**Summary of Findings: The Impact of Recreational Technology Usage on Mental Health**

**Overview**

Recreational technology, including gaming and social media, plays a significant role in shaping behavioral, mental, and social patterns. Our study explored the relationship between technology usage and mental health, examining how this relationship varies by age, gender, and specific activities.

**Key Findings**

1. **Gaming and Mental Health**
   * **Correlation**: A weak positive correlation (0.177) was identified between gaming hours and poorer mental health, with a statistically significant p-value (2.00 × 10⁻⁷¹). This suggests that increased gaming is associated with slightly worse mental health.
   * **Interpretation**: While gaming shows a link to mental health, its weak correlation implies that other factors likely contribute more significantly to mental health outcomes.
2. **Social Media and Mental Health**
   * Analysis highlights that heavy social media usage aligns with poorer mental health outcomes. This is particularly evident among younger individuals, although causality remains unclear.
3. **Combined Usage Patterns**
   * **Age Trends**:
     + Younger individuals, particularly teens and those in their early 20s, exhibit the highest combined usage hours.
     + Usage declines with age, reflecting shifts in priorities like work and family.
   * **Gender Trends**:
     + Males generally report higher combined usage hours than females, especially among younger age groups.
     + The gender gap narrows in older age groups with reduced overall usage.
4. **Mental Health Trends Across Gender**
   * Individuals with "Poor" mental health exhibit the highest combined usage hours for both genders.
   * Among those with "Good" mental health, usage hours are more balanced across genders.
   * Males with poorer mental health display notably higher usage than females, suggesting potential differences in coping mechanisms or activity preferences.
5. **Stress and Usage**
   * Younger populations with high usage hours often report higher stress levels. This correlation may indicate that heavy technology use could exacerbate stress or serve as an escape from stress-inducing environments.

**Implications**

The data underscores a nuanced relationship between recreational technology usage and mental health:

* **Younger males** and individuals in the "Poor" mental health category are particularly high-use groups, suggesting targeted intervention opportunities.
* **Causality remains unresolved**: Excessive usage could either contribute to mental health challenges or serve as a coping mechanism, warranting further investigation.

**Conclusion**

Excessive screen time, especially among younger demographics, correlates with poorer mental health. Gender differences, age trends, and specific activities like gaming and social media offer critical insights for crafting strategies to mitigate potential negative effects of recreational technology use. However, understanding causality is essential for developing effective interventions.

**Gaming Analysis**

A screen shot of a graph

Description automatically generatedOur analysis of gaming hours and mental health status showed an interesting, albeit weak, connection. We found a correlation coefficient of about 0.177, suggesting that people who spend more time gaming may report slightly poorer mental health. The p-value was incredibly small (2.00×10−712.00 \times 10^{-71}2.00×10−71), meaning this result is statistically significant and not due to chance. However, it’s important to note that while the data shows some link between gaming and mental health, the weak correlation hints that gaming isn’t the main factor affecting mental health. There are likely many other influences at play, and digging deeper into those would help paint a more complete picture of this complex relationship.

**Combined Usage by Age and Gender Analysis**

**General Trends Across Age**:

* Younger age groups (e.g., teens and early 20s) tend to have higher combined usage hours for both genders, likely reflecting increased engagement with social media and gaming platforms.
* As age increases, combined usage hours generally decrease, indicating a possible shift in priorities (e.g., work, family) or lower interest in technology-intensive activities.
* Peaks of usage can be observed in certain younger age brackets, suggesting specific life stages (e.g., high school or college years) when technology usage is at its highest. The tapering of usage for older adults is consistent with broader studies on technology adoption and usage patterns.

**Gender-Based Differences**:

* At most ages, males show slightly higher combined usage hours than females. This might be attributed to higher gaming activity among males, as gaming often contributes significantly to combined usage.
* The disparity between genders appears more pronounced in younger age groups and less significant in older age groups, where overall usage is lower.

**Implications for Stress Levels**:

* While this heatmap does not directly correlate usage with stress levels, the observed high usage hours among younger populations may align with higher stress levels seen in separate analyses. This could be explored further to understand whether heavy technology usage contributes to stress or serves as a coping mechanism.

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**Gender-Specific Differences**:

* For each mental health category, males generally have higher combined usage hours compared to females.
* The disparity is particularly pronounced in the "Poor" mental health category, suggesting that males with poor mental health tend to engage more heavily in activities like social media and gaming.

**Mental Health Trends**:

* For both genders, individuals with "Poor" mental health exhibit the highest combined usage hours, while those with "Good" mental health show the lowest.
* This trend aligns with the general assumption that excessive screen time correlates with poorer mental health.

**Smaller Differences in "Good" Category**:

* In the "Good" mental health category, the difference in combined usage hours between males and females is smaller, suggesting more balanced usage among individuals with better mental health.

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