Games behind the Scenes

Does gaming cause anxiety? How does this happen and what is the reason behind that?

Correlation One – DS4A / Jordan 1

Team 1

Outline

- Introduction
- Business Impact
- Dataset
- Data Cleaning
- Data Analysis & Computation - Work Status
- Conclusion - Educational Level
- Future Work

Introduction

- Currently there is around 3.24 billion players worldwide. And the number has been rising over the past years.
- These players may get addicted to gaming, as it cause the brain to get addicted to it same as brain getting addicted to drugs and alcohol.
- Players get a potential of having mental health issue due to addiction to gaming

Business impact

- There is growing concern around the globe about the potential negative mental health effects of playing video games.
- Internet gaming disorder patients are more prone to be aggressive, depressed, and anxious.
- The purpose of this study is to investigate the relationship, level, and influence of anxiety disorders includes generalized anxiety disorder (GAD) and social phobia (SPIN) on the lives of players in addition to their satisfaction with life (SWL) levels.

Dataset

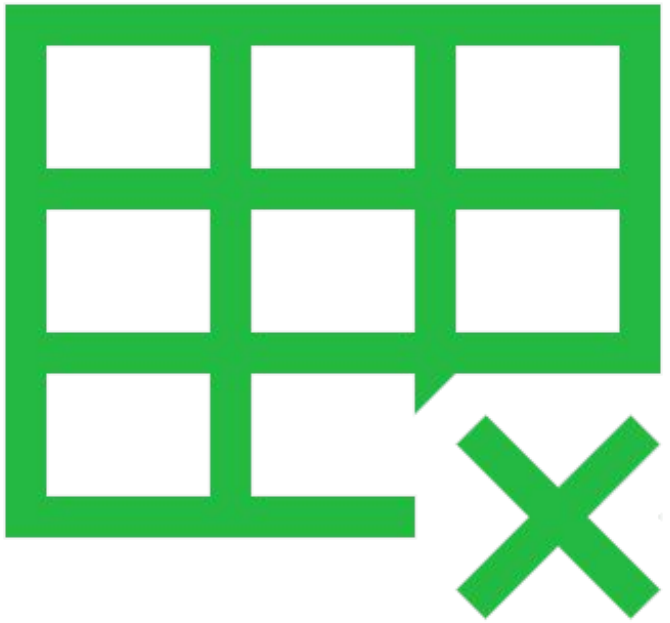
Dataset Details:

- This dataset consists of data collected as a part of a survey among gamers worldwide.
- The questionnaire included questions that psychologists generally ask to people who are prone to GAD and SPIN, the survey also included SWL test and a few other questions related to gamers personal information and gaming lifestyle.

Data Structuring:

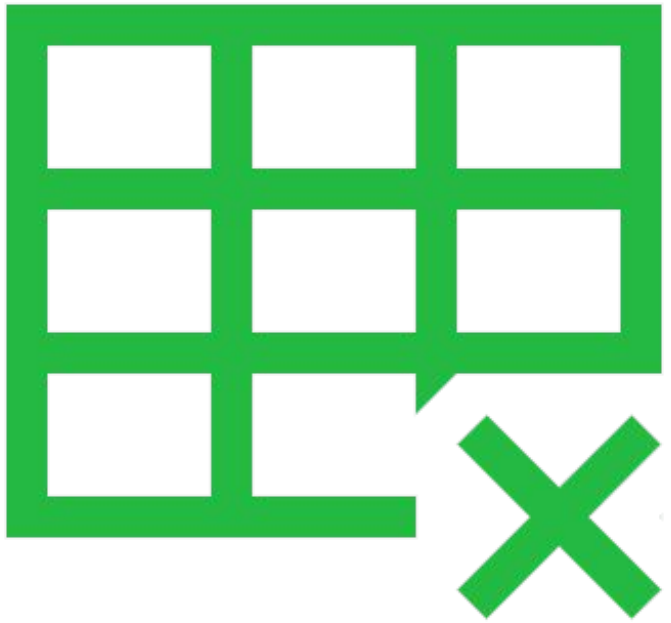
- We classified the dataset into 5 categories (GAD, SPIN, SWL, Play Style and Personal Information)

Data Cleaning



- “Hours per Week” (Played & Streamed): used Max fun. to check and remove the rows of data that contains non logic values (>168 hours per week)
- GAD, SWL ,SPIN test results columns used the Max functions to check and remove incorrect values (test results have a range)
- Age column: used the Max functions to check and remove non logic values
- Removed (NA) values from Hours per week, GAD, SWL, SPIN, Age and Work status

Data Cleaning



- Total number of rows before data cleaning:13,464
- Total number of rows after data cleaning:12,668
- Percentage of removed data: 5.9%

Data Analysis & Computation

The analysis was made on sum GAD, sum SWL and sum SPIN since each of them consists of many questions, and their sums represent the overall states of each test.

GAD							
Feeling nervous, anxious or on edge	not being able to stop or control worrying	worrying too much about different things	trouble relaxing	being so restless that it's hard to sit still	Becoming easily annoyed or irritable	Feeling afraid as if something awful might happen	SUM of GAD
0	0	0	0	1	0	0	1
1	2	2	2	0	1	0	8
0	2	2	0	0	3	1	8
0	0	0	0	0	0	0	0
2	1	2	2	2	3	2	14
0	0	0	0	0	1	0	1

Data Analysis based on Work Status

The dataset categorizes the work status as the following:

- Employed
- Unemployed/Between Jobs
- Student at College/University
- Student at School

Data Analysis & Computation

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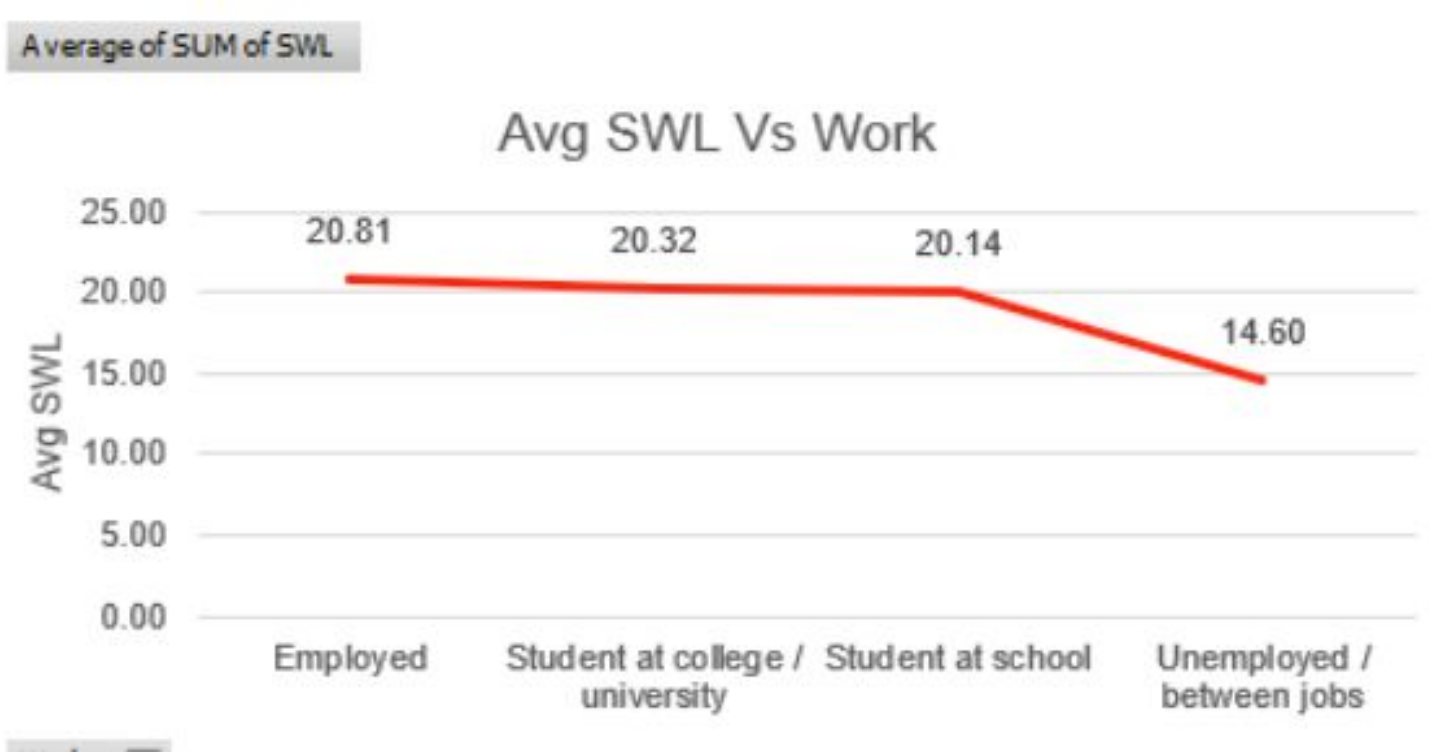
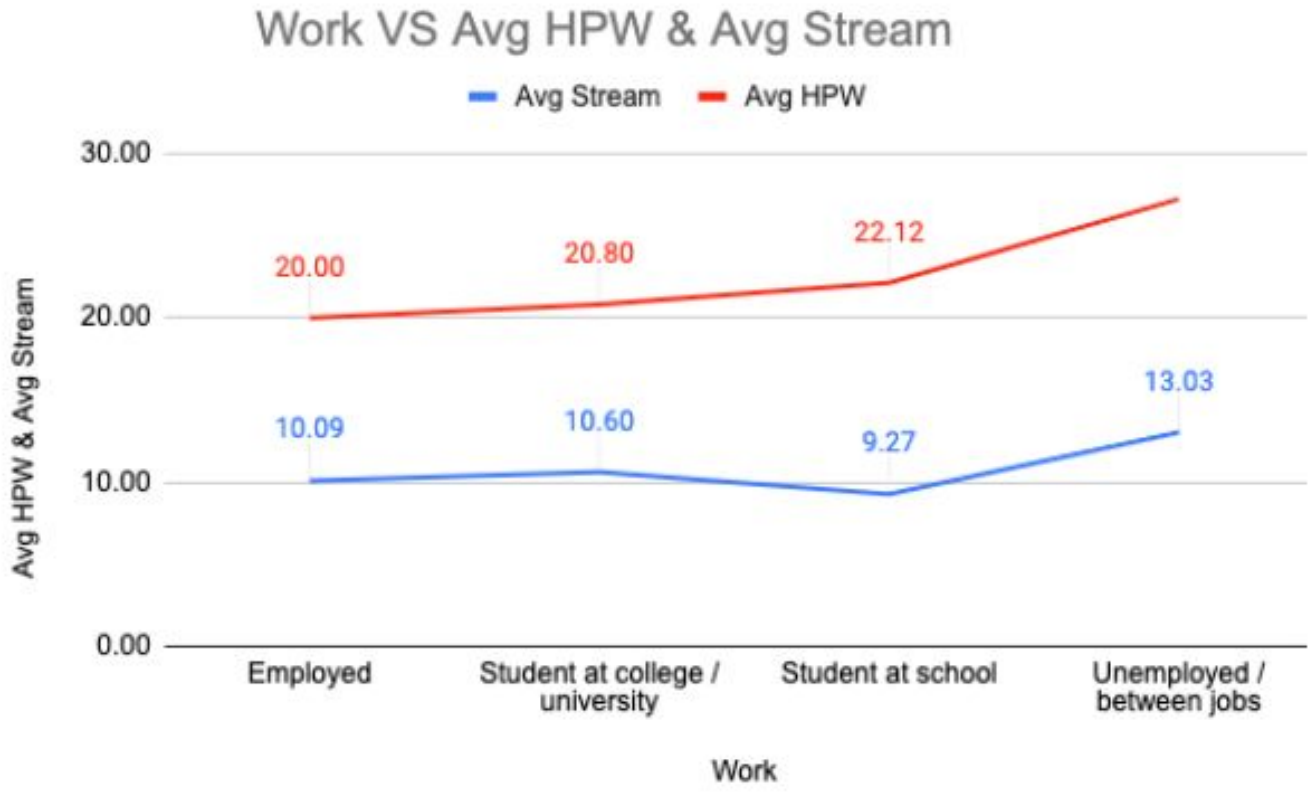
SWI vs work status

- After analyzing the satisfaction with life with the work status, the analysis shows that the players who are engaged in a work have higher satisfaction with life score.
- Work is the current status for participants when they filled the survey.



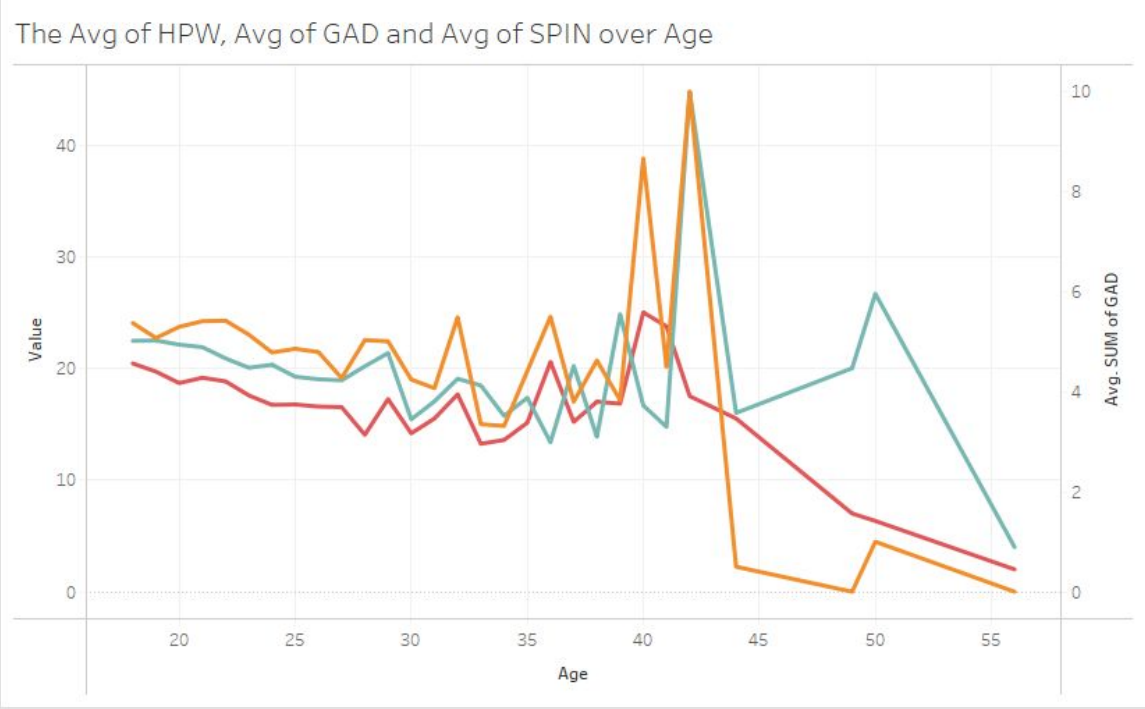
Data Analysis & Computation –
Avg (HPW & Stream) vs work status

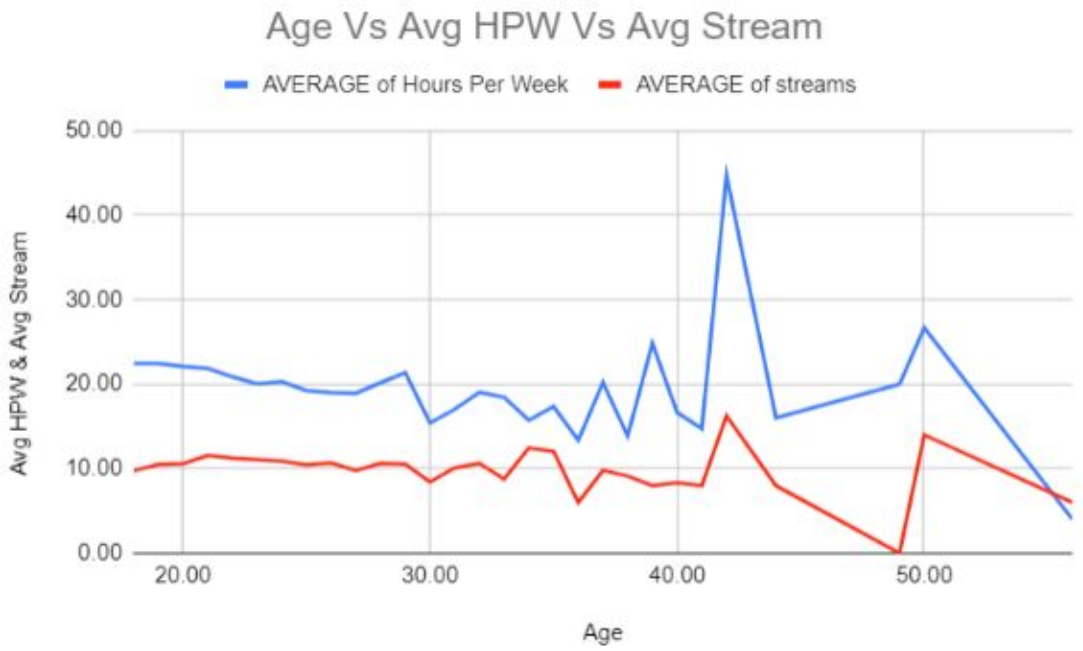
- Based on previous result, we conducted more research based on work status with average hours spent per week on gaming and average video game streams, and it again shows that players who are engaged in work have the lower rates.



Data Analysis & Computation –
based on age

- Analyzing HPW, steams, GAD, SPIN compared to age, resulted in showing that normally younger players tend to have more mental health problems and spend more time on gaming activities, with a special case for people aging around 41-43 having the highest score of both mental health problems and spending time on gaming activities.





Data Analysis & Computation

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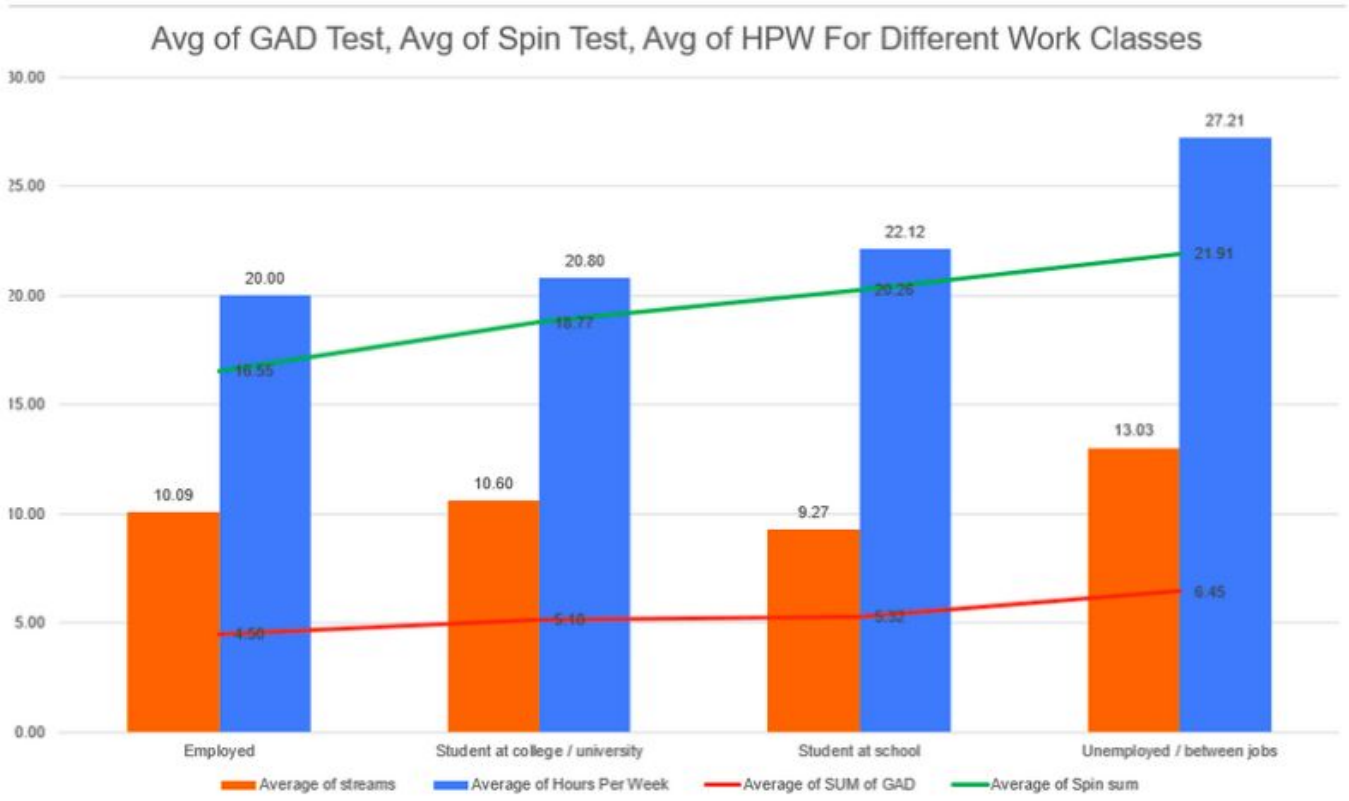
GAD & SPIN vs Work Status

- Furthermore, after making more analysis based on work status with GAD and SPIN, it also gave the same result, that players who are unemployed have scored the highest GAD and SPIN (mental health issues)



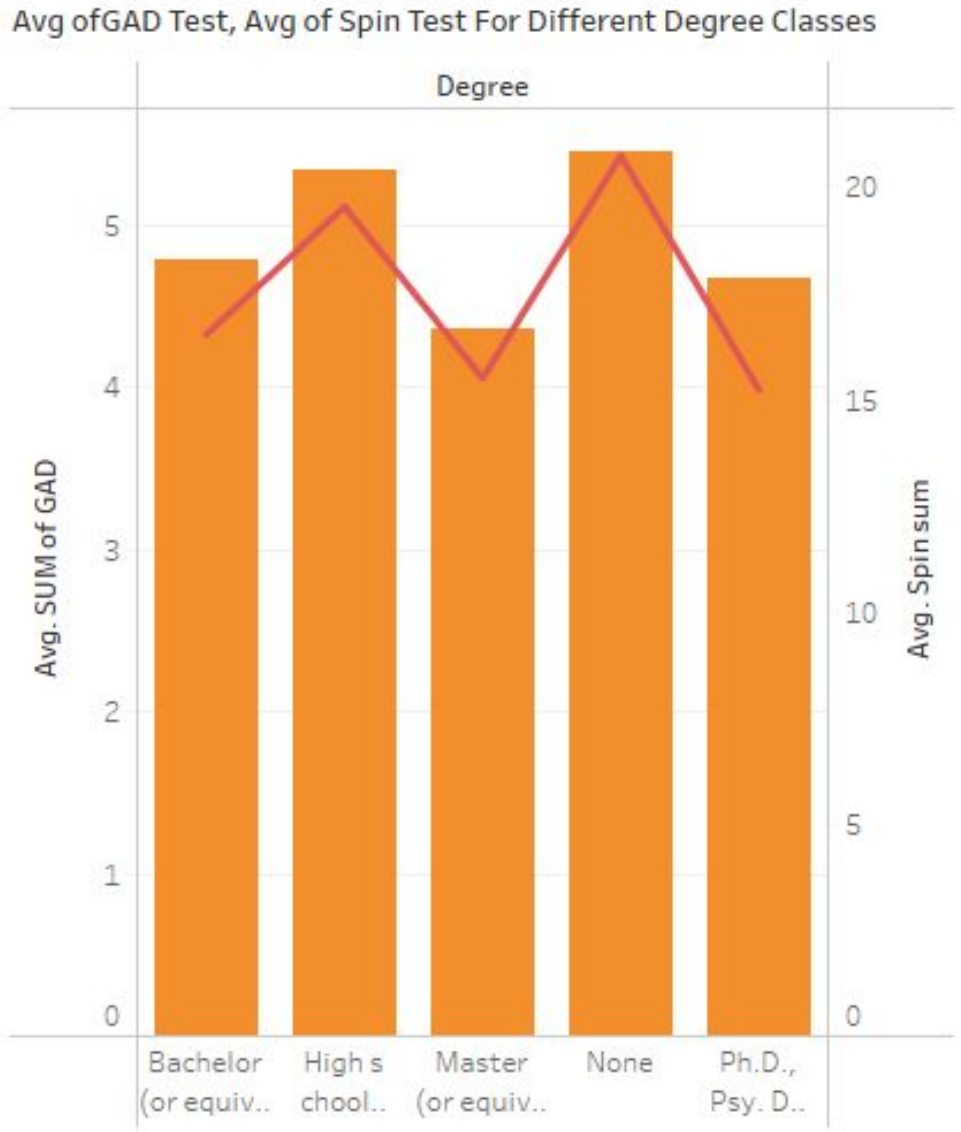
Data Analysis based on Educational Degree

The dataset categorizes the educational degree as the following:

- High school diploma (or equivalent)
- Bachelor (or equivalent)
- Master (or equivalent)
- PH.D., Psy. D., MD (or equivalent)
- None >> No Educational Degree

Data Analysis & Computation – GAD & SPIN vs Education

- We have performed the same analysis and we have concluded that people with lower education level are more prone to have mental health problems.
- Dashboard



Conclusion

- Mental health and gaming are related.
- Wrong practices of gaming can lead to serious mental health issues
- Unemployed players have the lowest SWL score, and spend more time on gaming compared to other players
- The lower the player educational level the more prone he is to contract mental health issue and have an addiction to gaming

Future Work

- Construct a model that can predict the severity of GAD and SPIN based on age, number of hours played, and work status. Implement this model in a gaming telemonitoring software that connects gamers with healthcare institutes to provide mental health support at an early stage, as well as to raise awareness of gaming anxiety and the negative effects of gaming on mental health.

- Integrating with other datasets, to investigate the relationship between gaming and various healthcare concerns such as obesity, depression, diabetes, sleeping disorders, and stress.

The end

Done by Team 1:

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