

Project Title: Psychological Profiles and Gaming Behavior: Insights from the Online Gaming Anxiety Dataset

Team Name: Group 8

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Dataset: [*Divyanish Agrawal. "Online Gaming Anxiety Data" \(Kaggle\)*](#)

Tableau Public Dashboard: [*Online Gaming, Anxiety \(GAD-7\), and Life Satisfaction \(SWL\)*](#)

DATASET DESCRIPTION

This project uses the Online Gaming Anxiety Data from Kaggle, a survey-based dataset containing 3,000 respondents across multiple psychological and behavioral measures. The dataset includes: GAD-7 Anxiety Scores (clinical 0–21 scale), SWL: Satisfaction With Life Scale (validated 1–7 scale), Weekly Gaming Hours, Preferred Playstyle (e.g., multiplayer, single-player, co-op), Self-reported Difficulty Controlling Gaming, and Demographic details (age, gender, gamer-type). The dataset captures the relationship between psychological distress and gaming behavior, allowing us to examine whether anxiety and life satisfaction meaningfully influence hours played, preferred playstyle, and perceived control over gaming. Data cleaning involved removing invalid responses (such as a report of playing over 168 hours of games in a week), grouping rarely selected playstyles, and constructing a four-quadrant psychological segmentation (High/Low Anxiety × High/Low Life Satisfaction).

FINAL HYPOTHESES AND FINDINGS

Hypothesis 1

Does anxiety level predict differences in multiplayer vs. non-multiplayer preference?

Finding: No significant association. The difference in multiplayer preference between low- and high-anxiety groups is under 2%, reinforced by a non-significant chi-square test. Anxiety does not appear to drive interest away from or toward multiplayer games.

Hypothesis 2

Do players with high anxiety and low life satisfaction spend more hours gaming per week?

Finding: Yes, and substantially. Box plot distributions show the entire “High Anxiety + Low Satisfaction” group shifted upward, averaging ~4.5 more hours per week than the lowest-risk group. This suggests gaming may serve as a coping mechanism among distress profiles.

Hypothesis 3

Are players who report difficulty controlling their gaming also higher in anxiety and lower in life satisfaction?

Finding: Yes, and the effect is sizable. Split-panel bar charts with confidence intervals show that the “High Difficulty” group has: Significantly higher GAD-7 scores, often above the mild-anxiety threshold, and significantly lower SWL scores, below the neutral midpoint.

KEY VISUALIZATIONS

Anxiety Levels Have Minimal Impact on Multiplayer Preference

Multiplayer remains the dominant preference (~92-94%) regardless of GAD-7 Anxiety Scores.

Anxiety Groups: Low (GAD-7 ≤ 4), Moderate (5-9), High (≥ 10)

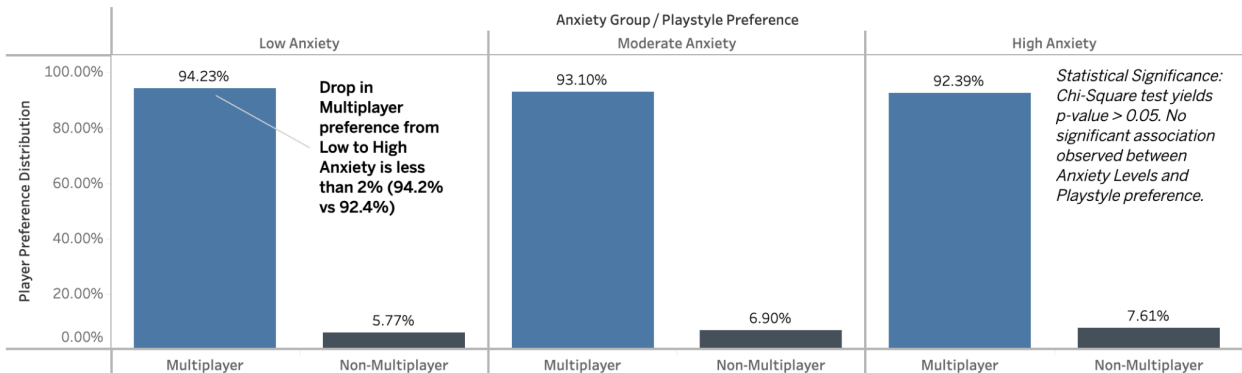


Figure 1. Multiplayer vs. Non-Multiplayer Preference by Anxiety Level

A grouped bar chart showing a consistently dominant multiplayer preference (~92–94%) across low, moderate, and high anxiety groups. Variation between groups remains under 2%, and a chi-square test indicates no statistically significant association between anxiety level and preferred playstyle.

High Distress Players Log Significantly More Weekly Gaming Hours

Comparison of gaming frequency across combined Anxiety (GAD-7) and Life Satisfaction (SWL-T) profiles.

Groups: High Anxiety (≥ 10), Low Anxiety (< 10); Low Satisfaction (≤ 15), High Satisfaction (> 15)

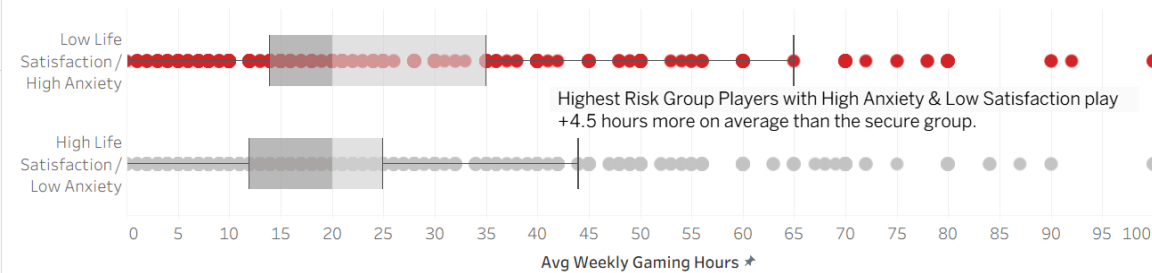


Figure 2. Weekly Gaming Hours by Psychological Profile (Box Plot)

A box-and-whisker plot comparing weekly gaming hours for four combined Anxiety \times Life Satisfaction profiles. The High Anxiety + Low Satisfaction group shows an upward-shifted distribution, higher median, wider IQR, and more high-end outliers, indicating substantially heavier gaming relative to more secure profiles.

Difficulty Controlling Gaming Habits Correlates with Lower Life Satisfaction and Elevated Anxiety

Contrast of average GAD-7 (Anxiety) and SWL (Life Satisfaction) scores between players reporting high vs. no difficulty managing play time.

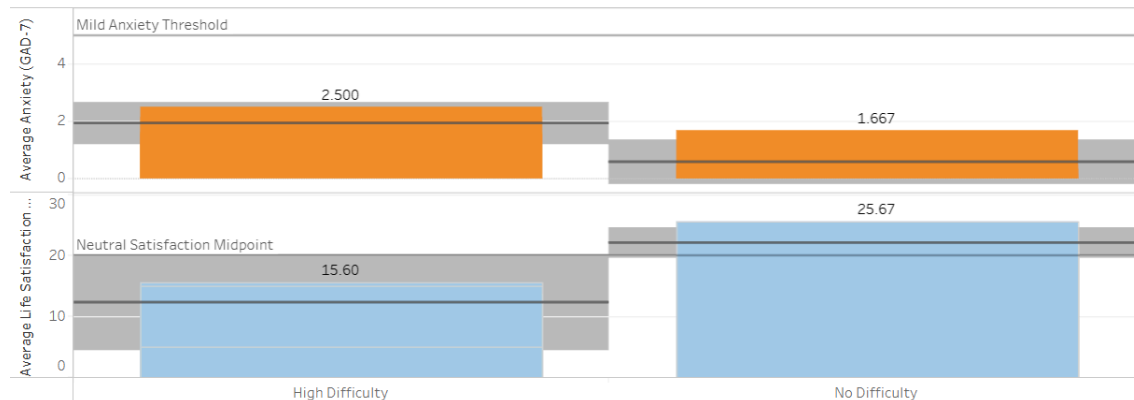


Figure 3. Anxiety and Life Satisfaction by Gaming-Control Difficulty (Split-Panel Bar Chart)

Aligned bar panels displaying average GAD-7 and SWL scores for players reporting High Difficulty vs. No Difficulty managing their gaming. Both panels include 95% confidence intervals and psychological reference thresholds, showing that difficulty controlling gaming is associated with higher anxiety and significantly lower life satisfaction.

AUDIENCE PERSONA RECAP AND COMMUNICATION IMPACT

Digital Wellness Researcher

Needs insight into psychological risk indicators and behavioral warning signs.

Impact:

Distribution-focused visuals (box plots, CI panels) provide transparency into variance.

Findings highlight that increased gaming hours—not game mode—are the strongest behavioral signal of potential distress.

Game Development Analyst

Needs actionable insights for design, player experience, and risk mitigation.

Impact:

Evidence shows anxious players do not avoid multiplayer features.

Difficulty controlling gaming correlates with lower well-being, supporting ethical in-game wellness features (session reminders, cooldowns, optional limits).

DESIGN AND ETHICAL REFLECTION

The dashboard groups players into psychological profiles that allow the Digital Wellness Researcher to see clinically meaningful variance, while also offering simplified player-type categories for the Game Development Analyst who needs actionable design implications. For Hypothesis 1, a grouped bar chart is used for a clear categorical comparison of player types. For Hypothesis 2, a box plot is used to display distributional differences, outliers, and variance, which are critical for understanding behavioral intensity. For Hypothesis 3, a split-panel bar chart

is used to avoid misleading dual axes and to reflect separate psychological constructs using parallel structure.

Our annotation strategy includes: Mild anxiety threshold (GAD-7: 5), Neutral satisfaction midpoint (SWL: 20), Statistical results (e.g., chi-square p-value). These were added to keep interpretations aligned with validated clinical scales, improving accuracy and reducing misinterpretation risk.

Throughout the project, we implemented principles of: Transparency, Avoiding Pathologizing Gamers, Accessibility Choices, and GenAI Disclosure. All data sources, analytical methods, and grouping logic were disclosed in the dashboard and report. The findings emphasize behavioral trends rather than diagnosing individuals. Our visualizations include a high-contrast color palette, consistent semantic encoding (warm = higher distress, cool = lower distress), clear labeling, tooltips, and reference lines. GenAI tools (Gemini, ChatGPT, Gamma) were used for improving Tableau formulas, grouping logic, and text clarity, but not for producing novel analysis, ensuring the integrity and critical thinking of findings.

ACTIONABLE INSIGHTS

For Digital Wellness Researchers:

Monitor user groups showing both high anxiety + low satisfaction, as these profiles exhibit the strongest behavioral shift.

Weekly hour spikes appear to be a meaningful early-warning indicator worth incorporating into behavioral risk models.

For Game Development Analysts:

Do not assume anxious players avoid social modes; multiplayer participation remains stable across anxiety levels.

Implement optional, player-respecting wellness tools such as:

Time-on-task reminders

Break nudges

Cooldown recommendations after long sessions

These features support an ethical player experience without imposing harsh, arbitrary restrictions, acknowledging the recreation and social value that gaming can bring.

Work(s) Cited:

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