Statistics 1559

Final Project

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Professor Martinet

Thriller vs Comedy Genres on Netflix

Netflix is an online movie streaming service which includes two main popular genres: thriller and comedy movies. Although these genres differ greatly in content, it is important to acknowledge their popularity among Netflix members. In this report, we will analyze how these two genres differentiate from one another in terms of popularity according to their genre, date, and ratings. We decided to choose five thriller and five comedy movies in order to accommodate for discrepancies between uncommon distributions, and thus insuring an average for each of the genres. These thriller movies include Scars of Dracula, Astro Zombies, Mark of the Devil, Behind Enemy Lines, and and Jeepers Creepers. As for the comedy movies, we chose American Pie 2, Monty Python's Flying Circus, The Office Series One, Zoolander, and Shrek. Based on the popularity of each genre according to proportions, overall ratings, and popularity over time we will determine which genre, comedy or thriller, should continue to remain on Netflix. Each of these movies were rated during the period from 2000 to 2005, however we will investigate the distinct differences and trends regarding increasing or decreasing popularity of each of these film genres over time. Understanding when each movie genre was rated allows for the discovery of whether or not the genres of comedy and thriller are attracting more or less viewers over time.

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Using a collection of Netflix reviews to perform graphical and relationship analysis, we focused our work on one central question: is comedy or thriller a more popular genre on Netflix? This question provided us with cohesive direction for our exploration. This report aims to aid in the a Netflix Executive's decision on whether the genre of comedy or thriller should be removed from Netflix's streaming services. By providing popularity of these distinct movie genres it can be interpreted if keeping the genre of thriller or comedy will attract more future Netflix members and thus increase Netflix's overall revenue. Based on several graphical analysis we will determine Netflix members' preferences of movie genres, and thus which genre captivates viewers attention. Graphical analysis is helpful in understanding differences between specific factors such as the relationship between movie rating according to date, ratings given within the specified genres of thriller and comedy, as well as the how many viewers rated a certain genre.

From the given reviews provided by Professor Martinet, we split up the ten movies by subsetting each of them into ten different data frames. We did this in order to have clear and concise visuals of each movie in one data frame only, and so that it makes it easier to manipulate the data and use it further into our exploration when we made the graphs. After creating separate data frames from each of the provided movies, we merged the movies together into two data frames based of genre, thus

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creating the data frames of comedy and thriller. It is through each distinct data frame of

thriller and comedy that we were able to create graphs which revealed data according to

genre. In order to compare the ratings of all ten movies, we created a two-way table

containing counts for each individual movie and the amount of rating reviews associated

with each, ranging from ratings of one to five. We used this table to make a clear

distinction between popularity of thriller movies and comedy movies based on the

amount of total ratings.

The graph below displays the ratings given to five different comedy movies in

proportion to all the ratings given to the total five comedy movies. Proportionally, the

majority of comedy movies received a rating of four with the next most common rating

being three. Thus this graph shows that comedy movies tended to receive average or

above average ratings, making this genre rather popular among Netflix viewers who

took the time to rate movies. This graph is also skewed to the left as the lower ratings of

one and two act as outliers dragging the mean below median. In addition, it is apparent

through this graph that comedy movies overall received more higher ratings than lower

ratings as proportionally there are much fewer ratings of one and two than three, four,

and five. Thus it can also be inferenced that comedy movies continuously tend to

receive positive ratings from Netflix viewers.

Proportion of Ratings for Comedy Movies
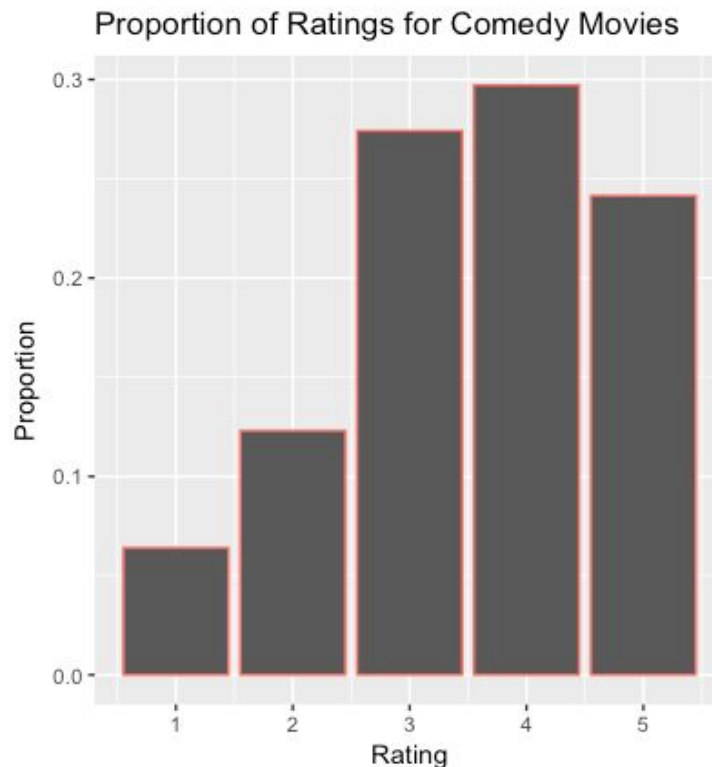
The bar plot below shows the proportion of ratings for thriller movies. After making a data frame just containing thriller movies, we used the ggplot function to make this bar plot with rating on the x-axis and proportion on the y-axis. As we can clearly observe, the average ratings for thriller movies consist of ratings of fours, with threes and fours being almost equal, making more than 30% each of the ratings for comedy movies. Ratings of one have been the lowest reviews by people and four has been the highest ratings in terms of proportion, followed by three, five and two. Therefore, we can infer that the average person enjoyed these five thriller movies, based on the proportion ratings.

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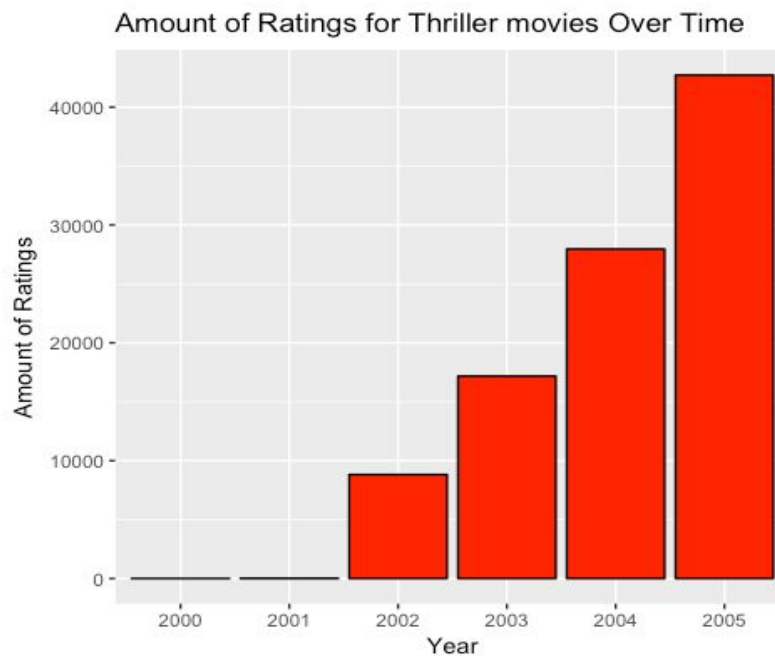## Proportion of Ratings for Thriller Movies
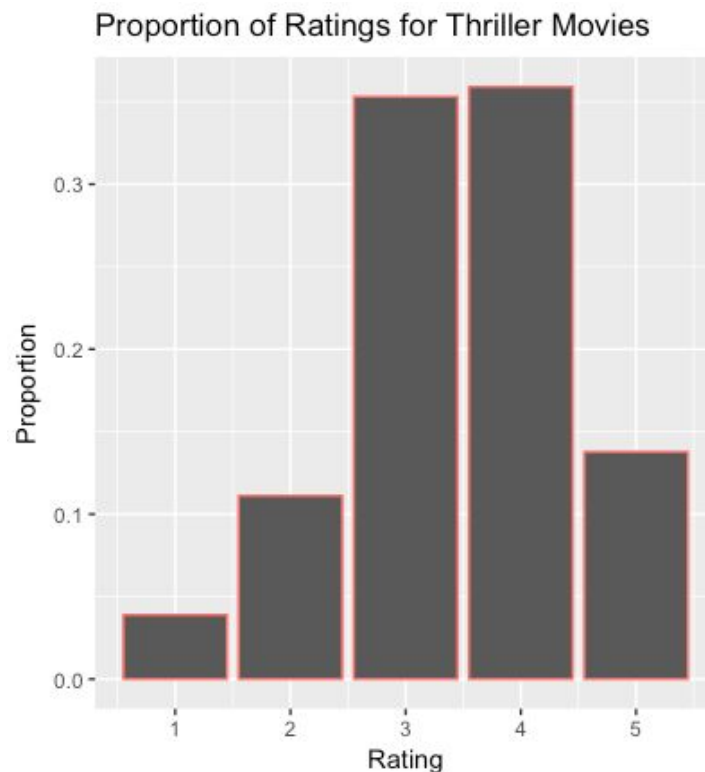
Although, proportionally, thriller movies on average received more four ratings than comedy movies, there is consistently many more five ratings for comedy movies than thriller. Thus the two graphs show that out of the total ratings for each genre, comedy movies tended to receive overall higher ratings while thrillers were granted more mediocre ratings.

The graph below shows the amount of ratings for comedy movies from 2001 to 2005. As seen, the amount of ratings have been increasing over these years, but a sudden dramatic increase occurred from 2003 to 2004. The amount of ratings between these years jumped from approximately 15000 ratings to 70000 ratings, which is very shocking. And then, rating counts continued to increase over 80000 through 2005. This

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shows how more people started to rate comedy movies after 2003, and this might have

been caused because comedy movies became more popular and trendy after 2003.
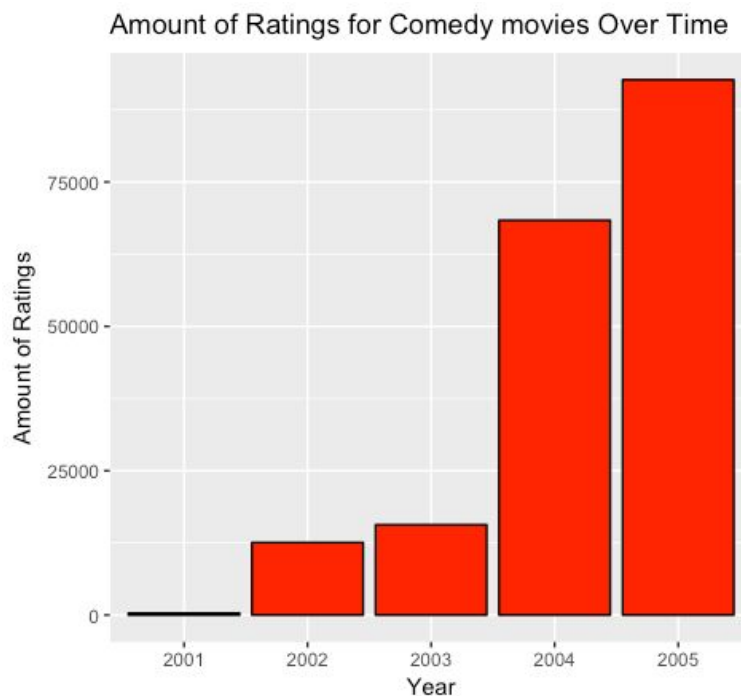
The graph below depicts the total amount of ratings for the thriller movies

according to year. Each year there were a greater amount ratings thus indicating more

views of thriller movies since the year 2000. And although this graph does not state

whether or not these ratings were high or low, greater viewership suggests there was

more interest in the genre as a whole. Interest in the genre of thriller particularly

increased after the year 2001 as the ratings skyrocketed in 2002. After 2002, ratings

continued to increase and more than doubled within the two year span from 2003 to

2005. Therefore, this graph demonstrates on continuous increase in interest from netflix

viewers due to increase ratings.

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Amount of Ratings for Thriller movies Over Time

Although the ratings of both comedy and thriller movies increased over the years

2000 to 2005 indicating an increase in viewerships for both the genres, there is a

distinct difference in the amount of overall ratings between the two genres. For the

genre of comedy, there is nearly twice the amount of ratings than there is for thriller.

Regardless of whether or not these ratings were positive ratings of five or negative

ratings of one, the greater amount of overall ratings suggest a higher interest in the

genre comedy. Therefore, it is more likely that a Netflix member will watch and rate a

comedy movie than a thriller movie, supporting the idea that comedy is the more

popular movie genre.

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  This two-way table below contains the amount of ratings for each individual movie and the amount of rating reviews associated with each, ranging from ratings of one to five. As shown on the table, movie 6743 has the lowest amount of ratings, which is a thriller movie, so we can infer this movie has not been rated by many people and therefore not watched by many people. The second movie that got the lowest amount of ratings is movie 7546, which is also a thriller movie, so we can add additional evidence to our conclusion that thriller movies are not as much rated and watched, and therefore not as much popular as comedy movies that have numerous amount of ratings. As depicted by the table, movie 10170, which is American Pie 2, a comedy movie, has the most amount of ratings therefore it more popular than thriller movies because more people took time rating it and thus more people watched this comedy movie. Other evidence include movies such as Zoolander and Monty Python's Flying Circus that both have a high amount of ratings compared to the other thriller movies which have low amount of ratings. Therefore, we can conclude that comedy movies receive a lot more ratings than thriller movies, so we can assume that more people watch comedy movies, and more people take time to write reviews and rate these kind of movies as well.

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              rating
 movie.id     1     2      3      4      5
     6743    10     7     27     10      6
     7237   972  1208   3765   6613   7059
     7546    41    36     23      8      3
     8706    45    56     69     22     11
    10170  4859 10944  27717  28372  18353
    12494  2061  7750  27999  30434  11313
    12792  1856  2273   3575   6691  11449
    15233  4422  8829  16574  13507   7538
    16516  1610  2900   6021   4242   1989
    16615    41    75    361   1168   1396
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Movie ID Key

6743: Scars of Dracula (thriller)

7237: Monty Python's Flying Circus (comedy)

7546: Astro Zombies (thriller)

8706: Mark of the Devil (thriller)

10170: American Pie 2 (comedy)

12494: Behind Enemy Lines (thriller)

12792: The Office Series 1 (comedy)

15233: Zoolander (comedy)

16516: Jeepers Creepers (thriller)

16615: Shrek (comedy)

In conclusion, based on our exploration through graphical and data analysis, we have determined that out the two genres, comedy and thriller, the genre of thriller is less watched and often rated less favorably. We saw that for comedy movies, a lot more people rated this genre of movies than the thriller genre, thus popularity was higher amongst comedy movies. As this genre draws in less viewership and often earns less positive rating responses, if one genre had to be removed from Netflix's streaming services it should thrillers.