Statistical Analysis of Gaming and the Effects on Mental Health

Our goal from the outset was to determine the impact that gaming has on mental well-being and life satisfaction. Initially, it was a thought of ours to investigate the old adage that gaming, especially in violent games, causes violent behavior. While it was an interesting topic, it seemed like it had already been researched and a possibly one-dimensional subject involving little hard data to work with. Instead we chose to go with a more overarching topic of gaming and general mental health. It was a topic that was interesting to Nick and I as gamers, and Lauralee who works in the healthcare field.

It was our belief that we would run into some outcomes of overgaming leading to detrimental mental well-being, or that it is more harmful to focus gaming time on rigorous multiplayer competitive gaming. However, several of our preconceived notions were dismissed as we looked deeper into the data that we collected. Proceeding is the route of questioning that we took to reach determinations about how video games and mental health coincide.

1.) **How does hours spent gaming affect anxiety and mental well-being?**

After calculating a score we deemed “GAD Score” that was determined through the results of a questionnaire, we compared the outcomes to how many hours per week were spent gaming. While it could be assumed that the more hours spent gaming would correlate with a disconnectedness or lack of time spent on other forms of self-care, but what was discovered is that a large majority of people answered within the scale of having a good mental well-being, regardless of time spent gaming. The majority of answers did not extend into what would be considered “over-gaming”, but even in the small sample size of higher time spent gaming, there was not a disparity in the frequency of a lower GAD Score.

2.) **How does hours spent gaming affect life satisfaction?**

While this question rings similarly to the previous, a different questionnaire was utilized Gathering what we deemed to be the “SWL Score”. These questions had less of a focus on anxiety and more so on what could be considered quality of life or possible depression symptoms in cases that scored poorly. This set of data ended up having a very even curve and averaged out very closely to the median. The same set of hours spent gaming was utilized for this determination, so a similar conclusion could be reached that hours spent to a larger amount did not have a noticeably negative effect, and most all participants scored within a neutral life satisfaction according to the SWL Score.

3.) **Is there a discrepancy in well-being/ life satisfaction between age, gender, and employment?**

While the discrepancy didn’t lie within the outcomes of the GAD and SWL scores, there was a large discrepancy in the gender of the participants. A good 95% of the inputs of the set of data that we chose to use were male, which is not a surprising result. This didn’t lead to much different looking data, however, with both females having a very similar curve in the outcome of the scores. Age also ended up aligning very similarly with the conglomerated outcomes of hours spent gaming and GAD and SWL scores. A noticeable discrepancy was found within life satisfaction of unemployed gamers dipping into the territory of moderately bad life satisfaction

on aggregate. Other employment factors graded neutral life satisfaction with a higher ceiling of scores. The GAD Scores compared to employment led to real differences with the majority scoring within the very good well-being range.

4.) **How does gaming affect the well-being of the gamer immediately after the gaming session has ended?**

For this question, we utilized a separate set of data setup by an entirely different researcher. It was utilized for the specific insight needed to answer this question, but the outcome was that of a significantly more negative test group. The majority of which answered that after the session they felt unmotivated or tired. Only a quarter of participants answered that they felt good after gaming. It is an interesting outcome that up until this point of our studies was not foreseen. The differences in the studies were very apparent after our calculations were made. You could postulate that the immediacy of the questioning could contribute to the more negative results compared to those of more overarching life questions and being somewhat removed from the activity.

5.) **Does the playstyle of the gamer increase or decrease anxiety or depression?**

A reoccuring theme starts to develop here that no matter what variables you are comparing, the conclusion remains that the average well-being of the gamer participating in this study is a very good one and that the life satisfaction is on average neutral across the board. One important thing that could be deduced from this particular questioning leads to a subset of gamers that are participating in what is considered “couch co-op”. It is my personal belief and experience (Cade here) that there is a wonderful enjoyment and camaraderie that is experienced when gaming in not only a social atmosphere but that of an in person session. This resulted in a higher mental well-being which, anecdotally, corresponds directly to my own experiences.

6.) **Is there a correlation to the reason why a user games to their mental well-being/life satisfaction?**

This line of questioning led to yet another similar outcome in the category of life satisfaction, with the 5 most popular answers giving another outlook of a neutral life satisfaction on average. It continued to prove that many different factors did not change the conclusion of the averages. Although this is the case, the GAD Score varied a little more than what was expected. Relaxation you would think would be the highest average mental well-being, but it resulted in the highest GAD Score of the 5 most popular answers. It is my belief that it being the most often output of the questionnaire that it may have been slightly diluted with a large amount of varying data points. However, the outcome was not all that jarring as it was only a few points above what was to be expected, with an unsurprising result in tangent of very high mental well-being while gaming for “having fun” and the very flexible and agreeable “all of the above” option.

Conclusion

One of the biggest takeaways from this first project was that the dataset you are working with is everything. If there is any amount of opinionated inputs, or skewed questioning, or even ulterior motives in the organizer of the study, then the resulting data analysis will show it. In choosing the subject and dataset that we did, it is easily determined that this is by no means a definitive answer to our original question. It is, however, a great insight into this particular groups thinking with how their video gaming intersects with their mental health. In this analysis, it became clear that the most common results are that of a good mental well-being (low anxiety) regardless of why, how, who, or how long someone games. And that life satisfaction (depression likelihood) was that of a neutral outcome, with a variability of benefit and detriment alike. If I were to go about this study again, I think more data could only benefit and finding something that is easily calculable rather than subjective would lead to a more definitive and less subjective outcome. All in all, from what we could determine; play video games to your heart's delight! Just make sure to touch some grass ever so often.