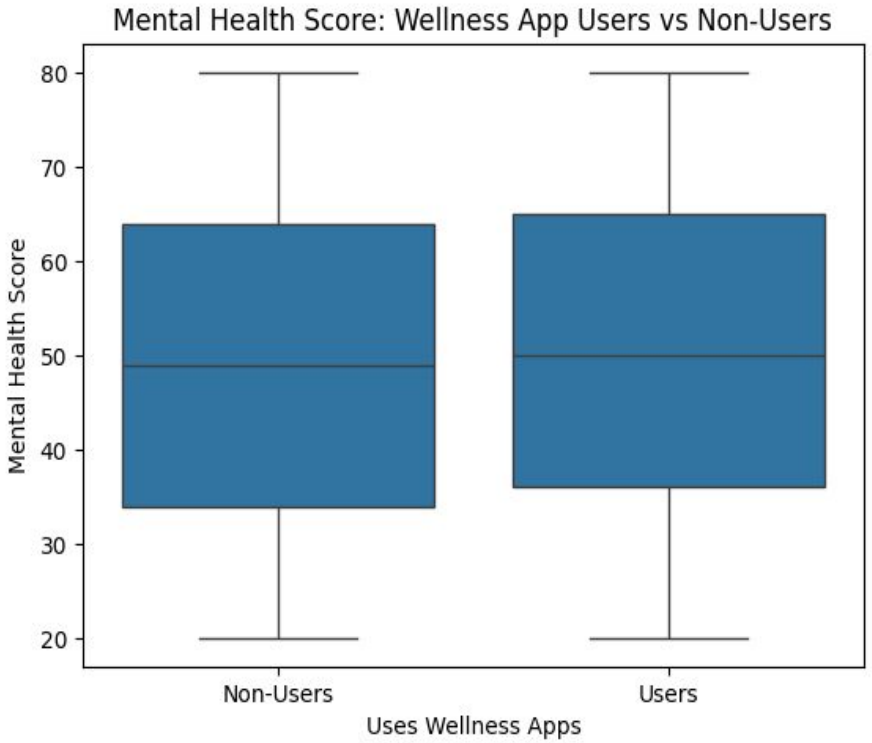
H_0: No difference between users and non-users
H_1: Wellness app users have higher scores

Results

- **Mean (Users) = 50.20**
- **Mean (Non-Users) = 49.30**
- **t = 1.11**
- **p = 0.27**

Interpretation

- **Fail to reject H_0**
- **Wellness app usage was not significantly associated with mental health scores in this dataset**



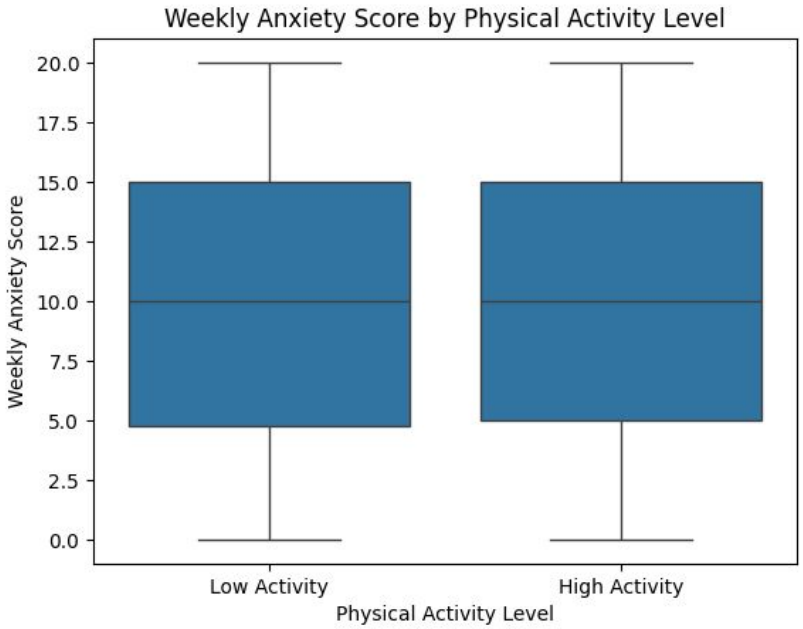
Hypothesis 3 - Higher physical activity are associated with lower anxiety ?

Hypotheses

H_0: No difference in anxiety scores between activity groups
H_1: Higher physical activity is associated with lower anxiety

Results

- **Mean (High Activity) = 10.02**
- **Mean (Low Activity) = 9.76**
- **t = 0.95**
- **p = 0.34**



Interpretation

- **Fail to reject H_0**
- **Physical activity level was not significantly associated with lower anxiety scores in this dataset**

Correlation Test

Pearson Correlation

Daily Screen Time
vs
Mental Health Score

Kendall's Tau

Social Media Hours
vs
Depression Score

Point-Biserial Correlation

Healthy Eating
vs
Mental Health Score

Spearman Correlation

Sleep Quality Rank
vs
Mood Rating

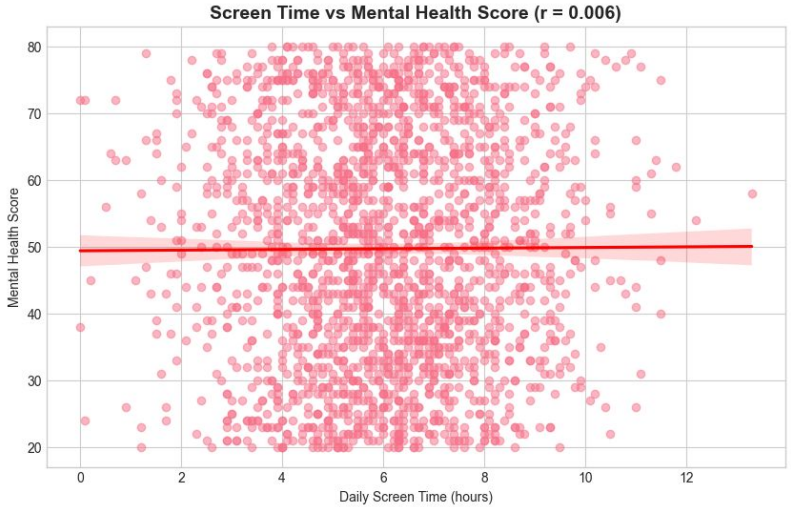
Phi Coefficient

Uses Wellness Apps
vs
Eats Healthy

Correlation Test 1 - Pearson

Daily Screen Time vs Mental Health Score

Correlation Coefficient	0.0055
P-value	0.8052



Interpretation: Weak positive Correlation

Statistical significant: Not significant at α=0.05

Correlation Test 2 - Kendall Tau

Social Media Hours vs Depression Score

Correlation Coefficient	0.0333
P-value	0.0312

Interpretation: Weak positive monotonic relationship

Statistical significant: Significant at α=0.05

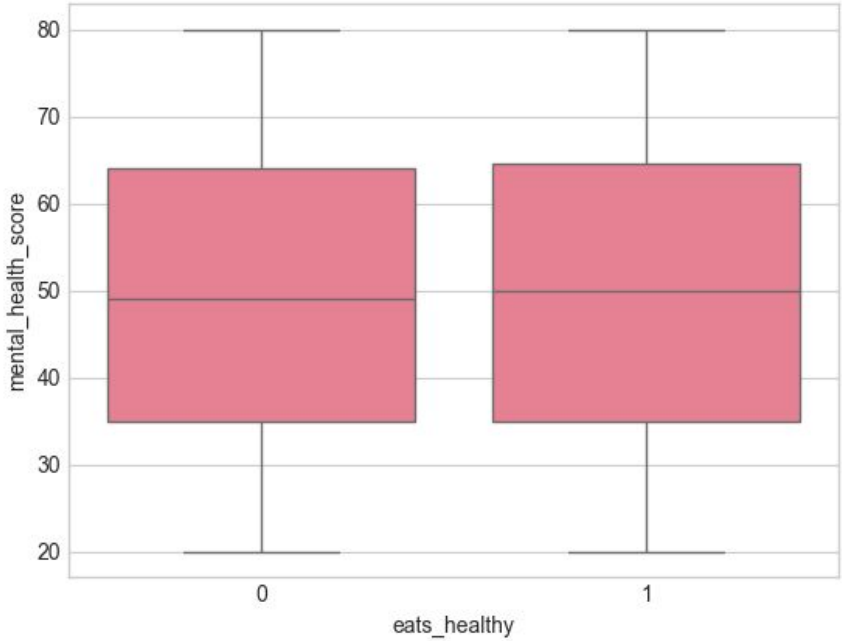
Correlation Test 3 - Point-Biserial

Healthy Eating vs Mental Health Score

Correlation Coefficient	0.0032
P-value	0.8871

Interpretation: Weak positive Correlation

Statistical significant: Not significant at α=0.05



Real-World Applications & Recommendations

Health

No strong statistical relationships found.

Mental health is likely influenced by multiple complex factors.

Education

Statistical testing prevents incorrect assumptions.

Data-driven decisions are essential.

Marketing

Wellness app usage alone does not guarantee better outcomes.

Engagement quality may matter more than usage.

Summary of Key Findings

Key takeaways from our data analysis.

- Higher social media time is linked to more depressed
- We cannot say just high screen time has correlation with mental health
- To confirm data source is the most important process

Thank you