Team 02 - We're Skewed

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After playing the Elm City Stories video game and looking through the provided data, we wanted to focus on why and when players were dropping the game. Cleaning the data in R provided more insight on what specifically we could focus on to figure out what was going on. As a team, we decided to look into the MiniGames focusing on People Skills and the data provided for those. We started with looking closer at the number of strikes in each of the ten People MiniGames, and our findings can be seen in the Total Strikes Per Player Throughout Playtime graph. This didn't seem to be very significant, so we pushed further and looked into the consequences of the MiniGame when the players had to choose whether to befriend positive influences or not. More specifically, how the number of players who completed the game compared to those who did not complete the game and how many "bad choices" the players made, like accepting an invitation from a negative influence. Using R, we created and analyzed the boxplots for each MiniGame, revealing that the average missed choices differs between players that completed the game and players that did not complete the game. After visualizing the average missed choices, we ran multiple T-tests to see if the means were statistically different. These tests revealed that for every MiniGame, the mean missed choices were statistically different between the two groups of players.

For further visualization, we created a survival analysis plot to show the number of players still in the game over time. This confirmed our findings that the People Skills MiniGame 2 and 5 had significant drop off levels and with additional time and research we believe a similar pattern would be found in the following MiniGames that have an increase in number of people the player has to choose between. Looking into the psychological aspect of the game, and more specifically perceptual learning, we believe the reason we are seeing significant drop off numbers for the players in the game is because of "[adolescents'] reduced working memory filtering capability relative to adults" (Peverill et al., 79).

The purpose of this game ultimately was to equip adolescents with the knowledge and skills to make healthy life-decisions by modeling behavior– and this is accomplished via perceptual learning, the ability to recognize stimuli that have been perceived before. The game places adolescents in scenarios meant to simulate real life so that when they run into these situations in their own lives, they will recognize the stimuli that the game has put them through, preparing them to make the right decisions in life. However, players need to participate in and ideally finish the game, to experience these scenarios, for perceptual learning to occur. Returning to the purpose of this DataFest and to help design future games that can produce real-time data that is useful to psychology researchers, we looked at areas where we lost the most player participation to increase the amount of data researchers will receive and improve the effectiveness of the game. One of the potential reasons behind the significant drop in player participation after the People Skills MiniGame 2 and 5 is due to the addition of 2 friends to sort for both games respectively, challenging the working memory of the adolescents and affecting retention.

Given more time for this DataFest, our team would like to look further into the survival analysis for the data. We would want to focus on each of the drop off points for players in the game and determine what could be changed about the People Skills MiniGames to help reduce the loss of participants. Overall, we believe this pattern is significant and deserves to be looked into further to improve the study and provide more accurate information for use in psychological research.