



Twitch Data Science Project

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Executive Summary

This report analyzes the features and performance of top content on several major streaming platforms, in comparison to the rest of the content library where possible. Metrics collected by these companies can be used to determine if the platform is growing, the demographics of their targeted customers, how to increase the amount of time on the platform through accurate recommendations, and potential increases in revenue through optimized ad placement & increasing the number of impressions through user base growth and retention. Companies who also share the market in these spaces, other than those directly analyzed, can use this data to guide decisions to improve their platforms as well.

This report explicitly looks at Netflix, Spotify, Twitch, and Youtube, which are extremely popular streaming services. These platforms focus on different mediums: Spotify's library consists of music (and podcasts, which are not analyzed in this report); Netflix, which hosts movie and TV show content; Twitch, with live streaming; and Youtube, which focuses on user uploaded video content.

Netflix

From the data, the most content on the platform was produced by the United States, the United Kingdom, and India. Because the majority of Netflix's content is in English, and the top categories of watchtime are in English, Netflix should continue to collect data for these countries. However, Netflix could also increase its viewership in other countries by acquiring more content in other languages. Viewers on Netflix spend the most time watching TV shows, both in English and non-English. Because Netflix's content library is already dominated by movies, Netflix could benefit from increasing the rate that they add new TV shows to the platform. Netflix should continue to acquire recently released content, as Netflix users are more likely to watch this content and have heard about it through advertisements. Companies releasing their content on Netflix could choose to release in either July or December, the summer months where most people are likely to be on vacation and have time to watch, or in November and May, where there is slightly less competition. The most popular kinds of titles on Netflix are those geared towards adults, so producing or acquiring more of that content could increase the amount of time spent watching on Netflix and increase the number of new subscribers. For Netflix, which does not include ads in their platform, increasing the amount of new subscribers is most important. For companies that want to advertise on these kinds of platforms, these ads would likely be best placed in front of TV shows and English content.

Spotify

Artists that had the most number of songs in the top 200 were Ed Sheeran, Drake, and the Chainsmokers. Ed Sheeran had 5 songs that were in the top 200 in 2017, which was the release date of his album. As discussed in the report, factors outside of the song itself could impact

predictions on whether a song will trend. An album being released, a music video being released on Youtube, or a song being featured in an episode of Netflix are all examples of outside forces that affect a song's listener count and ranking. Spotify is streamed the most in the US region; however, for artists releasing songs in the US region, their songs must receive many more streams in order to get into the top 200 of that region. Spotify is continuing to grow. Ads are most likely to be heard by listeners if they are run on popular songs and on the weekends.

Songs that dominated the Spotify rankings in 2017 tended to be written in the keys of C#/Db, B, or G#/Ab. These popular songs tended to have a moderately fast to fast tempo. The songs that were the most popular on Spotify had higher danceability and higher energy. They tended to have few words, more music and were unlikely to be acoustic. This data can be used by Spotify to aid in predicting what songs are likely to be in the top 200 or to increase in their listener count. This information could be used by artists and record labels when writing songs or determining what records to release as singles. The audio features discussed in the report could also be used to help Spotify make more accurate recommendations to their users by identifying the danceability, energy, etc. levels of their music taste and recommending music with similar audio features.

Youtube

For Youtube, the platform should increase the number of viewers per video, which allows them to earn more revenue from ad placement. YouTube creators are also looking to create content more effectively in order to grow their audience and increase the money that they earn as well. YouTube should promote videos in the top categories, including Entertainment, Music, and Howto and Style, as these are most likely to appeal to wider audiences. YouTube creators posting in this category have a wider potential viewer base, but more competition in that particular category. Videos in the Howto & Style, Music, and Gamin category get more engagement through the ratings systems. Views, comments, likes, and dislikes are all correlated, meaning that YouTube can determine that a video gaining more views will also gain more likes and dislikes. Trending videos seem to be more commonly posted on weekdays, though more data is needed in order to see if more content generally is posted on those days before recommending that users post on those days.

Twitch

Twitch can use the total number of viewers and the average viewers in order to determine the streams where ads would be the most profitable, and what streams to recommend on the front page. Games such as Call of Duty, Fortnite, League of Legends, and Among Us were extremely popular during this time period and drew many views. The top streamers on the platform were those who played these games. Ads are most likely to be seen by viewers on weekends, and during the hours of 16:00-21:00. Additionally, for streamers who are looking to draw viewers to their stream, the greatest number of viewers are watching during that time period; however, there

is also significantly more competition. Newer streamers looking to build their audience may benefit from streaming lesser-known games or streaming during less popular hours, as they are more likely to be found by viewers. Non-mature content is more popular with viewers. Streamers would benefit from streaming for more than two hours, as it takes some time for viewership to hit its peak during streaming. Additionally, most of the channels and viewers are watching in English.

Analysis

NETFLIX

Netflix is the top platform for watching movies and television series, and was one of the first companies in the streaming industry. It operates in nearly every country in the world and has over 220 million subscribers worldwide. Members can view both TV shows and movies acquired through distribution deals in addition to Netflix's own production (called Netflix Originals). Members can watch as much as they want from internet-connected devices. Netflix does not currently run ads on their platform.

This analysis will take a look at data for both Netflix's overall library and the top ten Netflix shows per day. There are 8,807 distinct shows represented in the data.

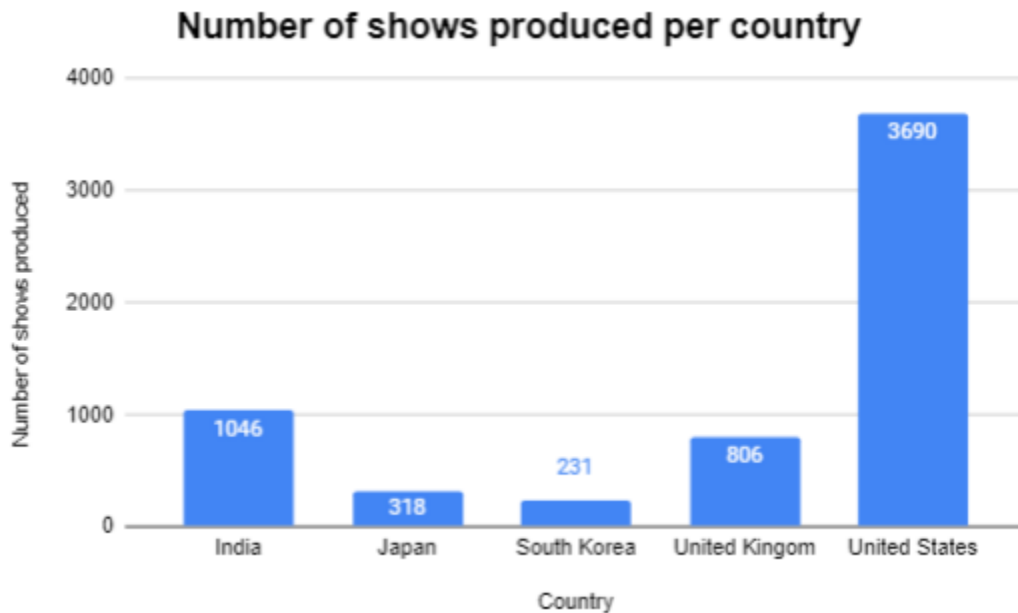
What countries have produced the most content for the platform?



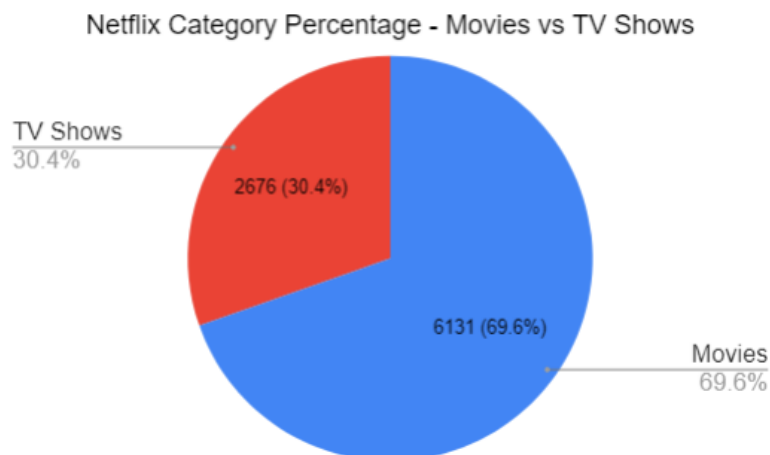
Each of these countries has produced content for Netflix, but the countries that have the most content represented on the platform, are:

1. The United States

2. India
3. The United Kingdom
4. Japan
5. South Korea



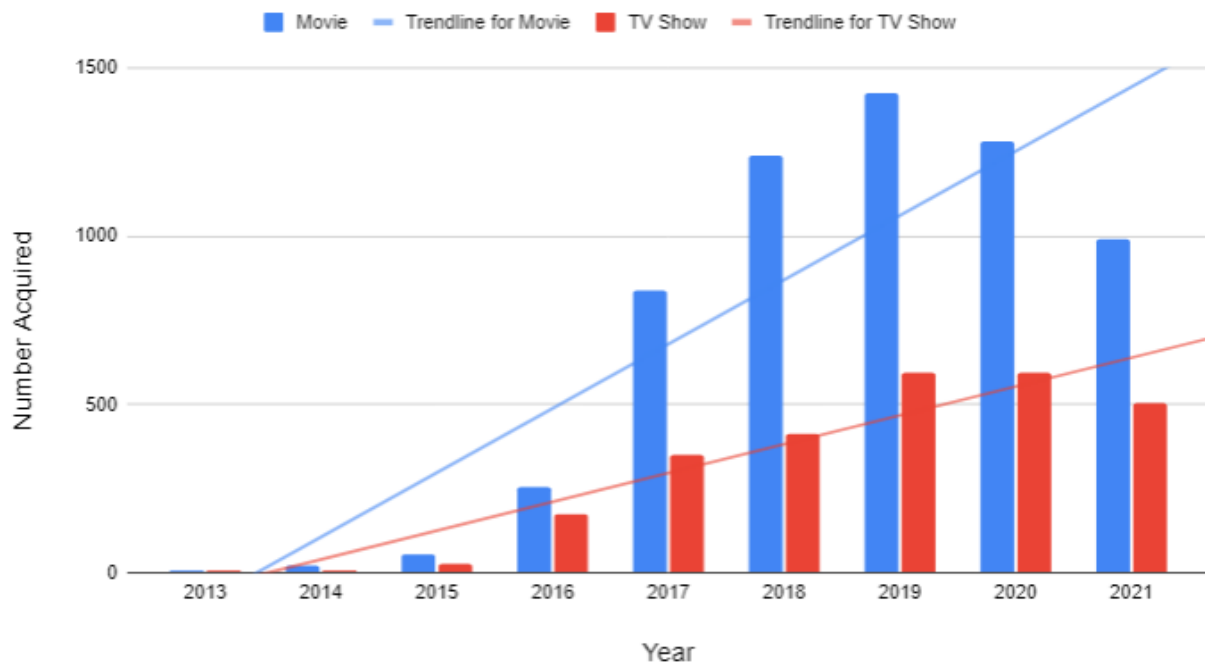
What does Netflix have more of, movies or TV shows? And could this change?



As demonstrated on the above chart, Netflix has more movies on its platform than TV shows. Roughly 70% of Netflix content is movies, and 30% are TV shows.

Netflix is adding more TV shows and movies every year. As demonstrated by the below chart, movies are being added to Netflix at a greater rate than TV shows are being added. Because of this, it is very likely that movies will continue to dominate the Netflix platform.

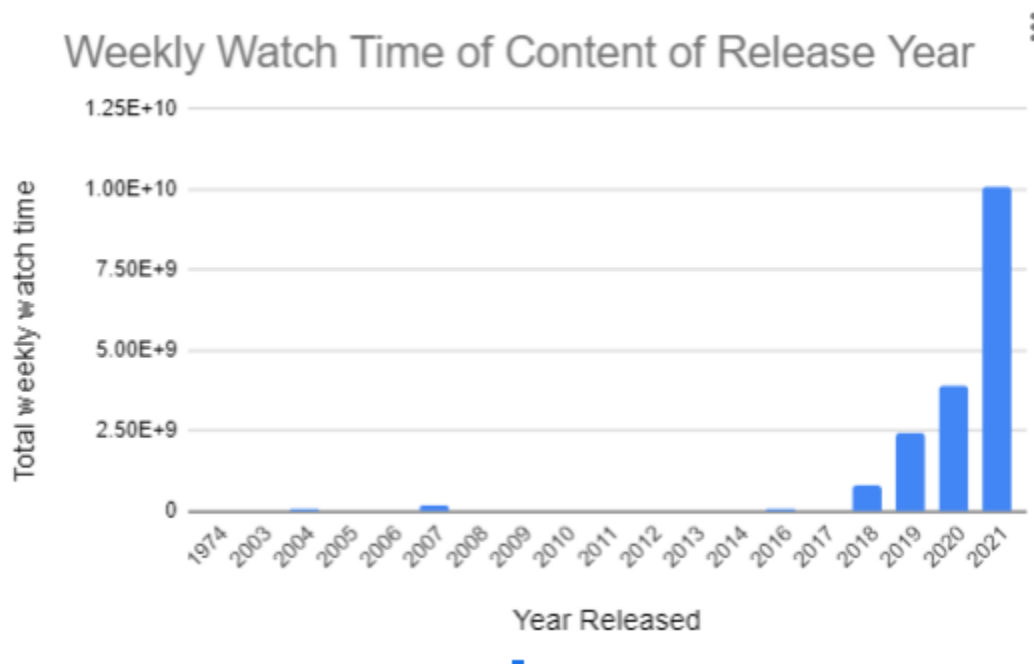
Movie and TV Show Acquisition Per Year



Is Netflix content newer or older?

The release year for most of Netflix's content spans from 1925 to 2021. Most of Netflix's content is newer, with the majority of content released from 2016 forwards.





Does more content get released in certain months?

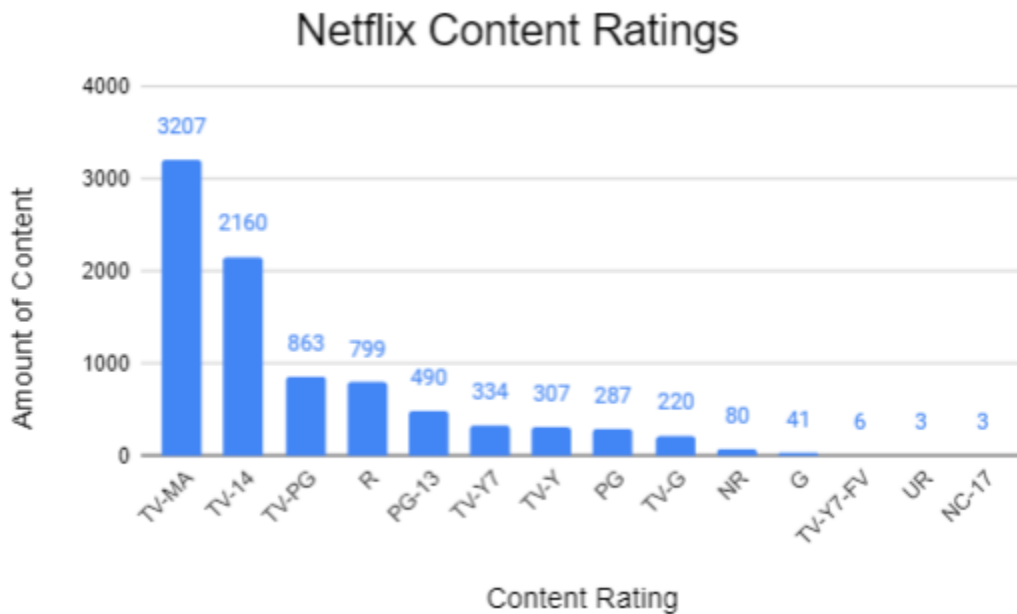


July and December appear to be the months that have the most amount of content added by Netflix. This may be because July and December are months where more people (particularly parents of school children) may be on vacation or have more spare time. Aside from February,

with a fewer number of days, May seems to be the month with the least amount of new content released, and thus would have slightly less competition.

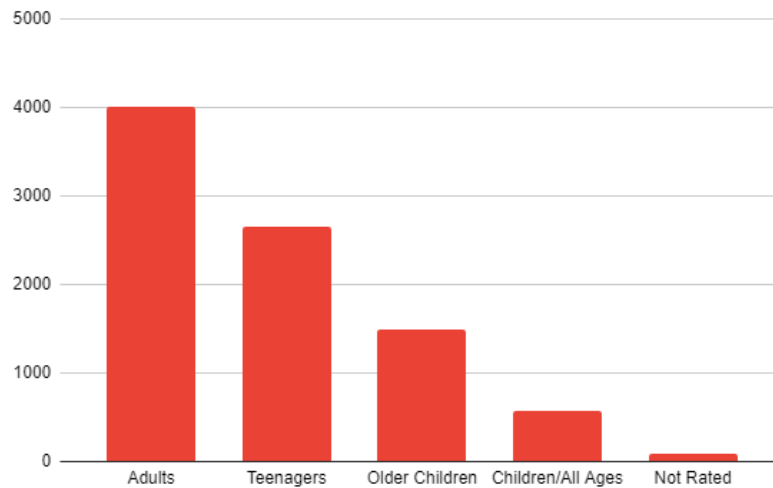
What audience is Netflix content geared towards?

To examine this, we will look at the rating for Netflix shows.

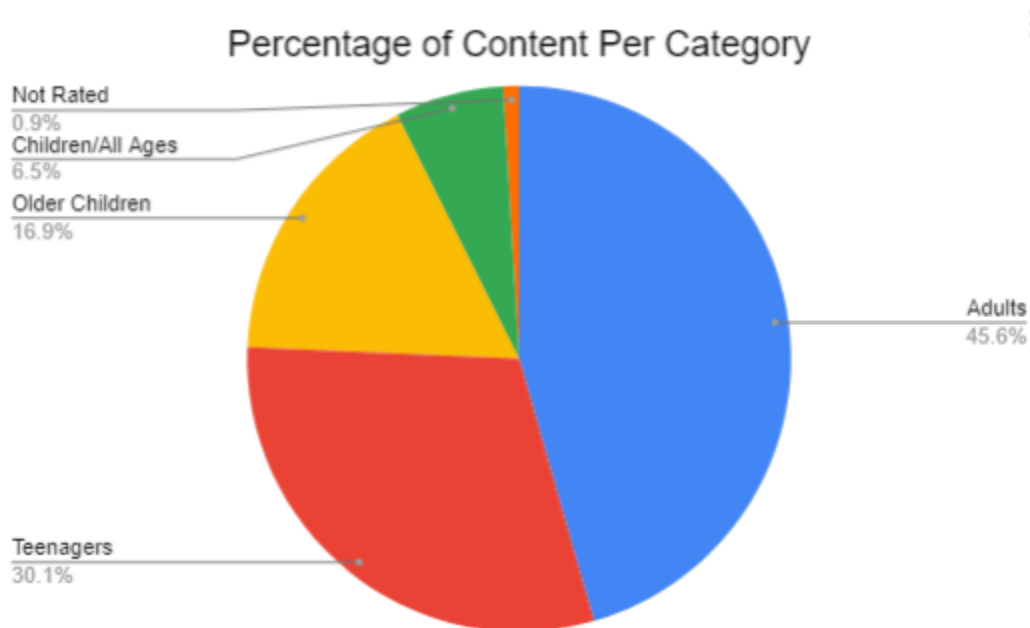


The majority of shows on Netflix are either TV-MA or TV-14, indicating that most of Netflix's content is geared towards a more mature audience.

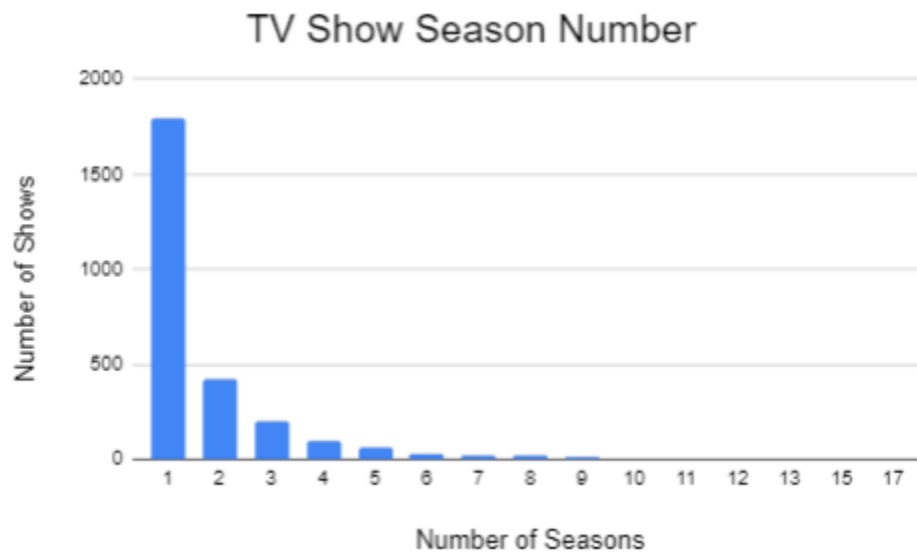
Many of the rating types on Netflix reflect similar groups. When aggregating the similar rating categories, the trend continues; most of Netflix's library contains movies and TV shows rated for adults, followed by categories indicating teen and up.



46% of Netflix's overall content is rated for adults, and adult-rated shows make up 62% of the most watched shows on Netflix.

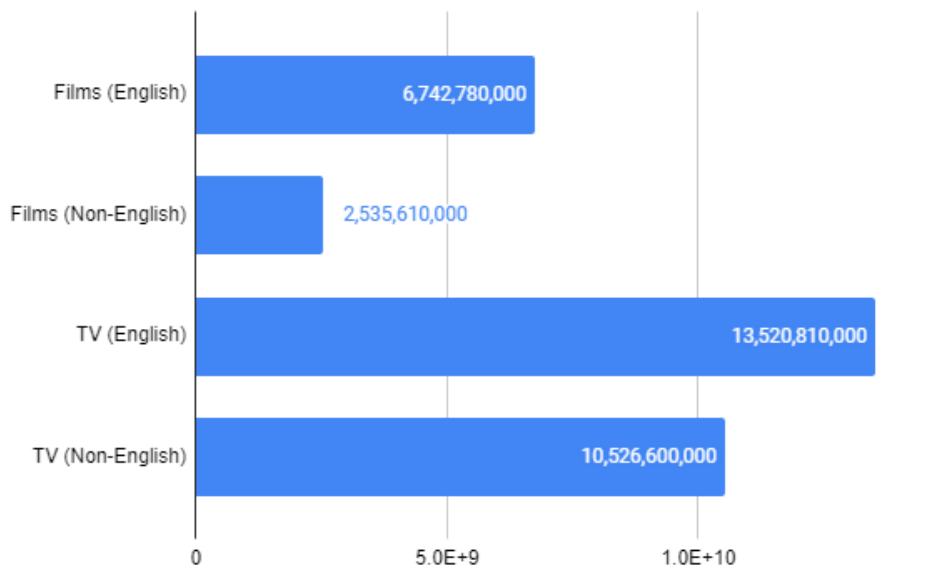


How many seasons do TV shows on Netflix have?



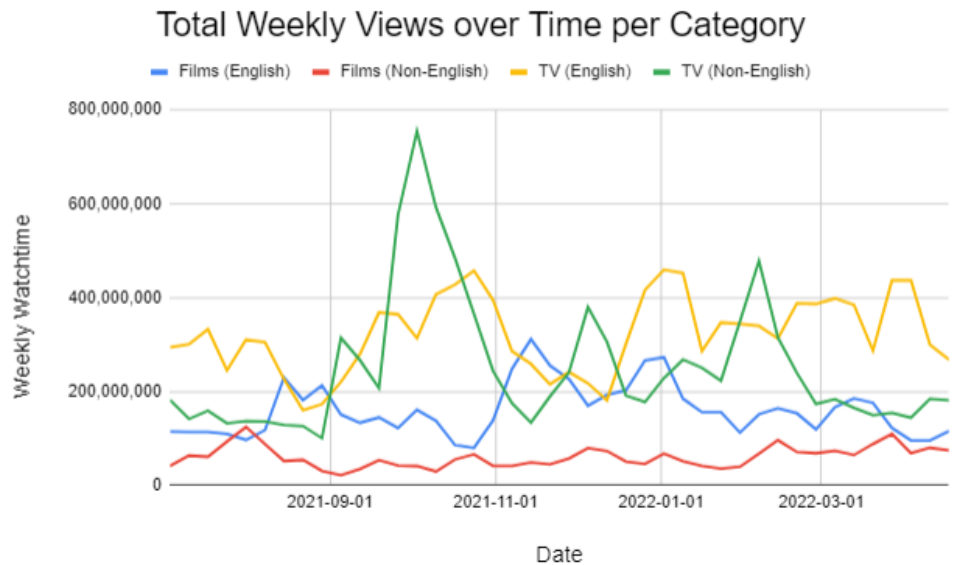
Most TV shows on Netflix have only 1 season. The average number of seasons is 2. The show with the greatest number of seasons is Grey's Anatomy, which has 17 seasons.

What was the top category on Netflix's trending list?



TV Shows were by far the most watched content on the Top 10 daily lists. English TV shows and movies were watched more than Non-English TV shows and movies.

The below table shows the total of hours watched in each category of the course of the dataset. The lowest watched category, Non-English films, consistently stays below the other categories on the data set. In September to November of 2021, there was a large spike in the TV (Non-English) category. This time period was when the show “Squid Game” was released and reached the height of its popularity, being watched by many English speakers as well.



What were the top in each category?

The below table shows the most watched shows and movies of each category over the course of the dataset.

	Films (English)	Films (Non-English)	TV (English)	TV (Non-English)
1	Red Notice	Blood Red Sky	You	Squid Game
2	Don't Look Up	Through My Window	Bridgerton	Money Heist
3	The Adam Project	Black Crab	The Witcher	Café con aroma de mujer
4	The Unforgivable	The Forgotten Battle	Maid	All of Us Are Dead
5	The Tinder Swindler	Major Grom: Plague Doctor	Inventing Anna	The Queen of Flow
6	Army of Thieves	Restless	Sex Education	Hometown Cha-Cha-Cha
7	Love Hard	Spoiled Brats	Outer Banks	Elite
8	The Kissing Booth 3	The Last Mercenary	Ozark	Dark Desire

9	Sweet Girl	In Good Hands	Cobra Kai	Newly Rich, Newly Poor
10	Back to the Outback	All Hail	Lucifer	My Name

How long do shows stay in Netflix's top ranking?

On average, shows stay in the top ranking for 2.6 cumulative weeks. The longest number of weeks that a show was in the top ten was for 9 cumulative weeks.

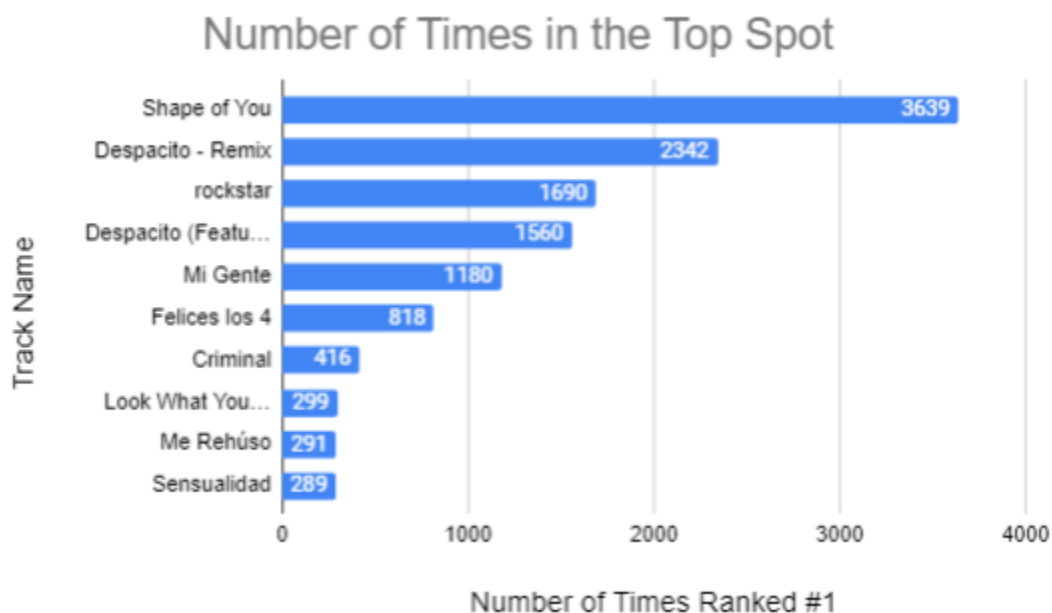


Spotify is an audio streaming service where users can listen to both music and podcasts. Data from Spotify shows that the average listener spends 148 minutes streaming either music or podcasts each day. For users, listening to music on Spotify is entirely free, but without a premium membership will see banner ads in the Spotify app and hear audio ads between songs. Spotify launched in Europe but has expanded to most major markets. Spotify licenses tracks from artists and record labels (both major and minor) to fill its music library, and artists are paid per listen. With Spotify, businesses can mix and match with ad types and come up with a campaign that is hyper-personalized according to listeners' taste.

This analysis will look at features of the top daily songs of Spotify to better understand what commonalities there are among songs that were streamed the most on the platform.

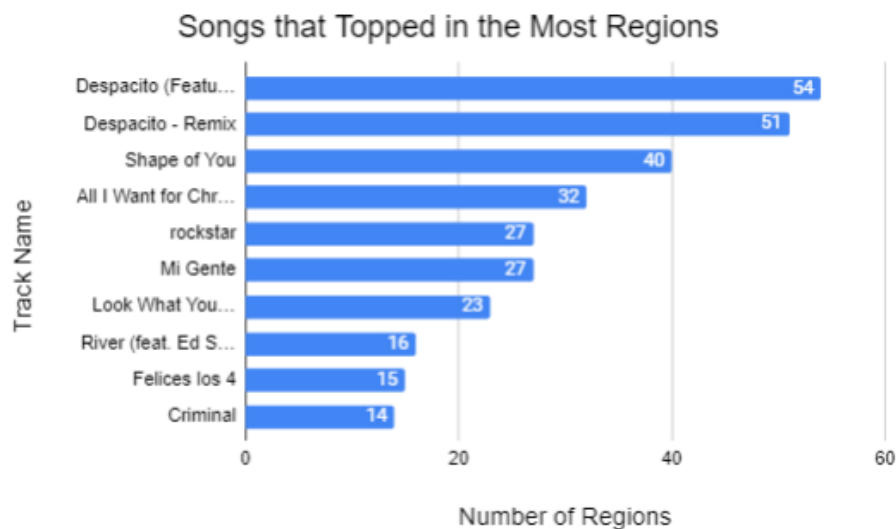
This dataset spans from January 1st, 2017 to January 9th, 2018. There are three dates missing from the data set - May 30th, May 31st, and June 2nd. There are 21,747 distinct tracks. For additional insight, this analysis also looked at data for the top 100 songs of 2017 and their audio features.

What songs were most popular?



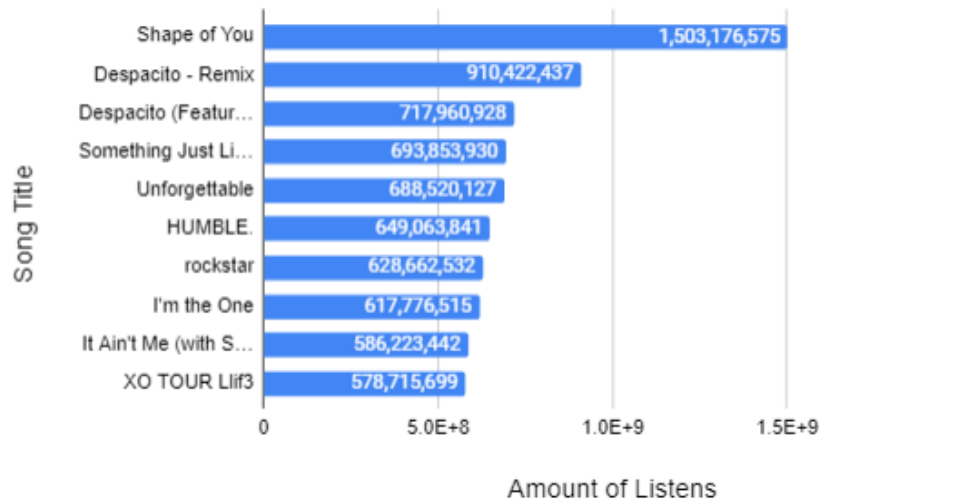
The figure above illustrates the songs that appeared in the number 1 spot the most often. The song that appeared in the top spot across all different region lists during 2017 was Ed Sheeran's "Shape of You", which was in the number one spot 3,639 times. Two versions of the song Despacito were in the top 5.

Here are the number 1 songs popular in most regions. Despacito was the most popular among all of the regions included in the dataset, with the original appearing in all 54 regions. Shape of You was popular in 40 regions, and All I Want for Christmas is You was popular among 32 regions.



Finally, what song was streamed the most? When we sum up the number of times each song was streamed, we can see the Shape of You was streamed the most, earning over 1.5 billion listens over the course of the year, followed by both Despacito versions and Something Just Like This.

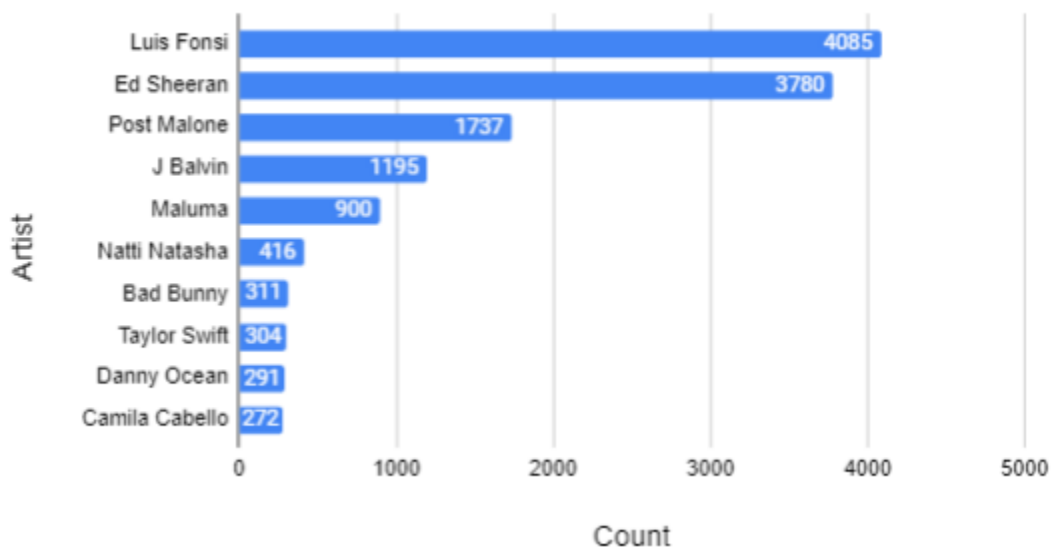
Listen Count of the #1 Songs



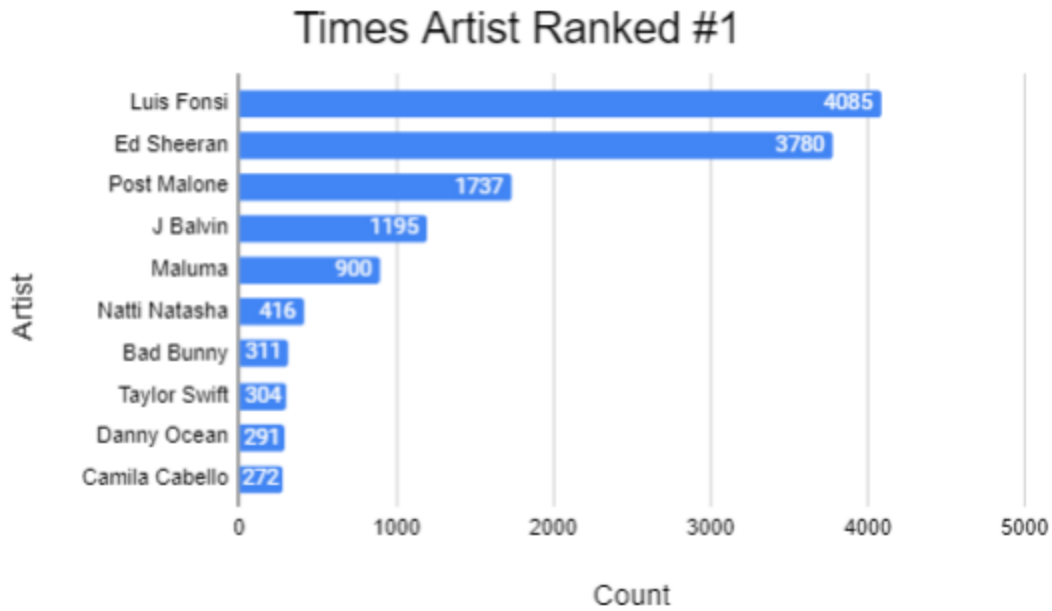
What artists were most popular in 2017?

The next figure demonstrates the artist whose songs were at the number one spot the most often. Unsurprisingly, Luis Fonsi (the artist behind both versions of Despacito) takes the top spot, with Ed Sheeran close behind.

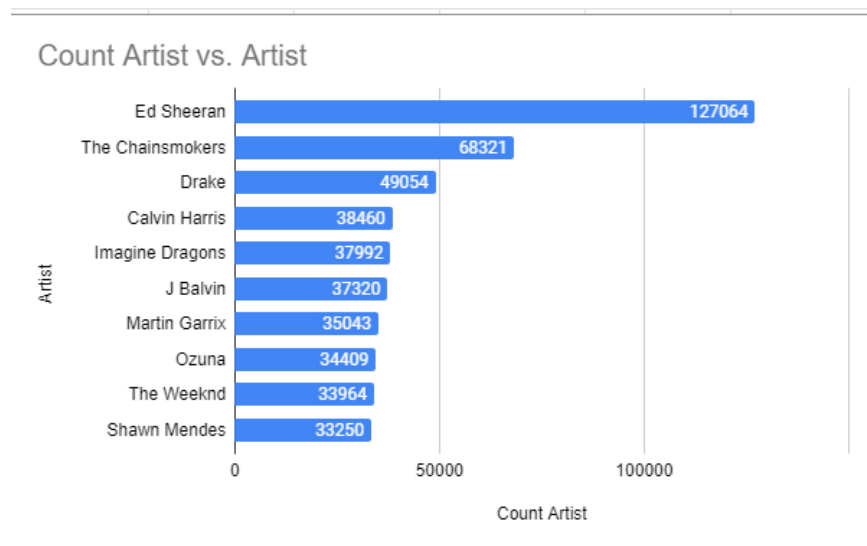
Times Artist Ranked #1



Let's compare this to the artists with the most number of songs to enter into the top 200.



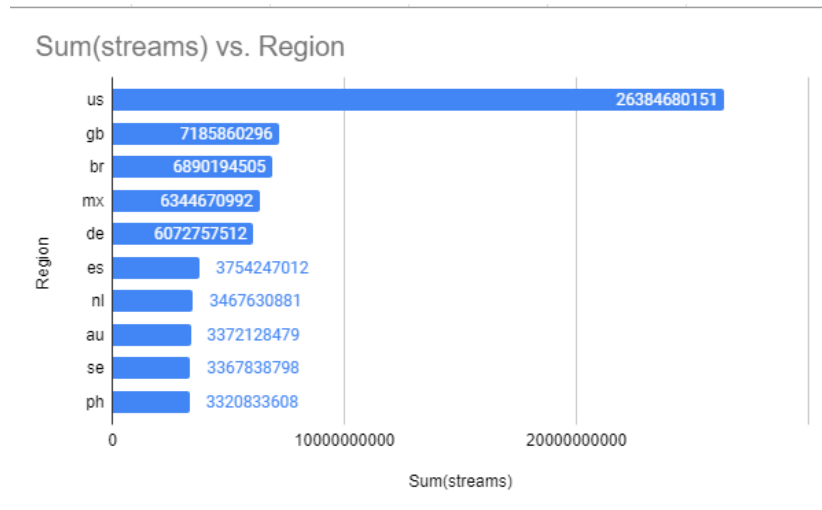
We can see that Ed Sheeran had 5 different songs in the top 200, with Drake and The Chainsmokers each having 3 songs to enter the top 200. Kendrick Lamar, Luis Fonsi, and Post Malone had two songs in the top 200, and all other artists had only one song that entered into the top 200.



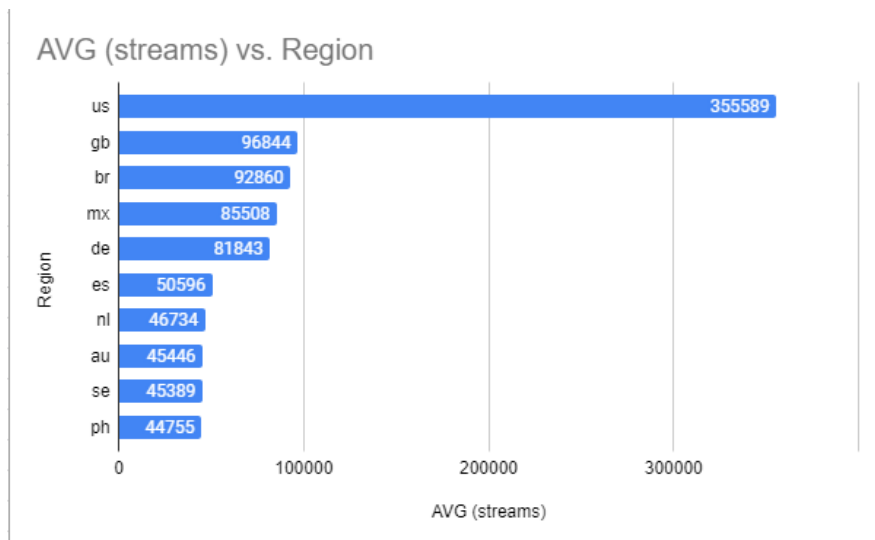
Unsurprisingly, when looking at which artist appeared in the top 200 across all regions, Ed Sheeran, The Chainsmokers, and Drake appeared most frequently.

What countries are streaming the most?

When looking at what countries are streaming the most on Spotify, we can see that the United States had the greatest number of streams, followed by Great Britain, Brazil, Mexico, and Germany.

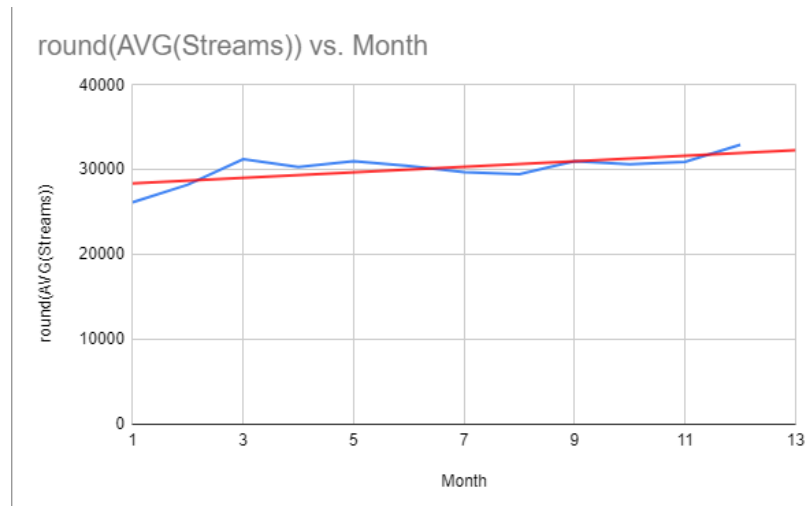


Because of this, the average streams per top 200 song is much higher for the US as it is for other countries, as demonstrated by the below chart.

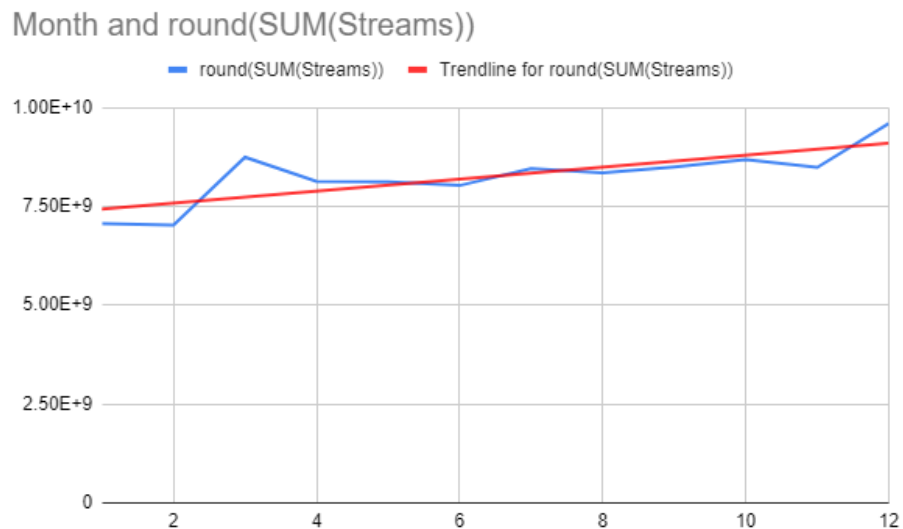


Are listens increasing on Spotify?

The number of streams were increasing on Spotify during the year of 2017. As seen by the trendline marked in red, the average number of streams per song per month increased from January to December.



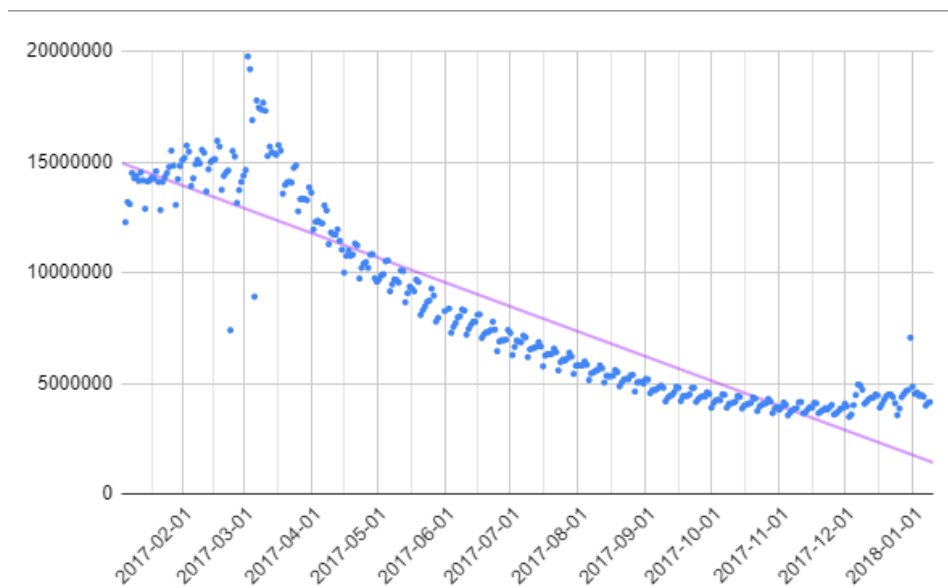
The sum of all the listens for all songs during each month also was increasing, as illustrated by the chart below.



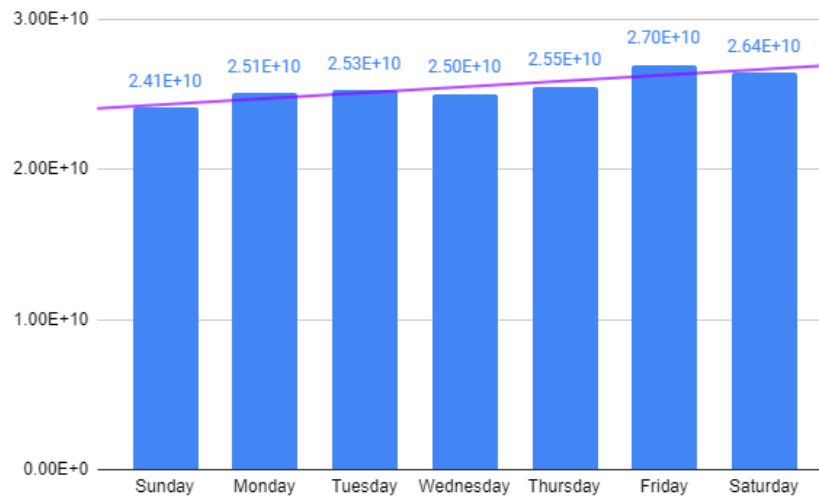
How did Shape of You's popularity change over the course of the year, and what factors might have impacted its growth?

Shape of You by Ed Sheeran was the most popular song released in 2017. When looking at the sum of streams for Ed Sheeran of the course of the year, the song was released in January of 2017, peaked in March of 2017, and then slowly declined before remaining relatively stable from October through the end of the year. March 3rd was the most popular date, which was the release date of his 2017 album.

Outside forces such as an album getting released, a music video being posted on Youtube, or a song being featured in an episode on Netflix can all significantly impact a song's ranking and amount of streams. This is evidenced recently as "Running Up That Hill", a song released by Kate Bush in the 1980s, recently surged on music charts across the world after being prominently featured in the Netflix show Stranger Things.



Is there a day of the week that streams go up?



When we look at streams by day of the week, it seems that there is a slight trend upwards during the week, with a peak on Friday.

What are common features among top Spotify songs?

Finally, we will examine the common features among Spotify's top songs of the year, utilizing additional Spotify data, which includes audio features for the song (such as danceability, tempo, key, etc.).

When considering what key the top songs were written in, the key of C#/Db was the most popular, followed by the key of B. Most of the popular songs, when considering their tempo, are moderately fast to fast.

Correlation Matrix										
danceability	energy	loudness	speechiness	acousticness	instrumentalness	liveness	valence	tempo		
1.00	-0.06	0.05	0.11	0.04	-0.02	-0.04	0.42	-0.36	danceability	
	1.00	0.71	-0.21	-0.25	0.10	0.15	0.32	0.03	energy	
		1.00	-0.44	-0.15	-0.06	0.06	0.41	-0.14	loudness	
			1.00	-0.06	-0.08	-0.02	-0.11	0.17	speechiness	
				1.00	-0.07	-0.14	0.13	-0.25	acousticness	
					1.00	-0.04	-0.06	0.15	instrumentalness	
						1.00	0.00	0.05	liveness	
							1.00	-0.29	valence	
								1.00	tempo	

When looking at the audio features for the top Spotify songs of the year, we can also see the correlation between different audio features. (Descriptions of these audio features can be found in the appendix.) Loudness is highly correlated with energy. Valence is strongly correlated with danceability, energy, and loudness. Valence is the musical positiveness conveyed by a track. Tracks with high valence sound more positive (e.g. happy, cheerful, euphoric), so it makes sense that songs with a high valence also have a lot of energy and danceability. Not many dance songs are negative.

Interestingly, tempo and danceability are negatively correlated. This may be because the people like to dance at a certain tempo. At some point a song may be too fast for most to enjoy dancing to it. Speechiness and loudness are also negatively correlated. However, this may be because of how this category is measured. The more exclusively speech-like the recording (e.g. talk show, audio book, poetry), the closer to 1.0 the attribute value. Values between 0.33 and 0.66 describe tracks that may contain both music and speech, either in sections or layered, including such cases as rap music. Values below 0.33 most likely represent music and other non-speech-like tracks. This is likely the cause of the negative correlation.

What is the average of danceability, energy, loudness, etc. for the top songs of the year?

danceability	energy	loudness	speechiness	acousticness
0.7	0.66	-5.65	0.1	0.17
instrumentalness	liveness	valence	tempo	
0	0.15	0.52	119.2	

On average, songs that were the most popular on Spotify had higher danceability and higher energy. They tended to have few words, more music and were unlikely to be acoustic. The average tempo was 119, which is fast. They were not recorded live in front of an audience. They did not tend to be high or low in valence, meaning they were not all positive or negative in tone.



Twitch is an extremely popular online broadcasting service. Users can both watch and stream on Twitch. Twitch focuses primarily on video games, but also includes streams dedicated to artists, musicians, etc. Twitch users who stream are engaged in real-time communication with viewers and build a strong sense of community. When a streamer becomes popular enough, they can become a Twitch partner and earn money. Viewers can access streams through the Twitch website or through the Twitch app. Twitch's demographic of viewers skew young (70% between the ages of 16 and 34). Twitch has more than 15 million active viewers a day. Nearly half of Twitch users spend more than 20 hours per week watching live streams on the platform with the average amount of time spent on the platform daily hovering around 95 minutes. Twitch both recommends streams to users and includes unskippable ads in live broadcasts.

This data was collected over a period of 4 months, spanning from September 24th, 2020 to February 5th, 2021.

Twitch stream data collected from ~2500 popular Twitch streamers over 4 months (9/24/2020 to 2/05/2021). Real time data for live streamers updated approx. every 5 minutes. Dataset includes current timestamp, streamer name, stream title, game_id, stream start time, and viewership count. Contains 7,936,251 live stream data instances.

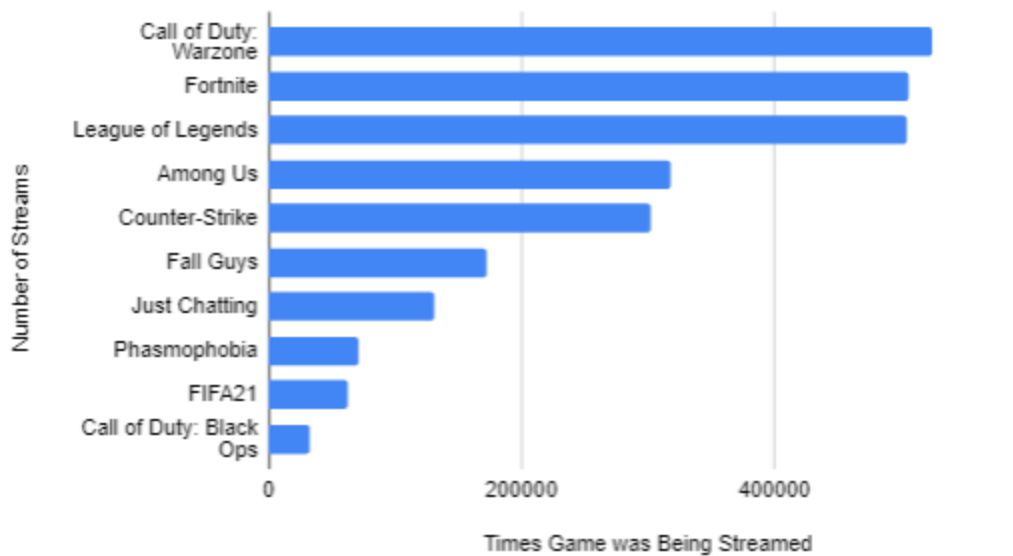
What games are most popular on Twitch?

When we look at games that are most popular to stream on Twitch, we can see that the following games were streamed the most:

- Call of Duty: Warzone
- Fortnite
- League of Legends
- Among Us
- Counter-Strike

We can also consider the sum of viewers who watched different channels during this time frame. These are not unique viewers, but the amount of times someone was viewing that game at the timestamp.

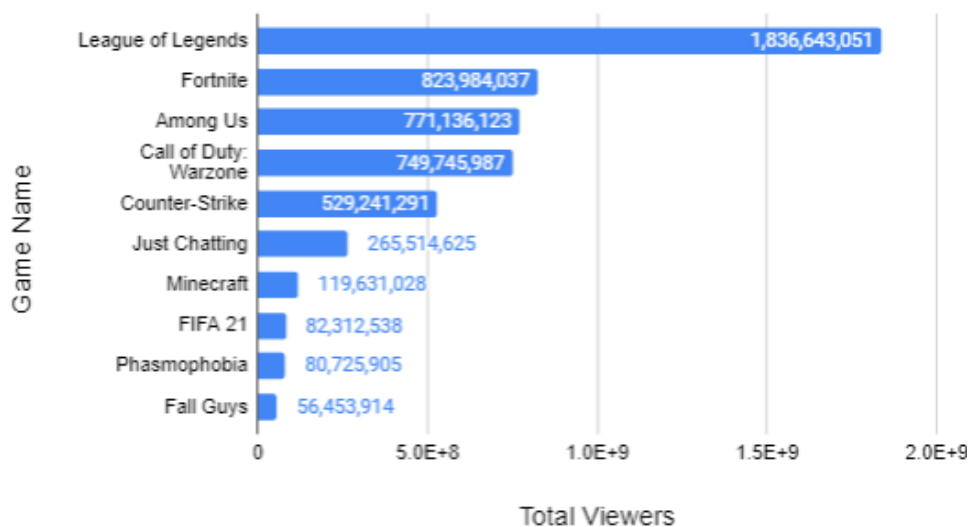
Number of Streams per Game



We can see that many of the most viewed games line up with what is being streamed the most on the platform. League of Legends drew in the most viewers by far during this time period. Two different Call of Duty games were in the top 10 of streamed games, and Minecraft, while not in the most streamed games, still got many more views than FIFA 21, Phasmophobia, and Fall Guys.

The genre of game that was at the top during this time period was fairly diverse, but the majority of them feature multiplayer gameplay.

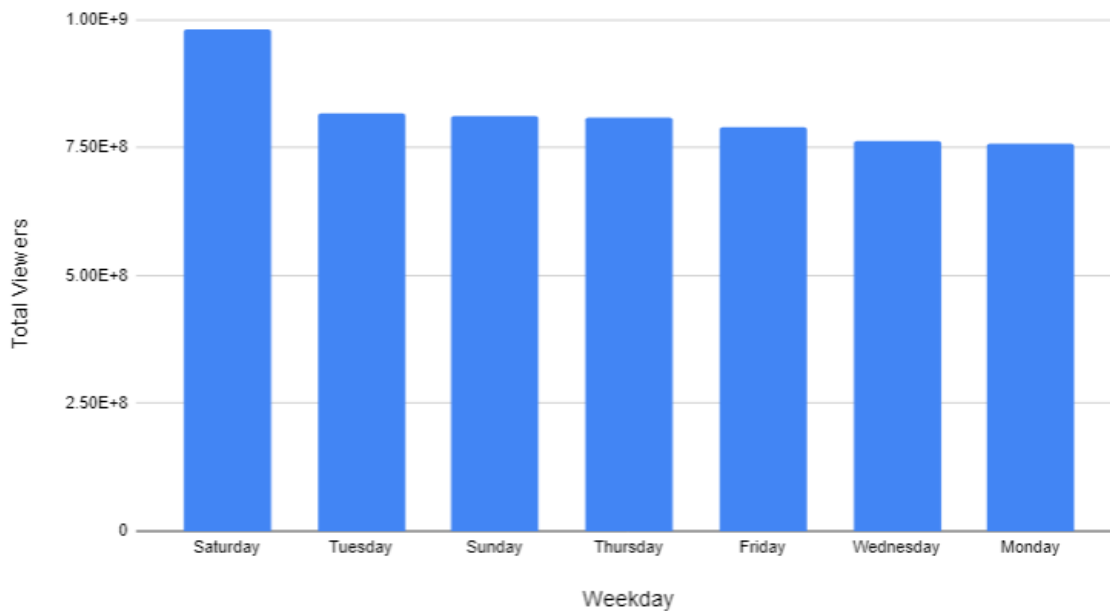
Total Viewers by Game



When are most people watching on Twitch?

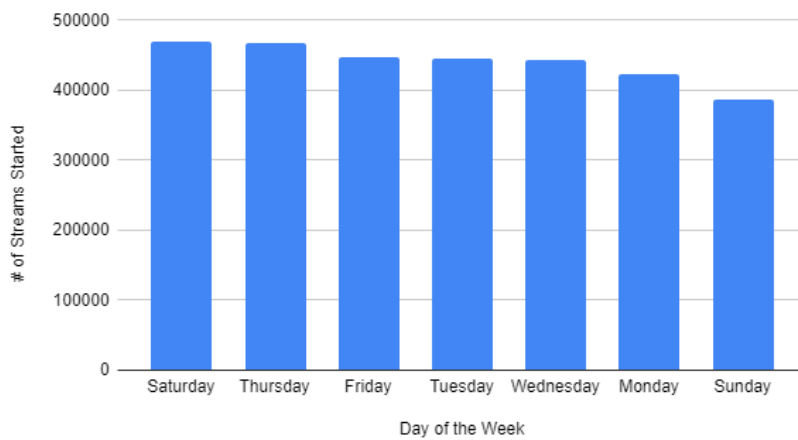
According to the data, the majority of viewers are watching on Saturday. Saturday is the weekend for students and for many office workers, so many more people have free time on Saturday. Many are also watching on Tuesday and on Sunday, another weekend day.

Sum of Viewers by Weekday



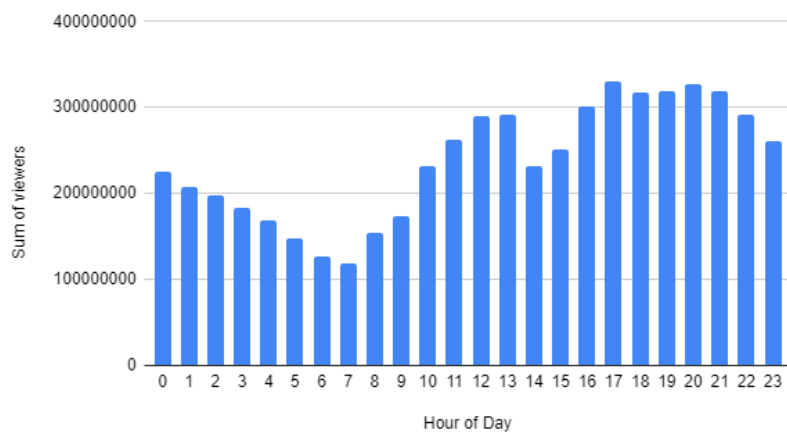
However, we also see that more people stream on Saturday than on other days of the week. Because Saturday has the most streams, that would play a factor in why Saturday has the most viewers.

of Streams Started vs. Day of the Week



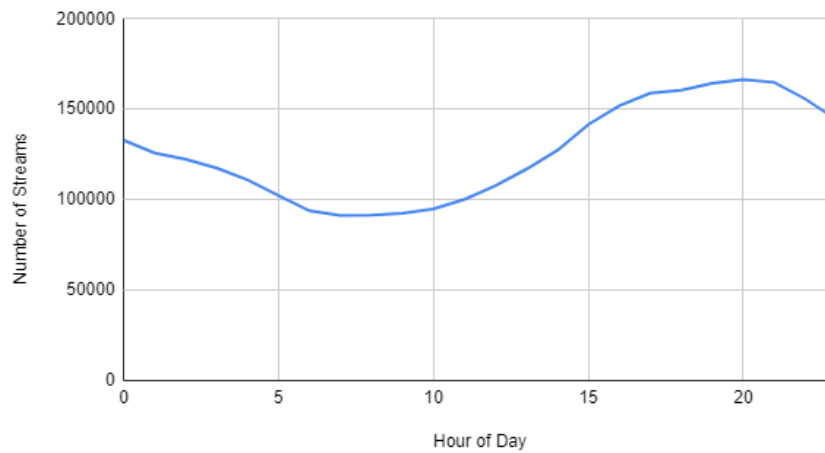
Most viewers are watching from 16:00-21:00 UTC. This time is later in the evening for many European countries and the time that many in the Western Hemisphere begin leaving work or school.

Sum of viewers vs. Hour of Day



We can also see that this correlates with the number of streams during the course of the day, so more people are watching during times when more streamers are available. The time of day for many English speaking countries could additionally play a role in this, as more people have free time in which to stream.

Number of Streams vs. Hour of Day

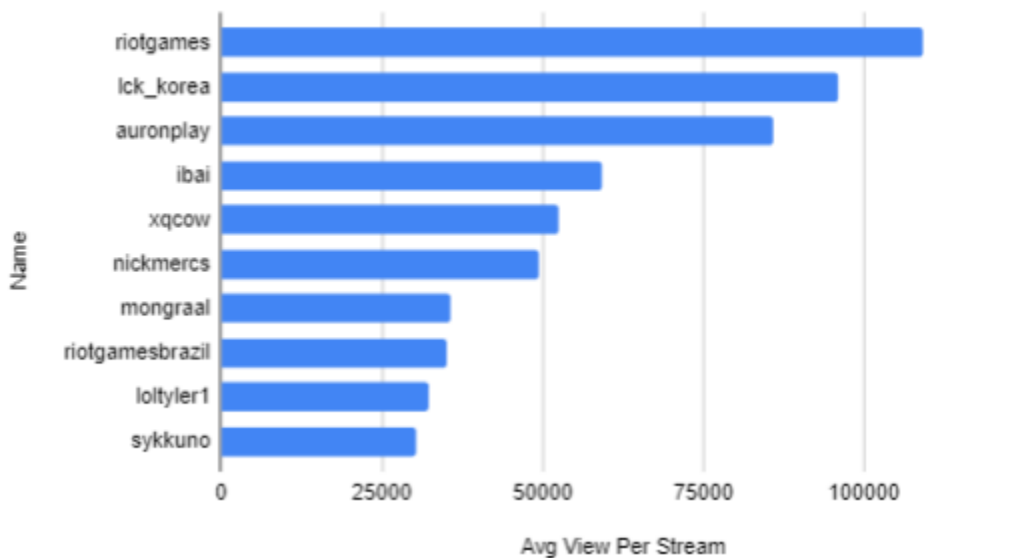


Who were the top Twitch streamers during this time period?

The streamers who had the highest average view per stream included:

1. Riotgames (The publisher of League of Legends, and esports tournament organizer)
2. Lck_korea (Korea's professional League of Legends league)
3. Auroplay
4. Ibai
5. And xqcow

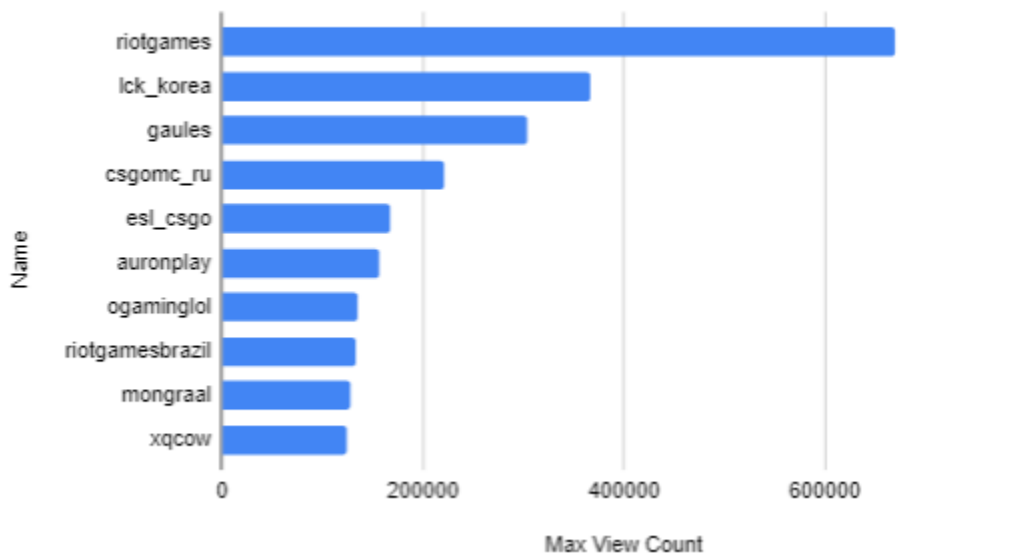
Channels with the Top Average Viewer Count



When we look at the streamers with the maximum number of views at one time, we see many of the same names. The streamers that had the top amount of viewers at one time include:

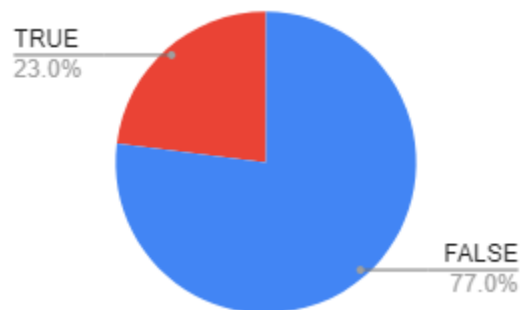
1. Riotgames
2. Lck_korea
3. Gaules
4. Csgomc_ru
5. Esl_csgo

Channels with the Top Viewer Count at One Time



Are Twitch streams appropriate for most audiences?

Yes - according to another dataset focusing on just the top Twitch streams, we can see that during that time, 77% of top streamers were not rated as mature, and 23% were rated mature.



How long are Twitch streams?

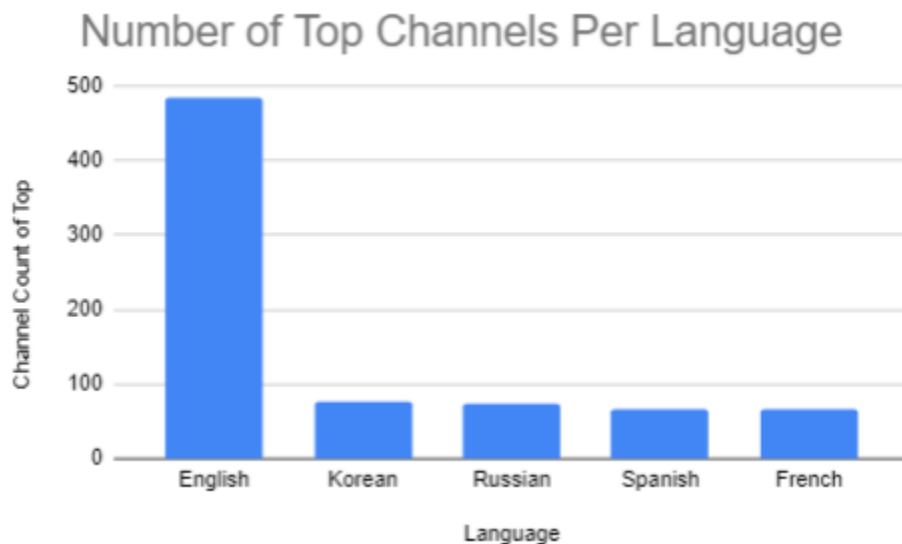
On average, Twitch streams last about 4.9 hours. The longest stream represented in the data set was 133 hours long!

The below figure shows the amount of viewers across one of xQcow's streams. We can see that the viewer count sharply rises in the first two hours of the stream, and then rises again until sharply dropping off right at the end (as viewers usually leave when the streamer announces they are ending the stream for the night).

Viewer Count During Stream Progression



What languages are most popular on Twitch?



Referring to the additional data set, at time of data collection, the majority of channels were English speaking, followed by Korean, Russian, Spanish, and French.

Earlier in the report, we noted that the time most viewers were on Twitch was in the afternoon/evening of English-speaking countries.

When we consider the total watch time of channels in different languages, we can see that English, Russian, Korean, Portuguese and Spanish were the languages watched the most on Twitch, with English the most popular by far.





YouTube is a free video sharing website and one of the most popular websites on the Internet. Users can both watch content and upload their own videos on the platform. Visitors watch around 6 billion hours of video every month. Youtube's audience is larger among younger people. YouTube is available in nearly every country and over fifty languages. Youtube utilizes ads on the platform to generate its revenue. According to Google, people who watch YouTube ads at least in part are 10 to 23 times more likely to take action like sharing or subscribing to a brand channel.

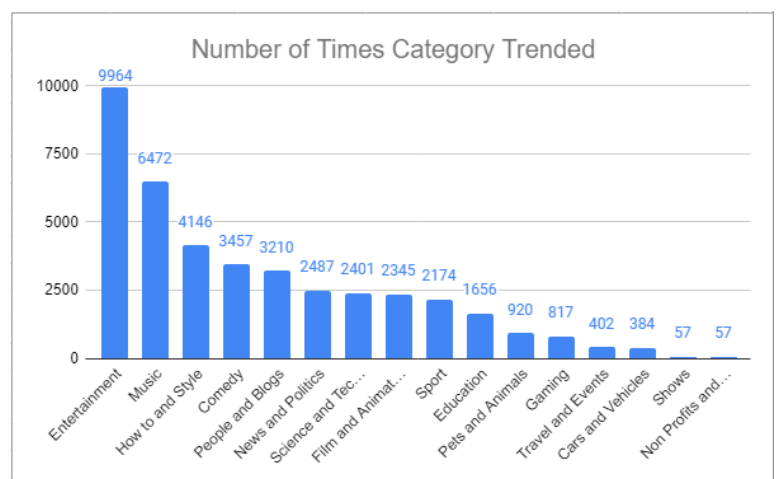
In the final section of this analysis, we will examine Youtube's Trending videos to better understand features of trending videos on the platform. Youtube determines videos that are trending through a combination of multiple factors, including views, shares, comments, and likes.

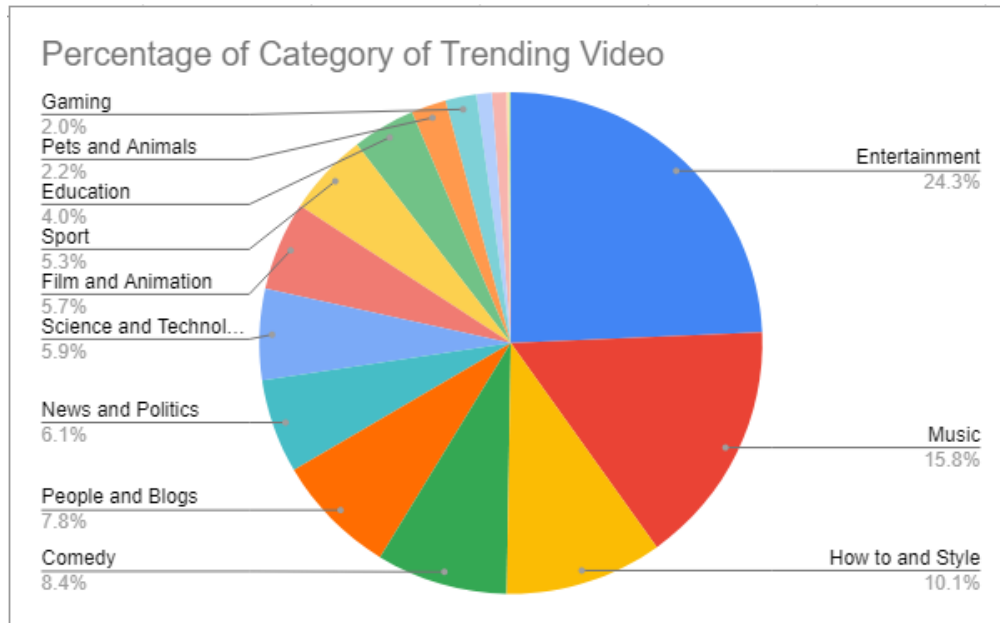
This dataset spans from November 14th, 2017 to June 11th, 2018, and includes up to 200 listed trending videos per day. There are 40,949 rows in the data set, and 6,351 unique videos (as a video can be trending on multiple days)

What are the most and least trending categories on Youtube?

Videos on Youtube are sorted into different categories. The most common categories that trending videos fall into are:

- Entertainment, which represented 24% of trending videos
- Music, which represented 16% of trending videos
- How To and Style, which represented 10% of trending videos
- Comedy, which represented 8% of trending videos
- People and Blogs, which represented 8% of trending videos

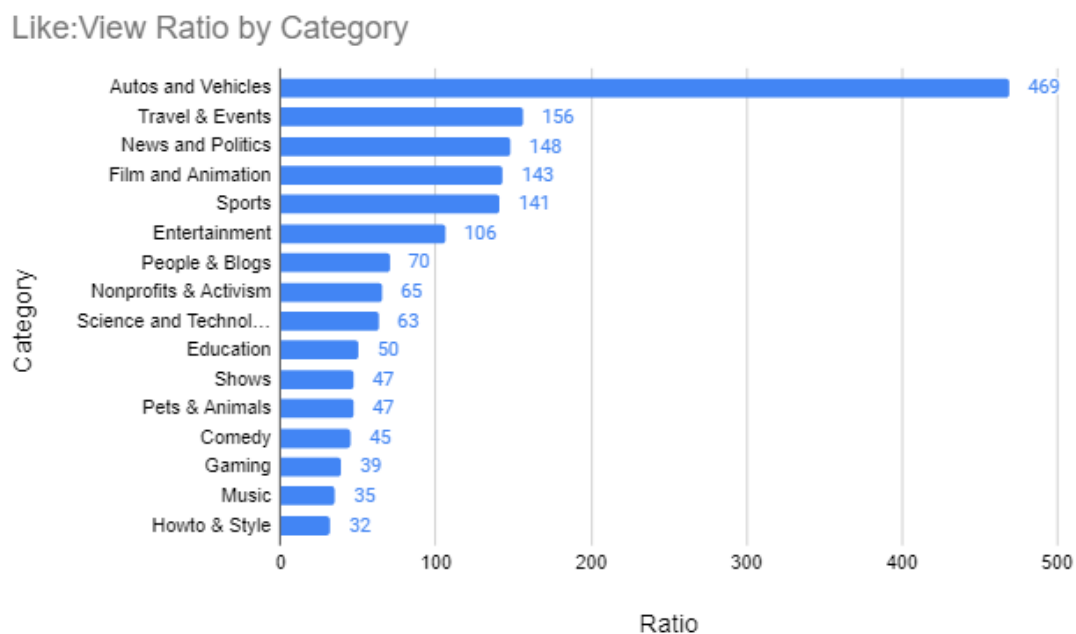




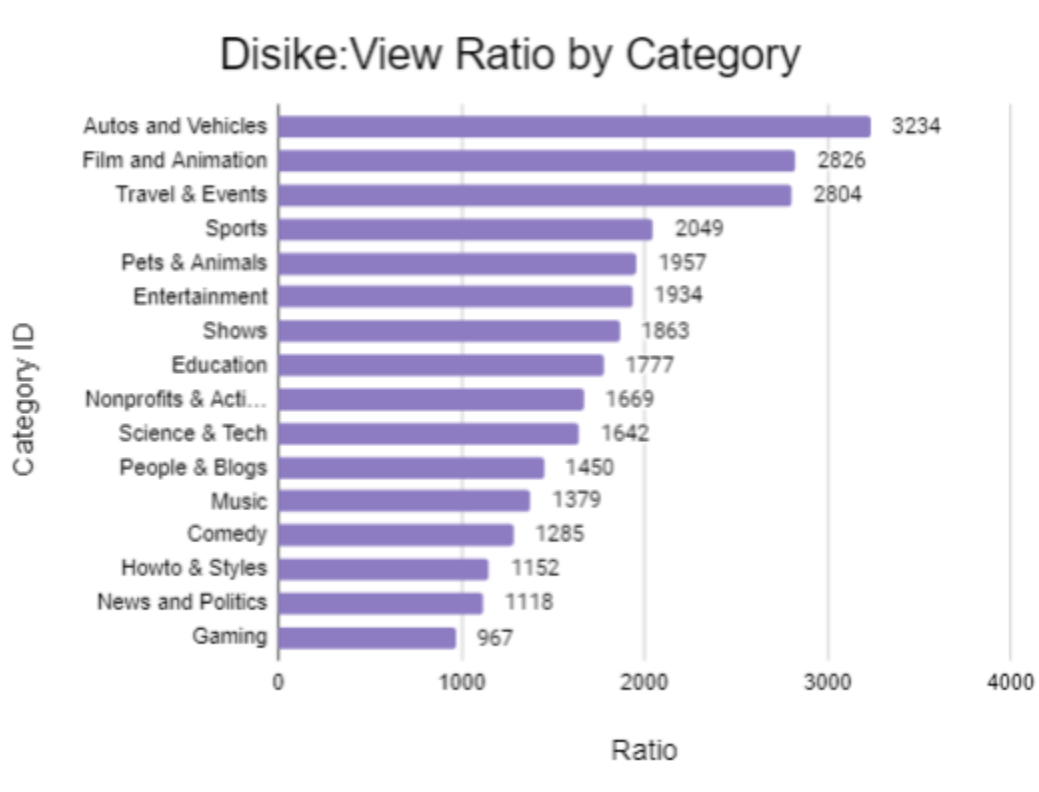
And the least common categories were:

- NonProfits and Activism, which represented 0.14% of trending videos
- Shows, which represented 0.14% of trending videos
- Cars and Vehicles, which represented 0.94% of trending videos
- Travel and Events which represented 0.98% of trending videos
- Gaming, which represented 2% of trending videos

What category gets the highest amount of likes and dislikes per view?



The categories that have the highest like to view ratio are the Howto&Style, Music, and Gaming categories. The categories that had the lowest like to view ratio were Auto and Vehicles, Travel and Events, and News and Politics.



Gaming, News and Politics, and Howto & Styles seem to get the highest number of dislikes per view. Autos and Vehicles, Film and Animation, and Travel and Events have the lowest ratio of dislikes to views.

How many views, likes, dislikes and number of comments do trending videos have?

	Mean	Median
Views	2.36 million	682k
Likes	74.3k	18.1k
Dislikes	3.71k	631
Number of Comments	8.45k	1856

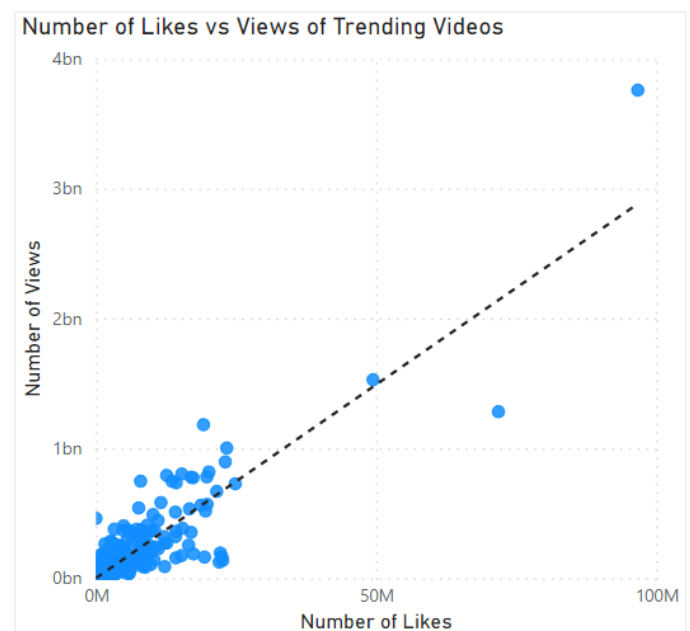
While the average number of views on a trending video are 2.36 million and 8 thousand comments, 50% of trending videos only had 682 thousand views or less and 1856 comments or less.

Are likes, views, dislikes, and number of comments correlated?

Correlation Matrix				
	Likes	Dislikes	Views	Comments
Likes	1	0.45	0.85	0.8
Dislikes		1	0.47	0.7
Views			1	0.62
Comments				1

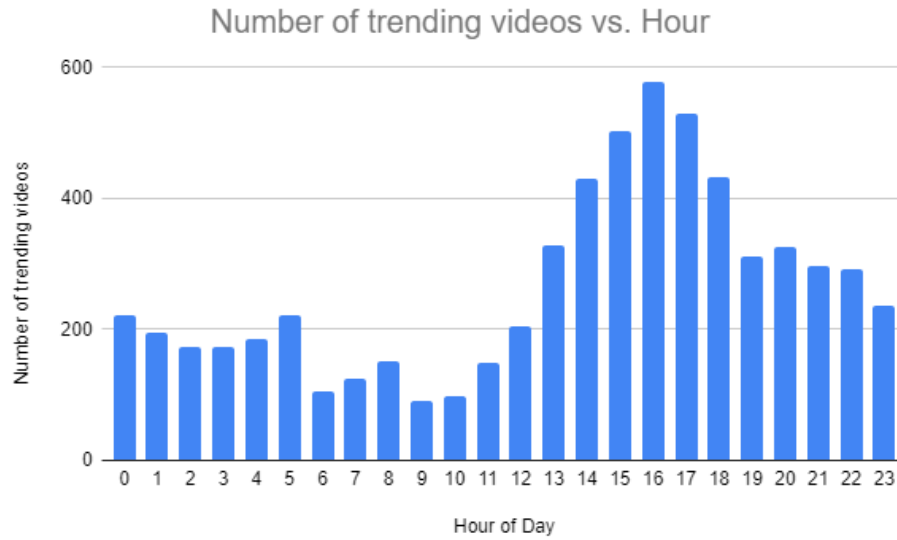
As we can see from the figure above:

- Views and likes are strongly correlated.
- The number of comments is strongly correlated with likes and dislikes - if a viewer has a strong enough opinion to comment, which requires much more effort, they are likely going to like or dislike the video.

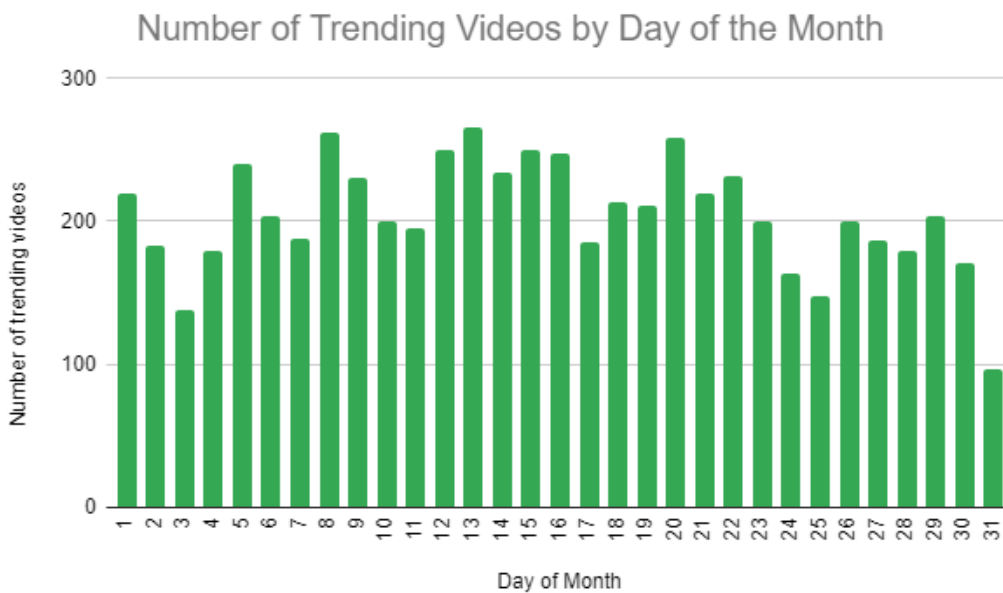


Are publishing times significant?

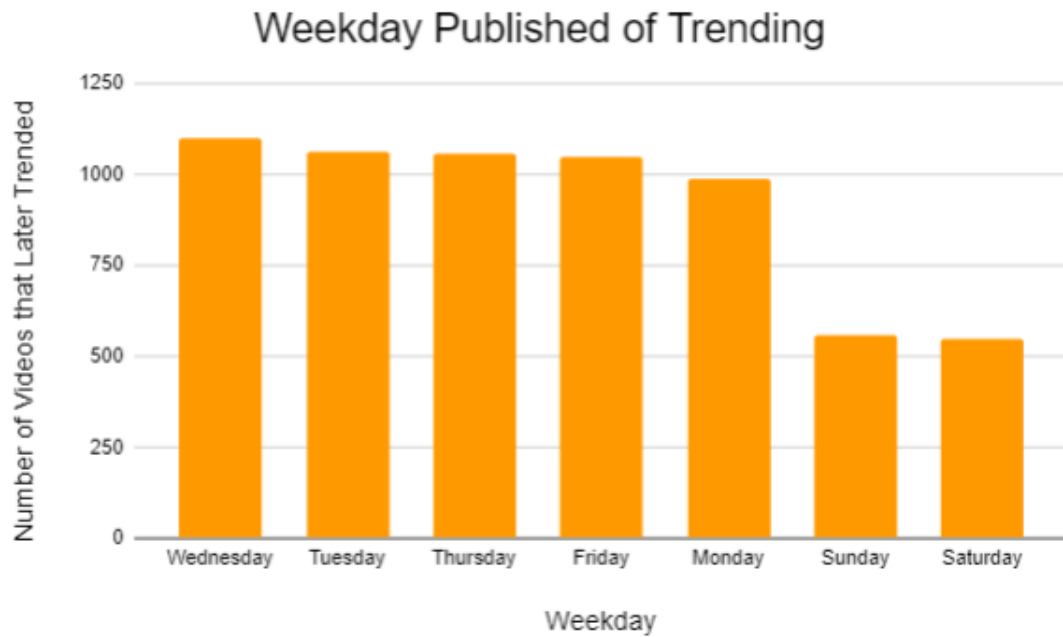
Using the publish time attribute, we can use the number of trending videos to see how the hour, day, week, or month published is potentially related to the trending videos.



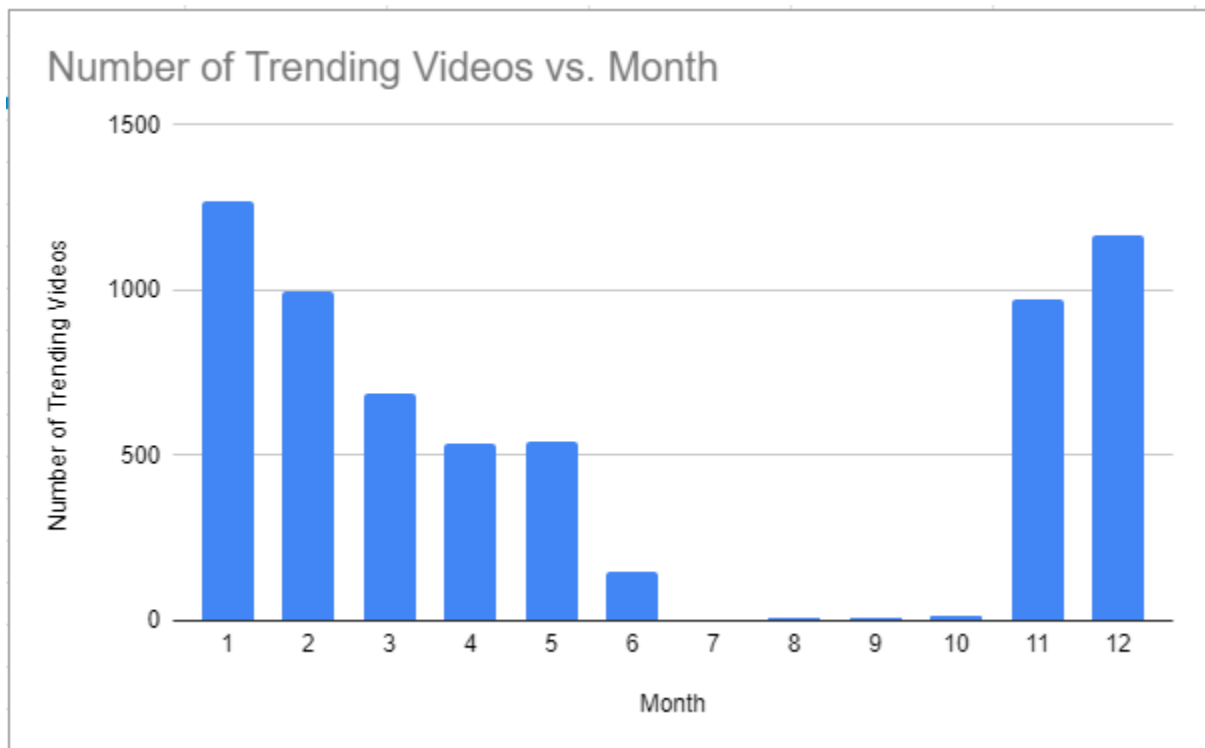
First, when we examine the average of trending videos by hour published, we can see that trending videos tended to be originally posted during 3pm to 5pm, and videos were more often posted in the evenings.



When we examine average trending videos by day of the month, no clear pattern emerges. The 31st day is lower on average as not every month has a 31st day.

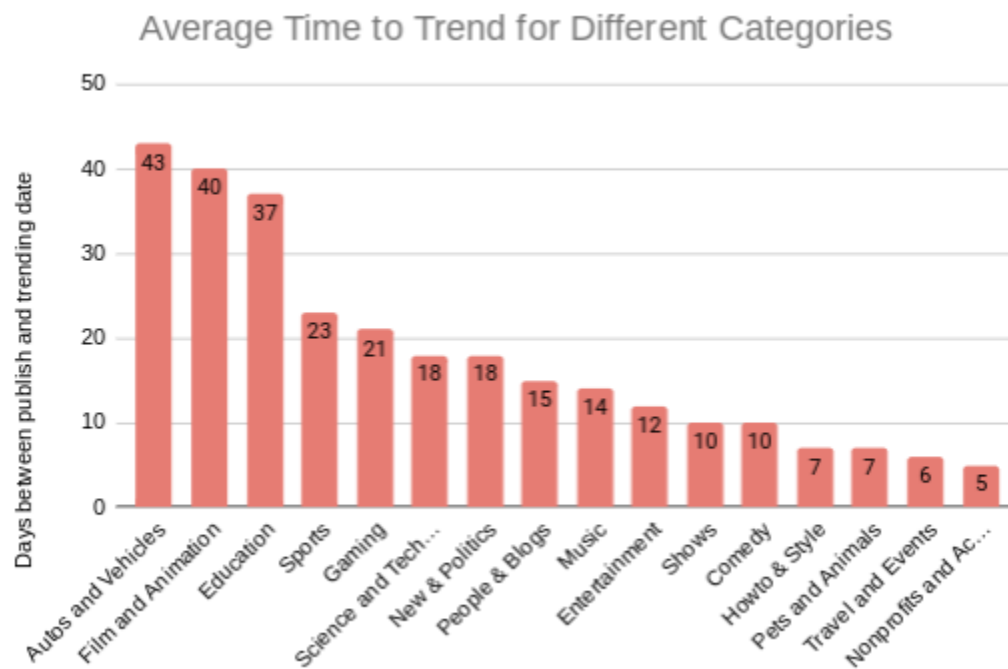


When we examine the number of trending videos that were posted on a particular day of the week, it appears that the trending videos tended to be posted on weekdays rather than on weekends.



When looking at the publishing month for the trending videos, June through October appear to have very few trending videos. However, as demonstrated in the next section, videos on average trended 14 days after their publishing date. Because our trending video data only spanned from November to June, videos published in June through October did not have the span of time to get on the trending list as videos published in other months. We would likely not see this discrepancy if our data included trending dates for a full year.

How long does it take for a video to trend, on average?



On average, videos trended 14 days after their publishing date. However, this data can also be examined by category.

When examining average time to trend by category, the fastest trenders were:

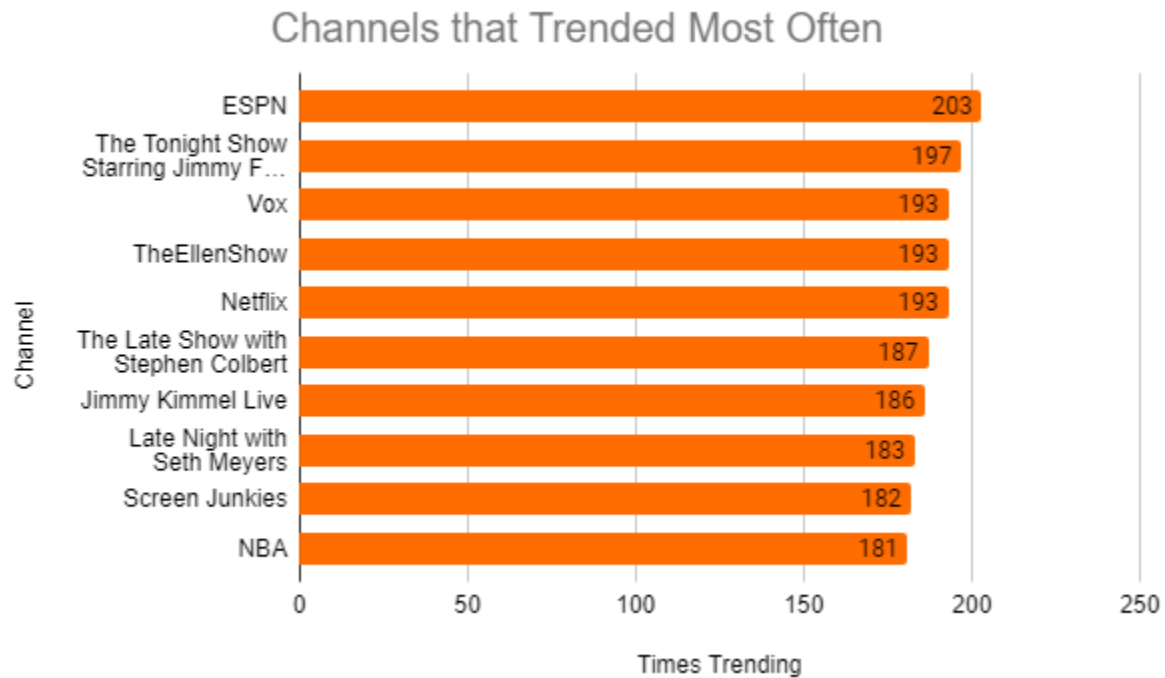
- Nonprofits & Activism (5 days to trend)
- Travel and Events (6 days to trend)
- Pets and Animals (7 days to trend)
- Howto & Style (7 days to trend)
- Comedy (10 days to trend)
- Shows (10 days to trend)

The slowest trenders were, by category:

- Autos and Vehicles (43 days to trend)

- Film and Animation (40 days to trend)
- Education (37 days to trend)
- Sports (23 days to trend)
- Gaming (21 days to trend)

What channels trended most often?

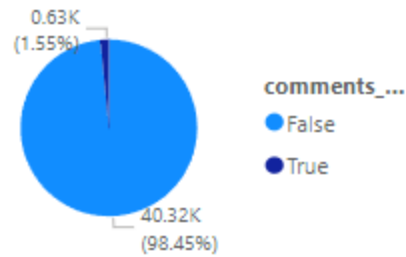


The channels that trended the most included:

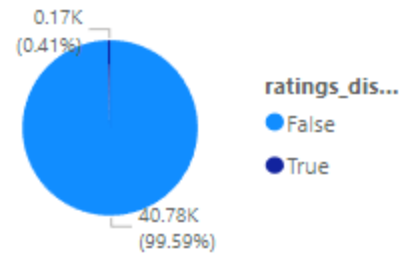
- ESPN
- The Tonight Show Starring Jimmy Fallon
- Vox
- TheEllenShow
- Netflix

Did videos in the trending list have comments or ratings disabled?

Count of comments_disabled by comments_disabled



Count of ratings_disabled by ratings_disabled



According to the figures above, the vast majority of trending videos do not have comments or ratings disabled. These are important metrics for getting on the trending page, and comments can foster a sense of community, and encourage people in discussions to return to the video.

If a video has comments disabled, it may have a higher dislike ratio than other videos. The ratio of dislikes to likes in videos with comments disabled is 1:17. The ratio of dislikes to likes in videos with comments disabled is 1:44.

Conclusion

This report analyzed major streaming platforms in order to compare both the overall base content and the content that was most popular. This report analyzed trends focusing on the distinguishing features of top songs, streams, videos, TV shows, and movies. Determining what content will be consumed the most is extremely beneficial for companies to determine what content to promote and recommend to current and potential users, as well as where to place targeted ads. Additionally, content creators can consider qualities of top content and plan their brand strategy around what is most likely to be seen by users.

For Netflix, retaining and gaining more subscribers to the service is most important. Netflix should promote and work on acquiring more TV shows to the platform, in order to increase watch time and to attract more consumers of Netflix's content. Acquiring non-English TV shows will increase the number of users from Non-English speaking countries. Netflix should also continue to promote and acquire recently released movies and TV shows, as recently released content greatly outperforms older content. Additionally, more mature shows make up most of the watch time of the top shows, so more of this content should be made or acquired.

Spotify, which looks to increase listener use to provide more opportunities for ads, should focus on ad placement as well as making more accurate recommendations for its users. Spotify advertisers should note that ads are most likely to be heard by listeners if they are run on popular songs and on the weekends. Outside factors can make it a little more difficult to predict trending songs exactly, but the use of audio feature data can help match listeners to new music that they already like. Since the top songs shared common attributes, Spotify can use this data to predict if a song will become more popular, and singers and record labels can use this data when writing songs and constructing albums.

Youtube's revenue strategy is based on increasing the number of views per video, where users can view both advertisements and in-ad sponsorships. The top categories on YouTube were Entertainment, Music, and Howto & Style. Videos in the Howto & Style, Music, and Gaming category also tend to get more engagement through the ratings systems. More data collection would be recommended in order to get the most accurate information on how trending content compares to overall content.

Finally, Twitch's metrics of total viewers and average viewers would aid in determining streamers drawing in the biggest audience and, in partnering, would also draw in the most revenue. Call of Duty, Fortnite, League of Legends, and Among Us were all extremely popular during this time period. Streamers can also use information about popular games, language spoken, and stream maturity rating in order to increase their own audience. Additional information that could provide insights would be the type of games played and the impact of streamer networks.

Appendix- Tables

Netflix Movies and TV Shows

Column Name	Description	Sample
show_id	Unique ID for every Movie / Tv Show	s9
type	Identifier - A Movie or TV Show	TV Show
title	Title of the Movie / Tv Show	The Great British Baking Show
country	Country where the movie / show was produced	United Kingdom
date_added	Date it was added on Netflix	September 24, 2021
release_year	Actual Release year of the move / show	2021
rating	TV Rating of the movie / show	TV-14
duration	Total Duration - in minutes or number of seasons	9 Seasons

Netflix “Top 10” TV Shows and Films

Column Name	Description	Sample
week	Week	2022-04-17
category	Category	TV (English)
weekly_rank	Weekly rank	1
show_title	Show Title	Bridgerton
season_title	Season Title	Bridgerton: Season 2
weekly_hours_viewed	Weekly hours viewed	66610000
cumulative_weeks_in_top_10	Cumulative weeks in top 10	4

Twitch Stream Data

Column Name	Description	Sample
Name	Channel name	sypherpk
TimestampUTC	Timestamp that data was collected.	2020-09-24 20:16:02
CurrentGameID	ID of the current game being played.	33214
StreamTitle	Title of the stream	Grind DONT STOP! @SypherPK ?
ViewerCount	Count of how many viewers were watching at the time stamp	6101
StartTimeUTC	Start time of the ongoing stream.	2020-09-24 15:59:28

Additional Twitch Data

Column Name	Description	Sample
Channel	Channel Name	xQcOW
Watch time(minutes)	Sum of watch time in minutes	6196161750
Mature	True if channel is marked Mature; False if not	False
Language	What language the channel is in (i.e. English)	English

Trending YouTube Video Statistics

Column Name	Description	Sample
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video_id	Primary key of the video	2kyS6SvSYSE
trending_date	Date the video was on trending	17.14.11
title	Title of the video	WE WANT TO TALK ABOUT OUR MARRIAGE
channel_title	Name of the channel	CaseyNeistat
category_id	Category of the video	22
publish_time	Time the video was published	2017-11-13T17:13:01.000Z
tags	Tags included on the video	SHANtell martin
views	Number of views the video has received	748374
likes	Number of likes the video has received	57527
dislikes	Number of dislikes the video has received	2966
comment_count	Number of comments the video has received	15954
comments_disabled	True if comments are disabled on the video; False if not	False
ratings_disabled	True if likes and comments are disabled on the video; False if not	False
video_error_or_removed	True if video had an error or is removed; False if not	False

Spotify's Worldwide Daily Song Ranking

Column Name	Description	Sample
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Position	Position on charts	1
Track Name	Title of song	Reggaetón Lento (Bailemos)
Artist	Name of musician or group	CNCO
Streams	Number of streams	19272
URL	URL of song	https://open.spotify.com/track/3AEZUABDXNtecAOSC1qTfo
Date	Date the song was on the ranking chart.	2017-01-01
Region	Country code	ec

Top Spotify Tracks of 2017

Column Name	Description	Sample
id	Spotify URI of the song	7qiZfU4dY1lWllzX7mPBI
name	Name of the song	Shape of You
artists	Artist(s) of the song	Ed Sheeran
danceability	Danceability describes how suitable a track is for dancing based on a combination of musical elements including tempo, rhythm stability, beat strength, and overall regularity. A value of 0.0 is least danceable and 1.0 is most danceable.	0.825
energy	Energy is a measure from 0.0 to 1.0 and represents a perceptual measure of intensity and activity.	0.652
"key"	The key the track is in. Integers map to pitches using standard Pitch Class notation. E.g. 0 = C, 1 = C \sharp /D \flat , 2 = D, and so on.	1.0
loudness	The overall loudness of a track in decibels (dB).	-3.183
mode	Mode indicates the modality (major or minor) of a track.	0.0

speechiness	Speechiness detects the presence of spoken words in a track. The more exclusively speech-like the recording (e.g. talk show, audio book, poetry), the closer to 1.0 the attribute value.	0.0802
acousticness	A confidence measure from 0.0 to 1.0 of whether the track is acoustic. 1.0 represents high confidence the track is acoustic.	0.581
instrumentalness	Predicts whether a track contains no vocals. The closer the instrumentalness value is to 1.0, the greater likelihood the track contains no vocal content.	0.0
liveness	Detects the presence of an audience in the recording. Higher liveness values represent an increased probability that the track was performed live.	0.0931
valence	A measure from 0.0 to 1.0 describing the musical positiveness conveyed by a track. Tracks with high valence sound more positive (e.g. happy, cheerful, euphoric), while tracks with low valence sound more negative (e.g. sad, depressed, angry).	0.931
tempo	The overall estimated tempo of a track in beats per minute (BPM).	95.977
duration_ms	The duration of the track in milliseconds.	233713.0
time_signature	An estimated overall time signature of a track.	4.0