The dataset I am planning to work with is a repository of board game data from the website board game geek. Board games have had quite the resurgence in the past 10-15 years and board game geek is the most common site to look up reviews of a game. The data set I plan to use is a scraped version of the board game arena website someone made, located here: https://github.com/9thcirclegames/bgg-analysis. It is a .rda file that contains all the board games on the site up to 2019. While there is a cleaner version of this data located here: https://github.com/rfordatascience/tidytuesday/tree/master/data/2019/2019-03-12, I want to be able to practice cleaning the data and making my own conclusions about which pieces to keep/remove. The data set includes the following features: type of game (board game vs expansion), description, max number of plays, max play time, minimum age, minimum players, minimum playtime, name, playing time, thumbnail, year published, artist, category, designer, family (kickstarter, sport game, etc), mechanic (press your luck, cards, dice, etc.), number of users rated, average score, average weight, etc. There is a total of 80 columns, and obviously many of these will not be used/need to be cleaned. In general, a game is considered "good" if it receives a score of 7 or higher. I would like to predict if a game is "good" or "not good", based on this definition. While I have learned it is not good to turn a continuous variable into a binary one in this way in real applications, for the purpose of this dataset/class it will suffice.

Many of my research questions derive from my own experience with games as I have become more engrossed into the hobby. In general, there are casual party games that can be played in about 15 minutes as well as longer casual games that can take 45 minutes or greater. For more serious games, there are some games that can take 90 minutes or longer. One of my questions is, how does the prediction of a game being "good" for a min length of 15 minutes compare to a game with a min length of 45 minutes and a min length of 90 minutes. I also am curious about the weight of the game and its impact, specifically, how does a weight of 1.5 (very light) compare to a weight of 4 (on the heavy side)? I have a feeling there may be some correlation between game length and weight/complexity as well (shorter games are probably less complex), which should be explored when developing the model. Another factor of interest to me is the year the game was published. I'm curious if older games perhaps have higher scores because of a nostalgia factor that raters may have, or if newer games have higher scores because of the novelty of them. Assuming someone around 35 years old (based on Stonemaier's average gamer age survey (Hewer 2019)), games from around 2005 would represent games of their young adult years. Therefore, it would be interesting to see the probability of being a good game for a game from 2005 versus a game from 2019. Number of players also poses an interesting category for prediction of good games. Games that have a large range of players I've found sometimes play much better at one end of the spectrum than the other (for example, Wingspan, which is very fun with 2 players but with the max of 5 is a bit of a mess). Does a game with only 2 possible player amounts (such as 2 or 3 players) have a higher probability of being "good" than a game with 4 possible player amounts? Or does it have a lower probability because the range is more limited? I wonder if the game type (board game vs expansion) also plays an impact in the sense that sometimes a "sequel" can't live up to the hype of the base game. Do expansions have a lower probability of being "good"?

All the questions above are from my own experience/curiosity about board games, however, I also looked into other research that existed. As you might imagine, there aren't quite as many scholarly articles on board game ratings as there are on more pressing topics (cancer, political leanings, etc.), but I was able to find some to help fuel my research questions (as well as some non-research paper but still credible articles). Wolfgang Kramer's article (Kramer 2015) had some interesting ideas about what

makes a game good (originality, surprise, etc.), but I don't have data for any of these ideas. However, reasonable wait times might be impacted by the player count, and winning chances might be impacted by the complexity of the game, two factors I already plan on exploring. The 538 designing the best board game article (Roeder 2014) points out that 2 player games have a higher percentage of winning and less downtime (and therefore are more likely to think of the game as good). This makes me want to explore the question, does a 2-person game have a higher percent chance of being good compared to a 6-person game? This article's discussion of length also makes me reconsider the ranges I chose for considering (15 vs 45 vs 90 minutes). It looks the games range from 15 minutes to 6 hours, so I might want to expand my question to include longer games as well. Category of game, such as how a Wargame fares against other types of games would also be interesting to explore (are war games more likely to be considered "good"?). The 538 article on Gloomhaven (Roeder 2018) also makes me wonder if a game that is crowdfunded is more likely to be considered "good" versus a game funded through traditional means. Reading about what makes a game "bad" in yet another 538 article (Roeder 2015), it seems that only luck based games are generally considered bad. Therefore, it might be interesting to explore if games with the "press your luck" attribute are less likely to be "good" than other types of games. However, press your luck isn't necessarily a game without skill (Quacks of Quedlinburg, which won the prestigious Spiel des Jahres award, comes to mind), so this might not be the most accurate representation of luck. Most of the formal research articles I was able to find (Koehler 2016, Greenhalgh 2019) had a focus on educational board games and if these were just as fun/well received as other board games. Based on this, exploring the question of if the educational category is less likely to be a good game would be another good category to explore.

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