



Let's Get This Bread,

or not...

Team Members

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- Giovanna Lizzio
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Project Goals

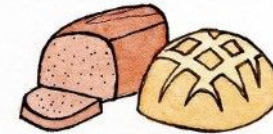
- To analyze YouTube viewership trends during the second U.S. COVID wave to see how viewers' interests changed during quarantine.
- Time period: August 2020 – August 2021
- Data analyzed: channel popularity, popular search trends each month, and total accounts created during this time.
- Dataset used: kaggle.com
<https://www.kaggle.com/datasets/datasnaek/youtube-new>

LOCKDOWN STARTERPACK



RUNNERS EVERYWHERE

EVERYONE BAKING



BANANA & SOURDOUGH BREAD



10+ HOURS OF TV PER DAY



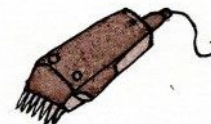
TIGER KING



THIS IS NOW
EXOTIC TRAVEL



SO MANY
GARDENING PICTURES



BOTCHED
HAIRCUTS



DRINKING ALL THE TIME



WHAT SLEEP SCHEDULE?



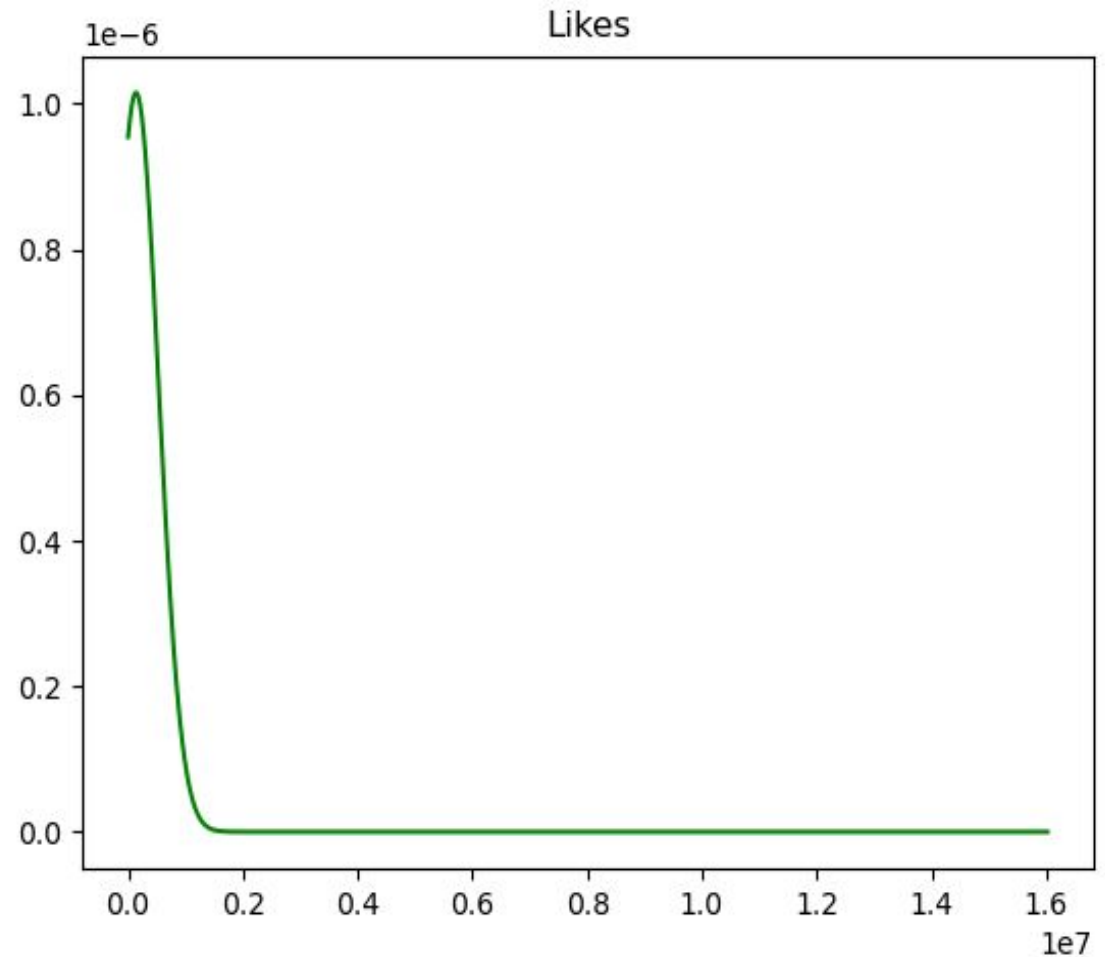
Question #1

- ◆ What are the most popular trending videos based on likes, views, comments, and dislikes?
 - Based on our dataset, what is the probability of these videos gaining popularity?
 - Bell curve of the four categories, visualizing a peak count of each column.
 - Find outliers and the 1st, 2nd, and 3rd standard deviations.

With the dataset we were able to manipulate, here is a glimpse into the trends we found on the above mentioned parameters...

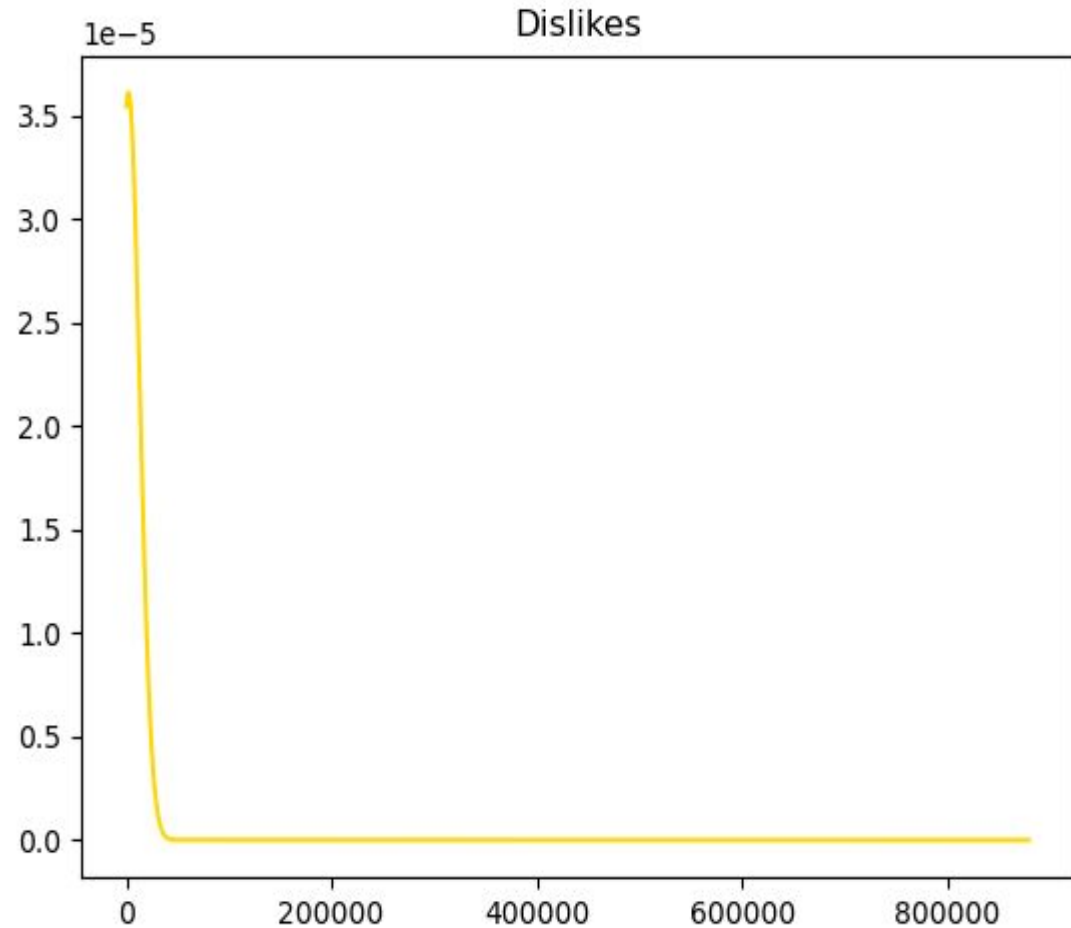
Like(s) Count

- Values below -134962.75 and above 279583.25 could be outliers.
- **Roughly 95% of the likes is between -647731.519 and 924044.509**
- Roughly 68% and 99.7% of the likes is between -254787.512 to 531100.502, and -1040675.526 and 1316988.516 respectively
- Probability wise, there is approximately a **2.6234%** chance of having a video gain popularity



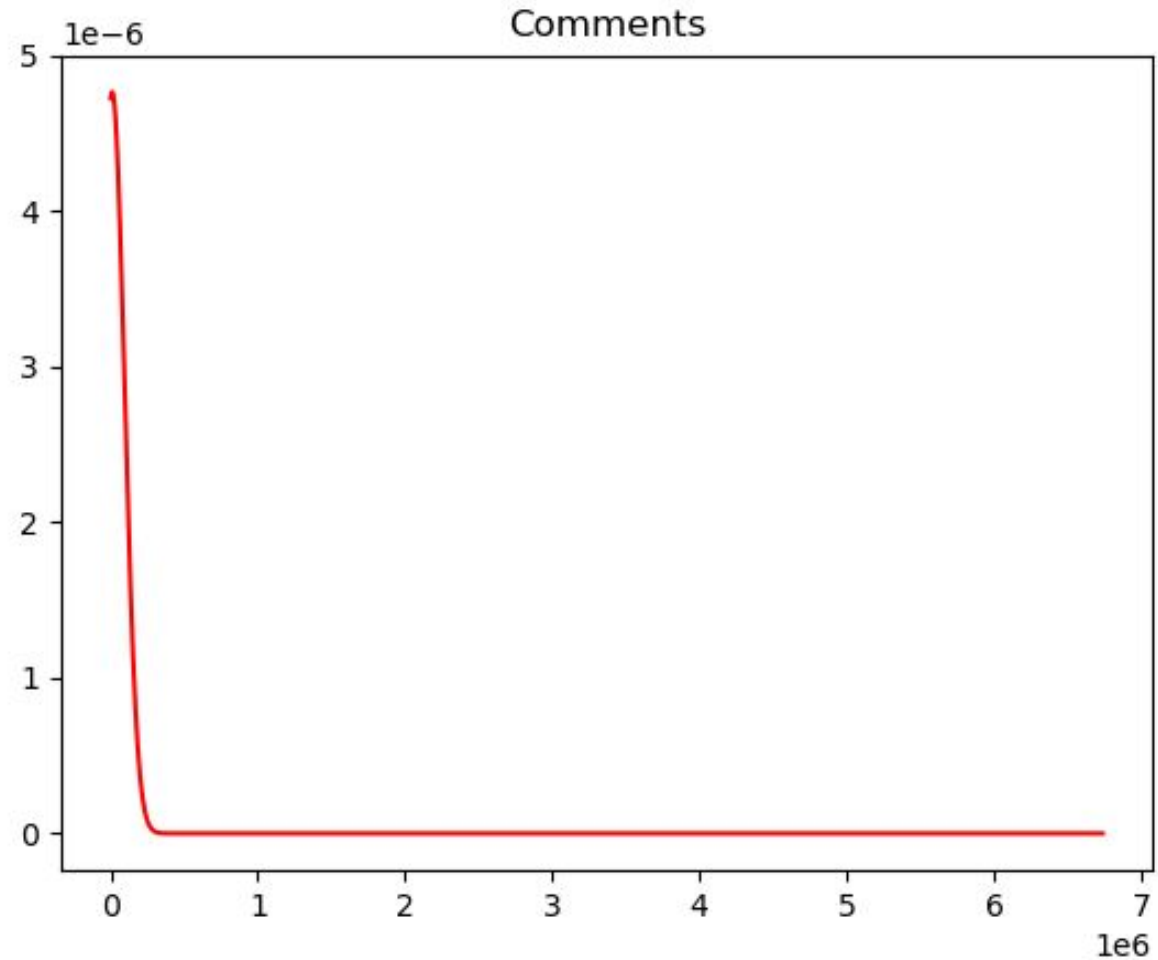
Dislike(s) Count

- Values below -2079.0 and above 3465.0 could be outliers.
- **Roughly 95% of the views is between -10756114.893 and 16305820.793**
- Roughly 68% and 99.7% of the views is between -3990630.972 and 9540336.871, and -17521598.814 and 23071304.714 respectively
- Probability: There is approximately a **1.6957%** chance of having a video gain popularity



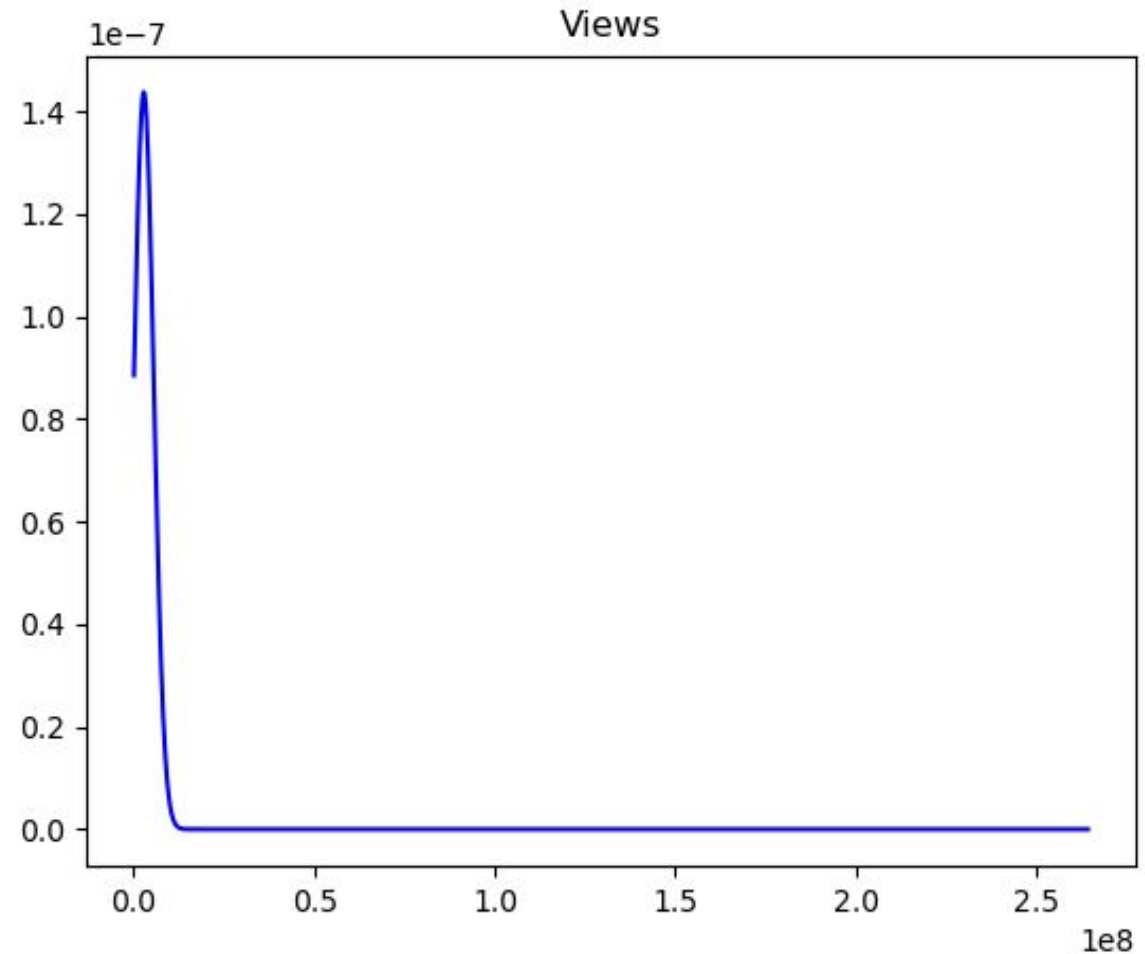
Comment Count

- Values below -7557.0 and above 16363.0 could be outliers.
- **Roughly 95% of the comments is between -156688.975 and 178306.72**
- Roughly 68% and 99.7% of the comments is between -72940.051 and 94557.796, and -240437.899 and 262055.643 respectively
- Probability: There is a **0.6768%** chance of having a video gain popularity

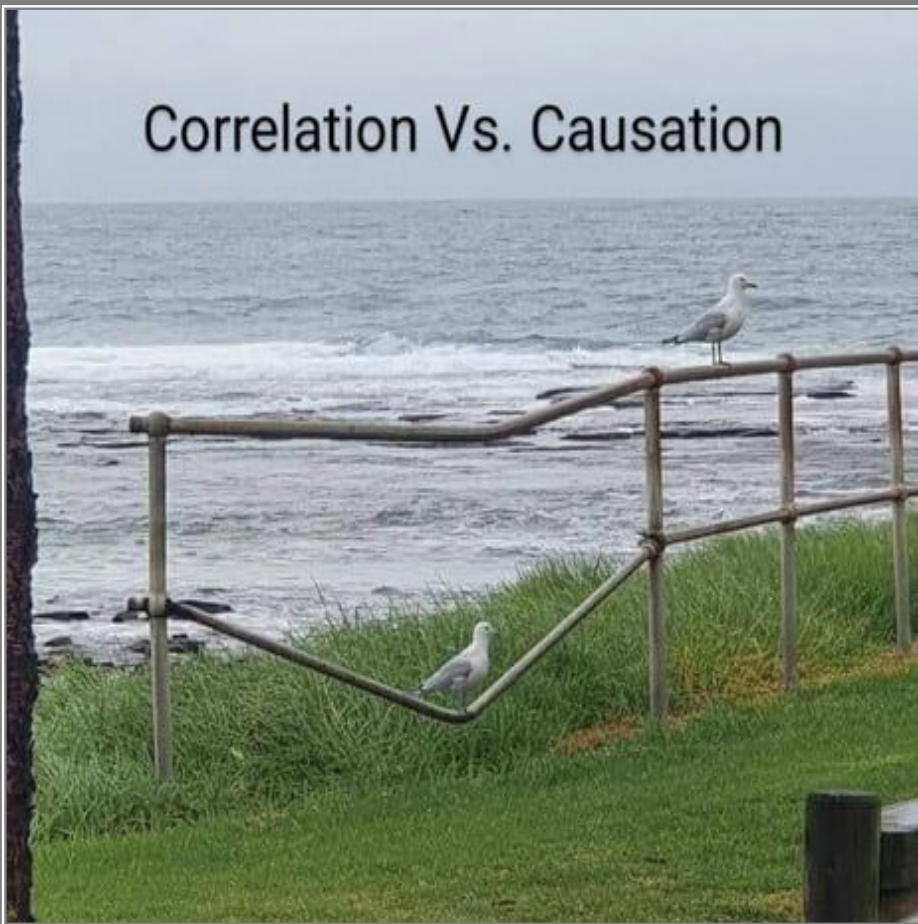


Views Count

- Values below -2421778.0 and above 5571654.0 could be outliers.
- **Roughly 95% of the views is between -10756114.893 and 16305820.793**
- Roughly 68% 99.7% of the dislikes is between -8923.686 and 13186.852, and -31034.224 and 35297.39 respectively
- Probability: There is approximately a **2.8553%** chance of having a video gain popularity



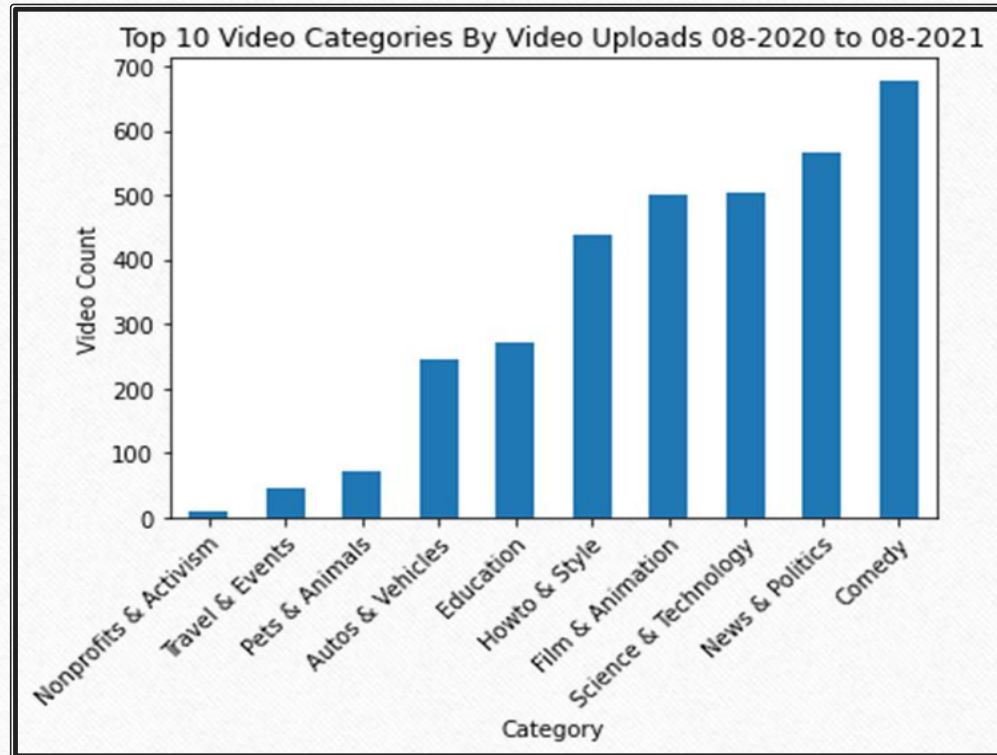
Correlation Vs. Causation



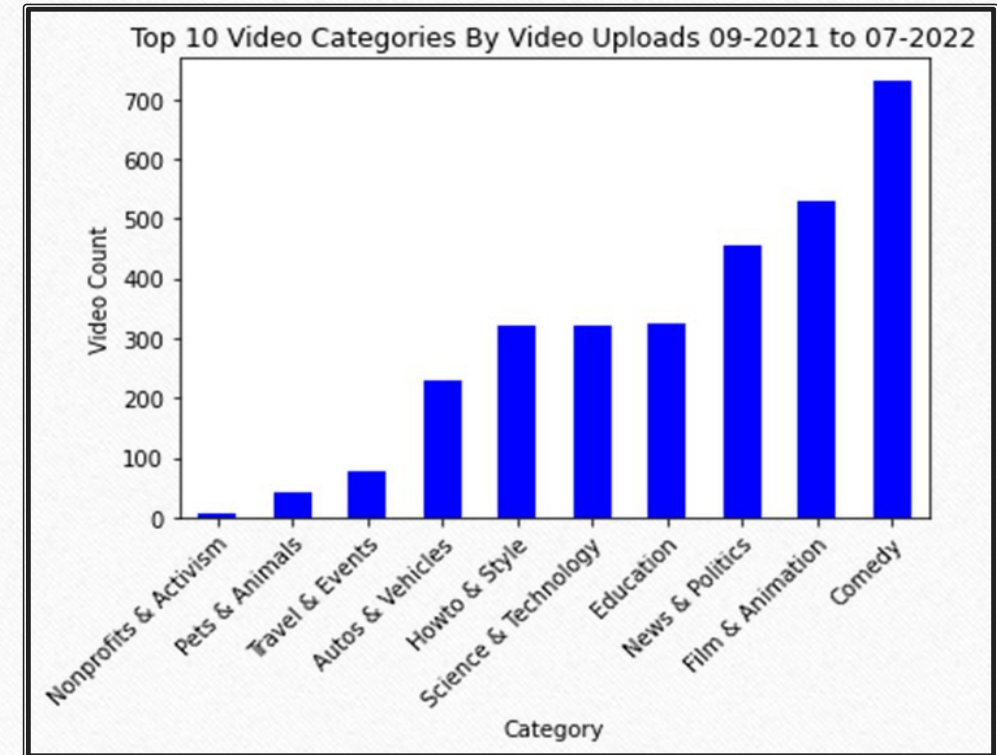
Question #2

- ◆ **How did the Covid-19 pandemic affect the popularity of YouTube video categories?**
 - In the time period defined, which three video categories had the highest volume of videos posted?
 - For each category, what was the average view count per video?
 - Can we determine a correlation of like count to volume of views?

In the time period defined, which three video categories had the highest volume of videos posted?

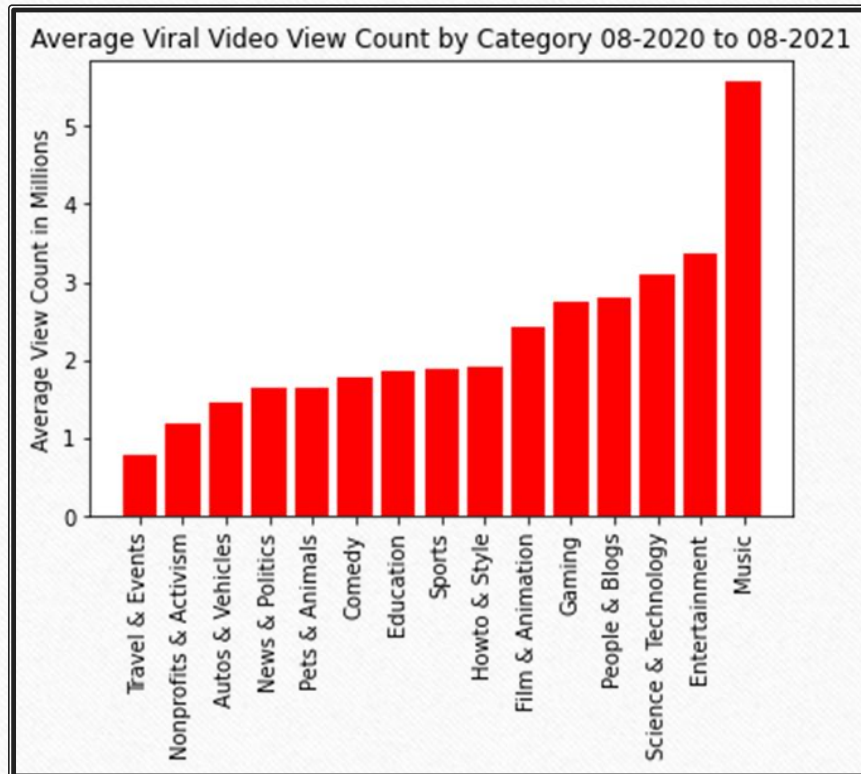


During the Covid lockdown periods defined, the three categories with the highest volume of videos posted were Comedy, News and Politics, and Science & Technology.

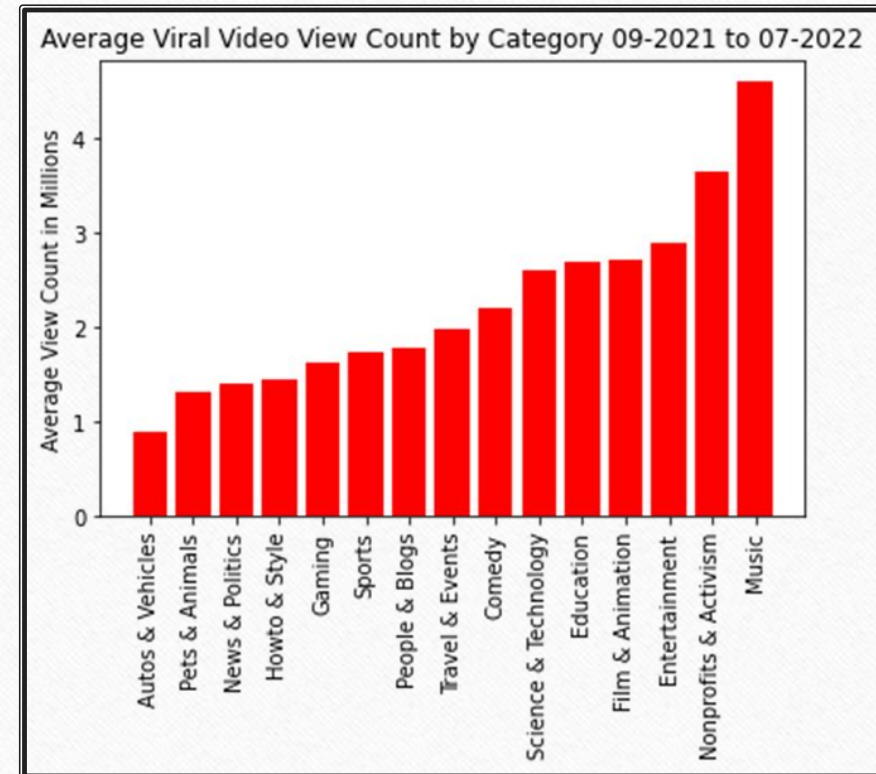


After the Covid lockdown periods defined, the three categories with the highest volume of videos posted were Comedy, Film & Animation, and News & Politics.

For each category, what was the average view count per video?



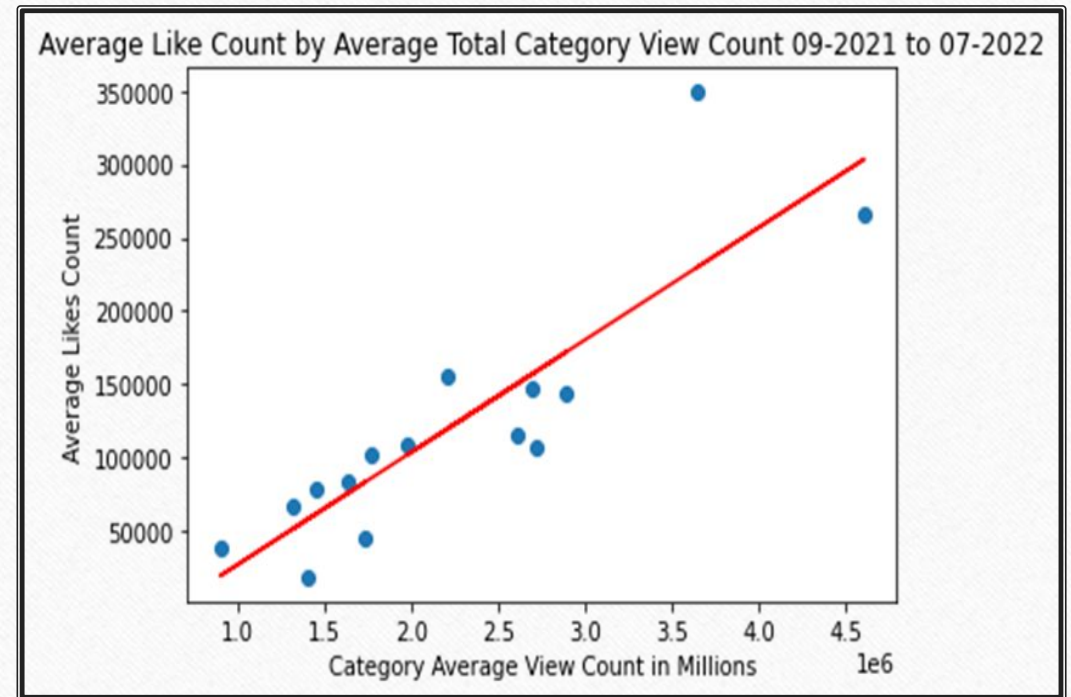
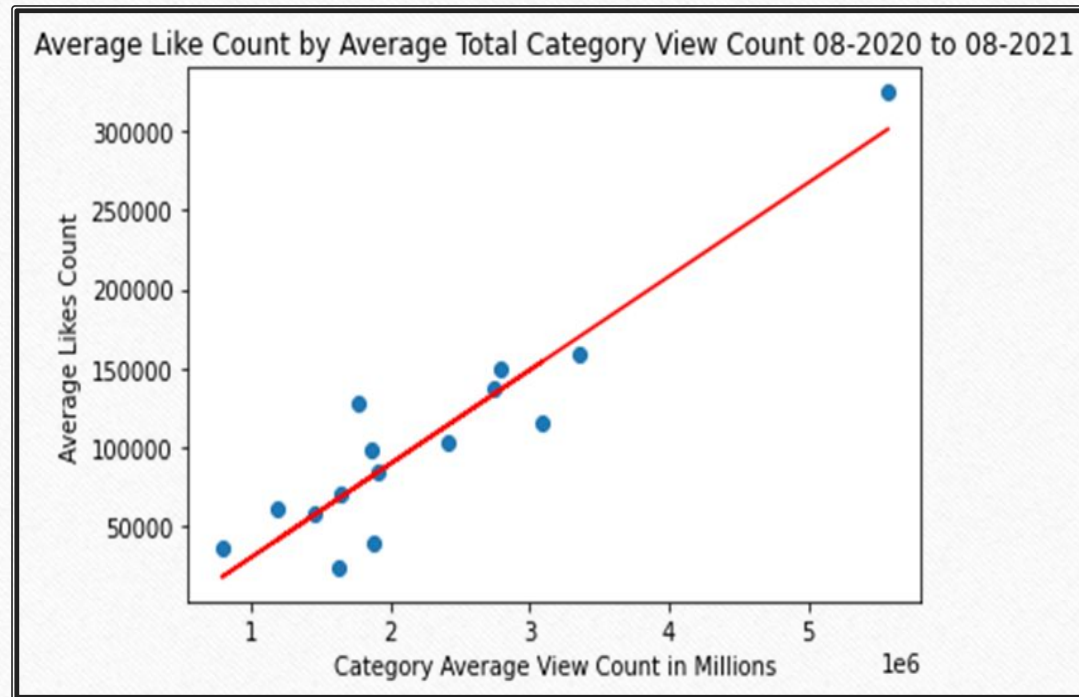
During the Covid lockdown period defined:
Music video average count was just under 6 million
Entertainment was nearly 3.5 million
Science & Technology was just above 3 million



After the Covid lockdown period defined:
Music video average count was just under 5 million
Nonprofits & Activism was over 3.5 million
Entertainment was just under 3 million

Can we determine a correlation of like count to volume of views?

Based on the images below, plotted by YouTube data from kaggle.com, there does appear to be a positive correlation between view counts and the number of likes up to the 3 million view count, but not much after that. This is true for the peak of covid lockdowns and even into the post era of covid lockdowns. The R-value during the Covid-19 lockdown was 0.8677, after the Covid lockdown the R-value was 0.7508.

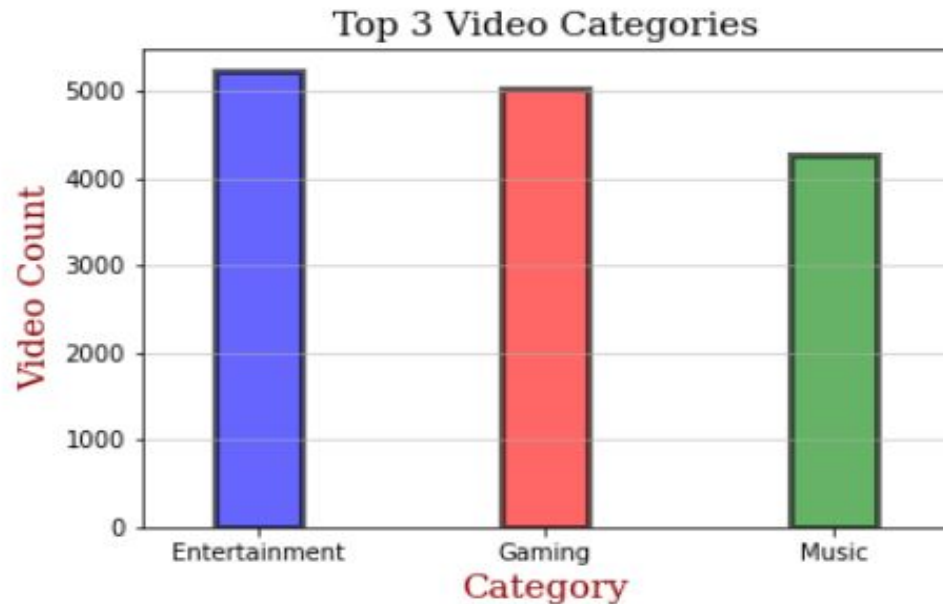




Question #3

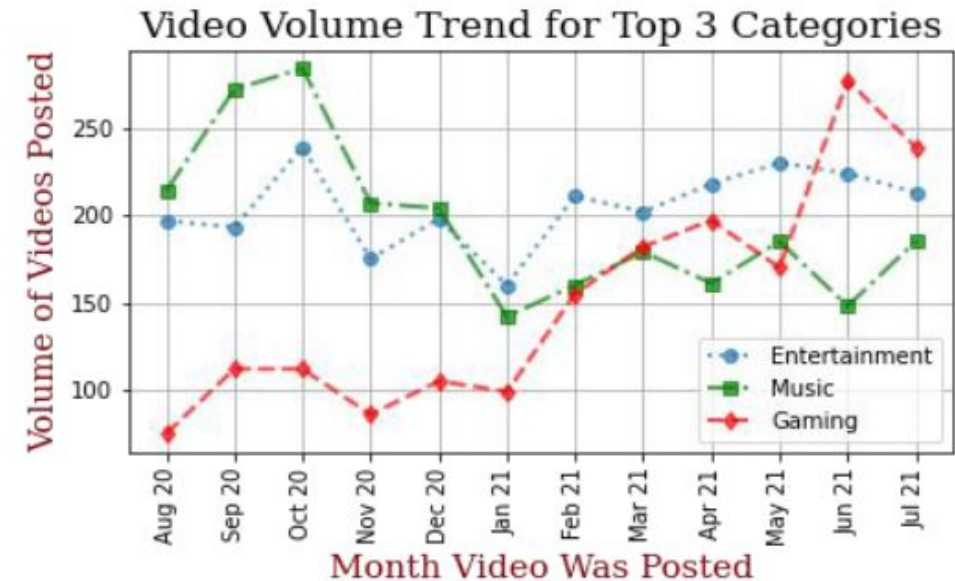
- ❖ **What was the seasonality of video category trends and content creators during the Covid-19 pandemic and beyond?**
 - Which three video categories had the highest volume of videos posted overall?
 - Based on view count over time, can we determine any seasonality for video channels or content creators?

Which three video categories had the highest volume of videos posted?



The top three trending video categories were:

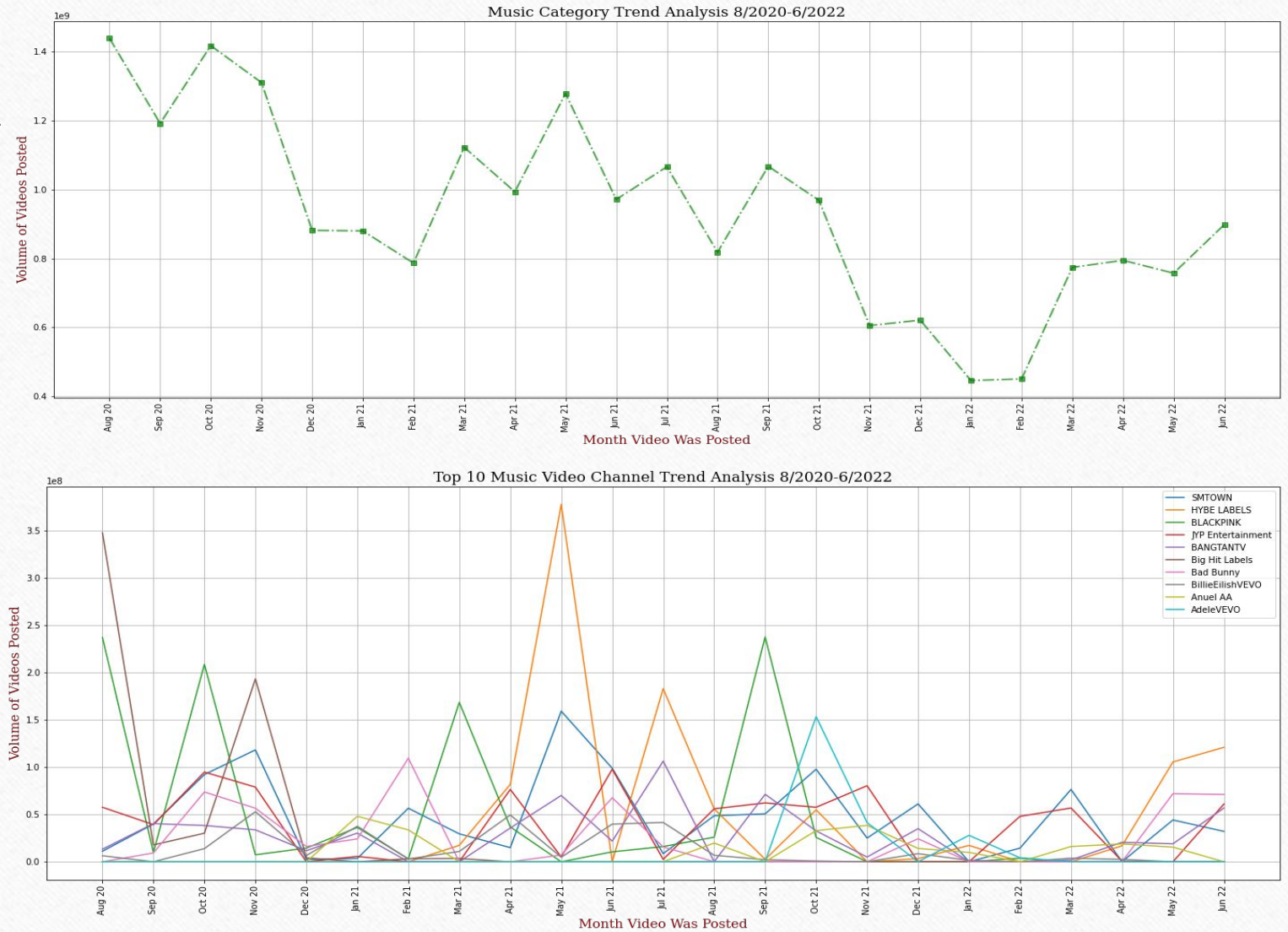
- ❑ Entertainment with 5,165
- ❑ Gaming with 4,959
- ❑ Music with 4,219



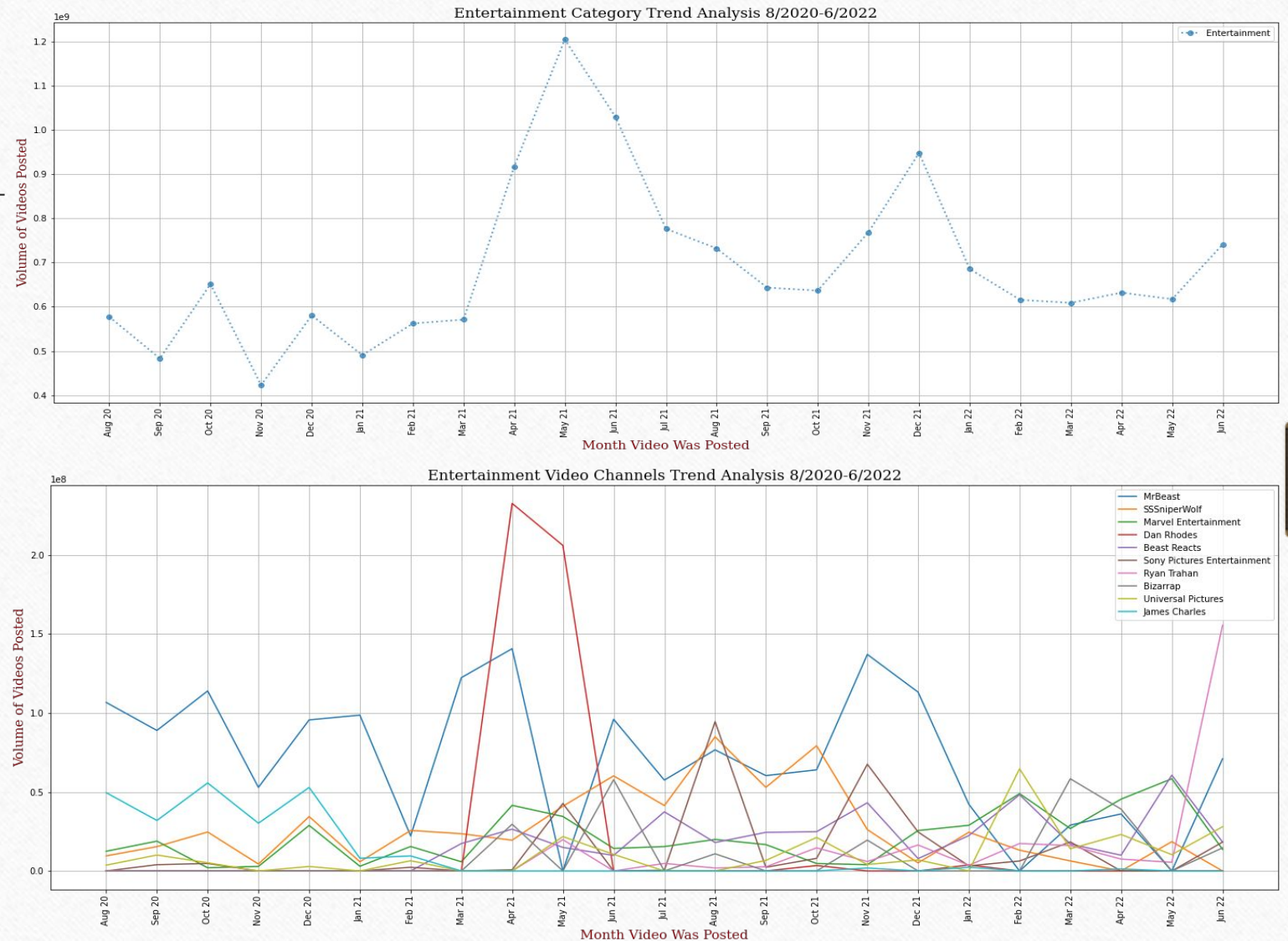
Trends over time:

- ❑ The leading categories when Covid began peaked in October 2020 and gaming saw an overall increase as time went on.
- ❑ The gaming category benefited from summer break peaking in June 2021 whereas the music category saw a decrease.
- ❑ All categories were slightly down during the holiday season (Nov 20 - Jan 21) but gaming saw a drastic increase after the holidays.

Through anecdotal research, we found that individual music channels were less impacted by seasonality and were more affected by the release of an artist's new music.

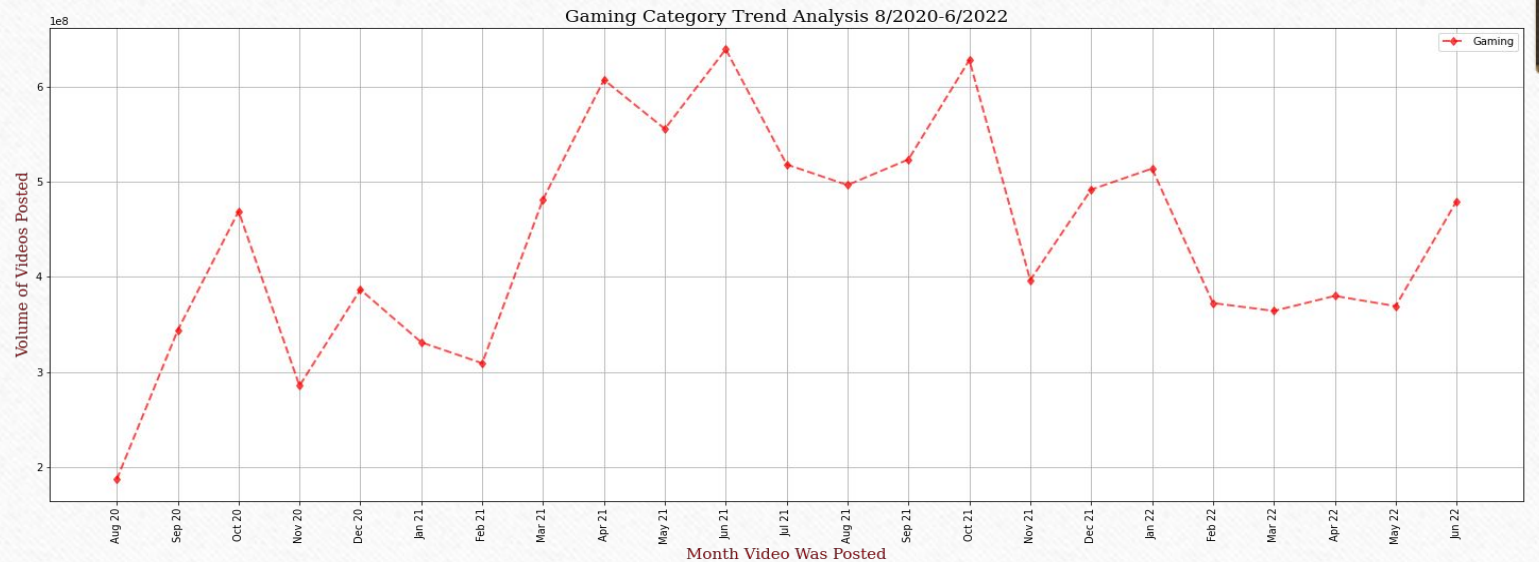
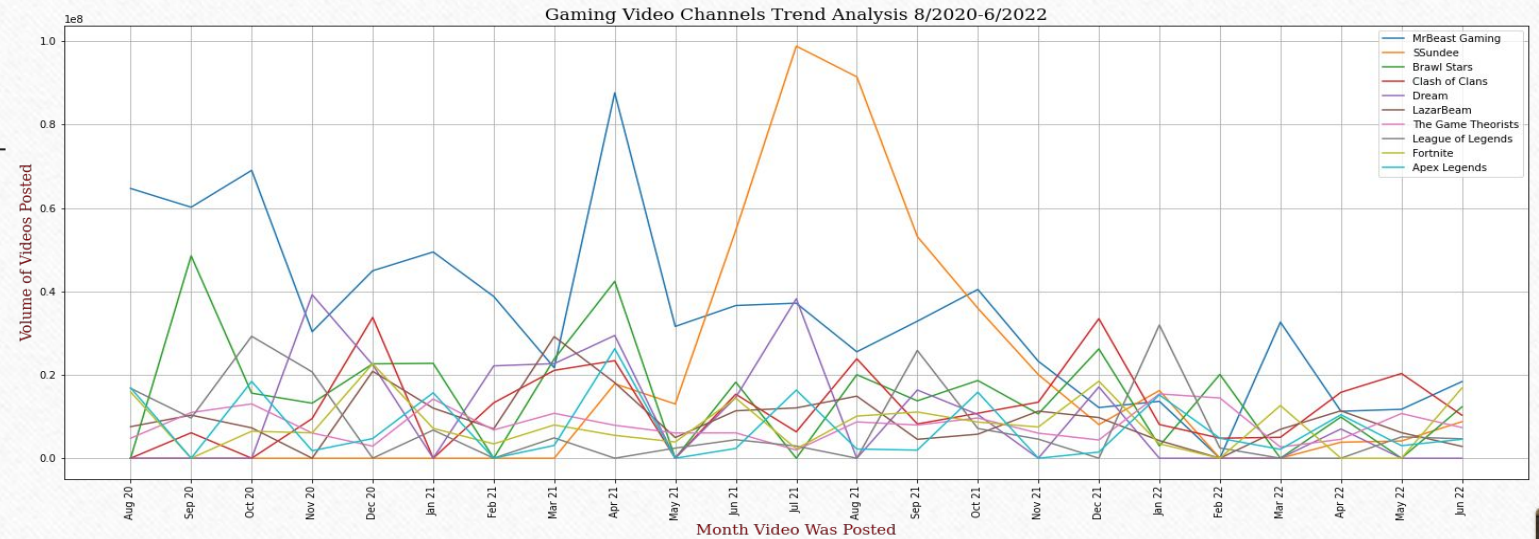


The entertainment category spiked in the spring of 2021 due to Dan Rhodes and Mr. Beast. We then see multiple channels drive this categories' success through 2022.



Gaming Category

The gaming category benefits from multiple streamers having consistent success over time. Gaming seems to have a higher view count in the summer months most likely attributed to summer break.



According to the Google YouTube API V.3, the highest trending video for August 2020 was:

[illegible]

```
In [1]: # Playing the highest trended music video in the MonYear = 082020 during pandemic and currently its view count is 1.5 Billion

from IPython.display import YouTubeVideo

YouTubeVideo('gdZLi9oNIZg', width=800, height=300)
```



In Conclusion

Overall, we are able to confidently say that the Covid Pandemic did indeed have an effect on viewership on YouTube. Going into this project, we assumed that the differences in viewership would be inexplicably obvious, but some of them were more subtle than originally suspected.

If we were able to do this project over again, we would like to utilize a larger dataset to see if there were more changes of trends throughout the entirety of the national pandemic. But based on the data we were able to survey, it is safe to say that we would be able to find multiple trends across the platform.