

US-India YouTube 2021 Trending Video Comparison

What are the characteristics and difference of trending YouTube videos in the US and India? How will it affect the decision of setting up a new channel in each of the two countries?



Zhong, Yingtong & Zhang, Yujing

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1. Introduction

As a globally popular video platform, YouTube takes up most of the time in our daily life, no matter where we live in, what language we speak and what culture background we have. However, people from different countries do have different inclinations to choose a video. In this report, we are going to discuss the differences of video preferences in the US and India. This topic has already raised attention among data analysts. And some of their research, for example, *Analysis of YouTube Trending Videos of 2019 (US)* (Ammar Alyousfi,2020)¹, inspired us a lot on exploring our contents.

We will carry out an analysis by exploring the data of trending videos on YouTube in these two countries. But first, what is a trending video? According to the definition on YouTube, a trending video “helps viewers see what’s happening on YouTube and in the world²”. More precisely, trending videos tells us what the most popular content on the website is. YouTube has its own criteria as below to figure out trending videos, which we will refer to when doing our own research.

Amongst the many great new videos on YouTube on any given day, Trending can only show a limited number. Trending aims to surface videos that:

- Are appealing to a wide range of viewers
- Are not misleading, clickbaity or sensational
- Capture the breadth of what’s happening on YouTube and in the world
- Showcase a diversity of creators
- Ideally, are surprising or novel

Trending aims to balance all of these considerations. To achieve this, Trending considers many signals, including (but not limited to):

- View count
- How quickly the video is generating views (i.e. “temperature”)
- Where views are coming from, including outside of YouTube
- The age of the video
- How the video performs compared to other recent uploads from the same channel
- performs compared to other recent uploads from the same channel

¹ <https://ammar-alyousfi.com/2020/youtube-trending-videos-analysis-2019-us#trending-channels>

² <https://support.google.com/youtube/answer/7239739?hl=en>

With such kind of data, we plan to figure out the characteristics of videos that are enjoyed by American and Indian people. By doing so, we hope our work could provide a better depiction of popular culture in the US and India, then help to make a prediction about later what channels and videos will become popular in the two countries.

2. Question Focus

2.1. Main focus

Our main topic of this report is what are the characteristics of trending YouTube videos in the US and India? And What are the differences between them? How will it affect the decision of setting up a new channel in each of the two countries?

2.2. Sub-tasks questions

To compare trending videos in the US and India, we will divide the analysis into 6 sub-tasks and examine the differences in detail.

- **Sub-Task 1:**
 - What is the distribution of trending video categories and channels in the US? What are the top 5 categories and top 10 channels?
- **Sub-Task 2:**
 - What is the distribution of trending video categories and channels in India? What are the top 5 categories and top 10 channels? How are they different from those in the US?
- **Sub-task 3:**
 - Among trending videos in the US, what are the distributions and characteristics of top 30 most viewed videos? How are the likes and comment counts distributed? What are the response rate of those videos?
- **Sub-Task 4:**
 - Compared to trending videos in the US, what are the characteristics of top 30 most viewed videos in India? How are the likes and comment counts distributed? What are the response rate of those videos?
- **Sub-Task 5:**
 - What are the most common words in trending videos' tags in 2021 in the US and India respectively?
- **Sub-Task 6:**
 - If we want to create a new channel, how should we design it to boost popularity on YouTube. How we will do it differently in the US and India?

3. Dataset

3.1. Data source

The data used in this analysis was retrieved from Kaggle dataset of [YouTube trending video dataset](#) (updated daily) , which was collected using the YouTube API. As noted, we focused our analysis in 2021. The time period of dataset available to retrieve was from 2021/01/01 to 2021/12/03 (trending date) when we started this analysis in the December of 2021. So, we will refer our analysis on 2021 trending videos comparison of US and India with the 11-month data.

3.2. Dataset description

The US trending videos dataset consists of a total of 69,195 videos and the India ones has 65,061. Same videos may appear on the YouTube trending list for days of 1 to 30. So, it means that the 69,195 and 65,061 videos are not unique videos. Among those videos, US has 12,312 unique trending videos while the number for India is 19,158. We join the original dataset with associated JSONs to retrieve the categories for each specific video.

The following table shows examples of the US and India original data for each video:

	US data example	india data example
index	27596	26121
video_id	2IQ4Kr-SnU0	EAvpSWmoPSA
title_x	The Stunning Conclusion to an Amazing Tribute Show AEW Brodie Lee Celebration of Life. 12/30/20	Krack Movie Trailer - Raviteja, Shruti Hassan Gopichand Malineni Thaman S
publishedAt	2020-12-31T03:58:51Z	2021-01-01T05:30:00Z
channelId	UCFN4JKGP_bVhAdBsoV9xtA	UCnSqxrSfo1sK4WZ7nBpYW1Q
channelTitle	All Elite Wrestling	Lahari Music T-Series
categoryId	24	10
trending_date	2021-01-01 00:00:00+00:00	2021-01-01 00:00:00+00:00
tags	All Elite Wrestling AEW The Young Bucks Cody Rhodes Brandi Rhodes Nick Jackson Matt Jackson Chris Jericho Pro Wrestling Kenny Omega Being the Elite Jon Moxley Luchasaurus Jungle Boy Jack Perry MOX AEW DYNAMITE HIGHLIGHTS AEWDYNAMITE AEW ON TNT AEWONTNT Jurassic Express Jake Hacer Inner Circle Join Dark Order Rusev Miro AEW Dynamite AEWIDON	Krack Movie Trailer - Raviteja Shruti Hassan Gopichand Malineni Thaman S Krack Movie Teaser - Raviteja Raviteja Shruti Hassan Krack Movie Trailer Thaman S Krack Trailer Krack Songs Latest Telugu Trailers Latest Telugu Trailer Latest Movies Mass Maharaja Raviteja Movies Raviteja New movies krack telugu movie trailer ravi teja krack movie trailer krack trailer telugu ravi teja krack trailer krack krack official
view_count	2032920	4574789
likes	78122	181948
dislikes	1329	3300
comment_count	6034	11549
thumbnail_link	https://i.ytimg.com/vi/2IQ4Kr-SnU0/default.jpg	https://i.ytimg.com/vi/EAvpSWmoPSA/default.jpg
comments_disabled	FALSE	FALSE
ratings_disabled	FALSE	FALSE
description	#AEW #AllEliteWrestling AEW Dynamite airs every Wednesday night 8e/7c on TNT AEW Dark airs every Tuesday night 7e/6c here on YouTube How to watch Dynamite File TV - https://www.file.tv/channel/aew BR Live - https://www.tntdrama.com/allelitewrestling Follow #AllEliteWrestling on all social media platforms https://www.Twitter.com/aew https://www.instagram.com/allelitewrestling https://www.youtube.com/AEWGames Tik Tok - AllEliteWrestling Snapchat - AllEliteWrestling https://www.Twitter.com/AEWonTNT https://www.facebook.com/allelitewrestling https://www.instagram.com/AEWonTNT	Watch and Enjoy #KrackTrailer ft. #RaviTeja, Shruti Haasan. Directed by Gopichand Malineni. #KrackForSankranti Story-Screenplay-Direction: Gopichand Malineni Producer: B.Madhu Music: Thaman S Cinematographer: G.K. Vishnu Editing: Naveen Nooli Art Director: A.S. Prakash Fights : Ram - Laxman Dialogues: Sai Madhav Burr Lyrics: Rama Jogaiah Sastry Co-Producer : Ammi Raju Kanumilli Co-Directors : Gulabi Srinu, Nimmagadda Srikanth Chief Co-Director: P.V.V. Soma Raju Stills: SaiPRO: Vamshi - Shekar Publicity Designer: Working Title Shiva Production Controller: Kottapalli Murali Krishna Make up : Srinivasa Raju Costumes: Swetha (Ravi Teja), Neeraja Kona (Shruti Hassan) Music Label: Lahari Music----- Enjoy & stay connected with us! Subscribe to our Youtube Channel: http://bit.ly/1hE4KpSL Like us on FB: https://goo.gl/hbPIL Circle Us on G+: http://goo.gl/STOXDn Follow Us on Twitter: http://bit.ly/1sZimzM
id	24	10
title_y	Entertainment	Music

In the original dataset, we have columns of video ID, title, etc. Note that we do not have the column of trending days. In order to perform data analysis, we created the column of trending days using groupby function on "title" column to get the occurrences of each video, a metric indicating how many days a video is on the trending list.

In this report, we applied our analysis based on the unique trending videos. However, all the numerical metrics such as view count, likes, dislikes and comment count were aggregated by the trending days of that video. By looking at unique trending videos with aggregated numerical metrics, we have rich layers of data in because aggregated numbers have more trending power and characteristic than a video that was trending for one day only. For example, the most viewed video in the US has view counts of 5,640,301,234 and trending days of 36. This means that this video had 5,640,301,234 total view counts during the 36 days in the trending list, with an average of 15M views per day.

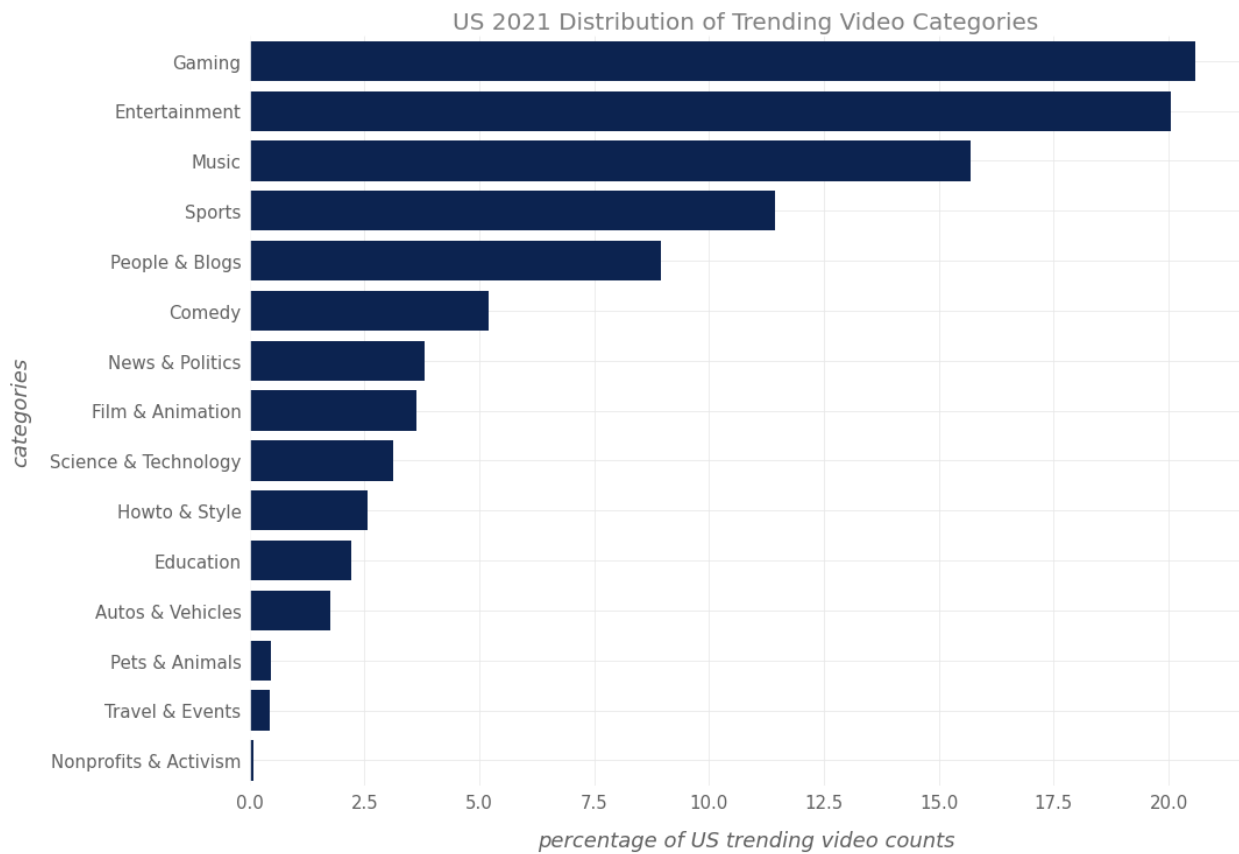
4. Analysis

4.1. Sub-task 1 : What is the distribution of trending video categories and channels in the US? What are the top 5 categories and top 10 channels?

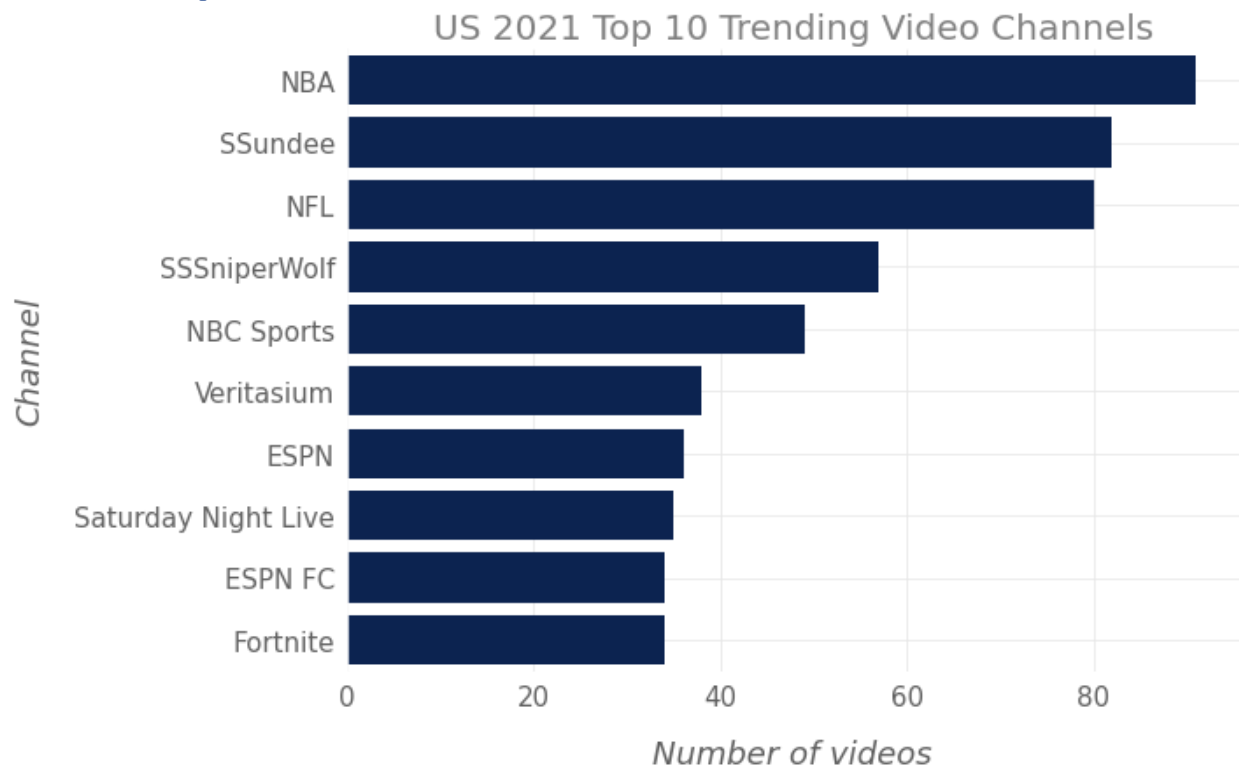
4.1.1. Distribution of Categories

Below graph shows 15 categories for all trending videos in the US. Among 15 categories, the top 5 categories based on the number of videos are Gaming, Entertainment, Music, Sports and People & Blogs. Together top 5 categories cover 76.71% of all the trending videos.

Category↵	Number of Videos↵	Percentage↵
Gaming↵	2534↵	20.58%↵
Entertainment↵	2469↵	20.05%↵
Music↵	1932↵	15.69%↵
Sports↵	1407↵	11.43%↵
People & Blogs ↵	1102↵	8.95%↵



4.1.2. Most Popular Channels



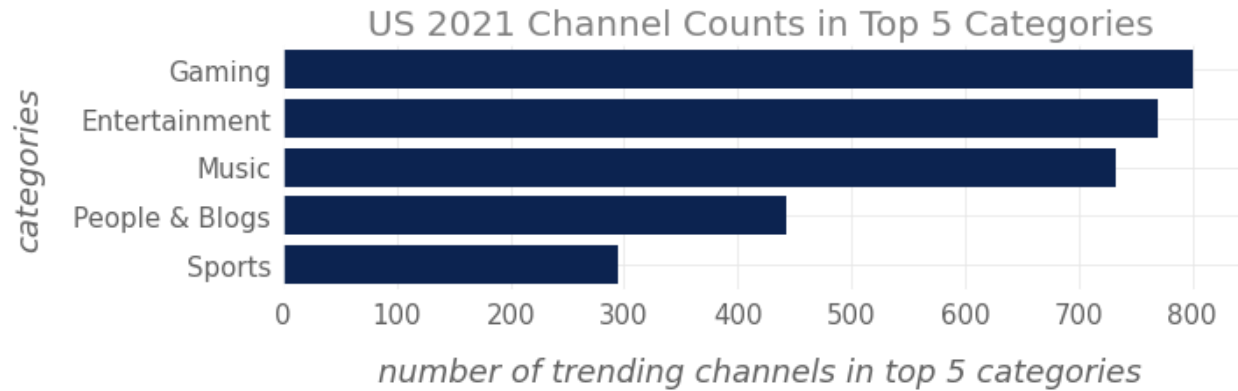
From all YouTube channels, we find out top 10 to represent the most popular ones in the US. They are shown in the below graph. According to the most popular channels, Americans are more interested in sports, computer games, and talk shows.



We find that these channels match the top categories list. For example, NBA and NFL are sports channels, and SSundee and MrBeast Gaming/MrBeast are gaming channels.

However, there is still a slight difference. The most trending category is Gaming, but top channels such as NBA, NFL, NBC Sports are in category of Sports. Although Sports is also in the top 5 categories, the number of trending videos in Sports category are much smaller than that in Gaming, Entertainment or Music. We expected there are more channels in these three categories, but it was proved wrong. Why did this happen?

Then, we further explore the data and found the reason. We found that the number of channels in these categories are very different. There are 800 channels for Gaming, 769 for Entertainment and 732 for Music, but only 294 channels in Sports. The channels in Entertainment or Music are much more than those in Sports. This means that if someone is interested in Sports, he/she will only have a few choices of channels to watch the videos, while trending videos of Gaming, Entertainment or Music are widely distributed in many channels, so for each single channel, it may not contain as many trending videos as channels in category of Sports.

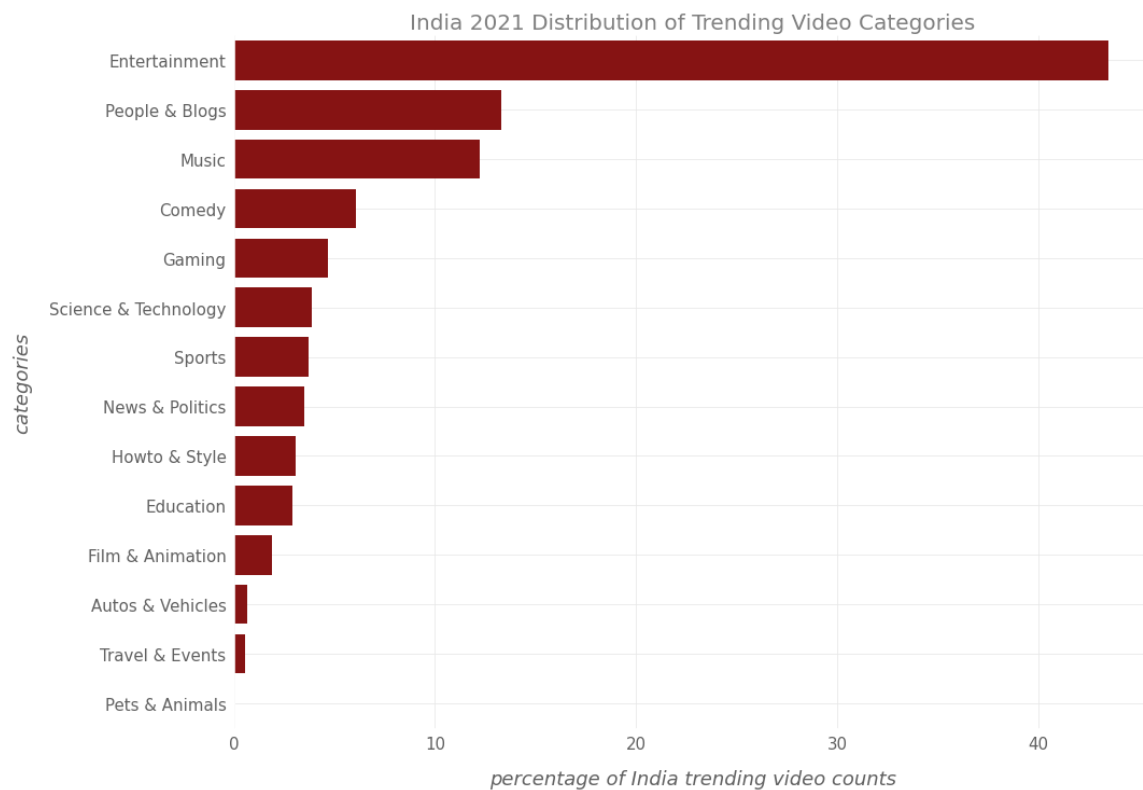


4.2. Sub-task 2: What is the distribution of trending video categories and channels in India? What are the top 5 categories and top 10 channels? How are they different from those in the US?

4.2.1. Distribution of Categories

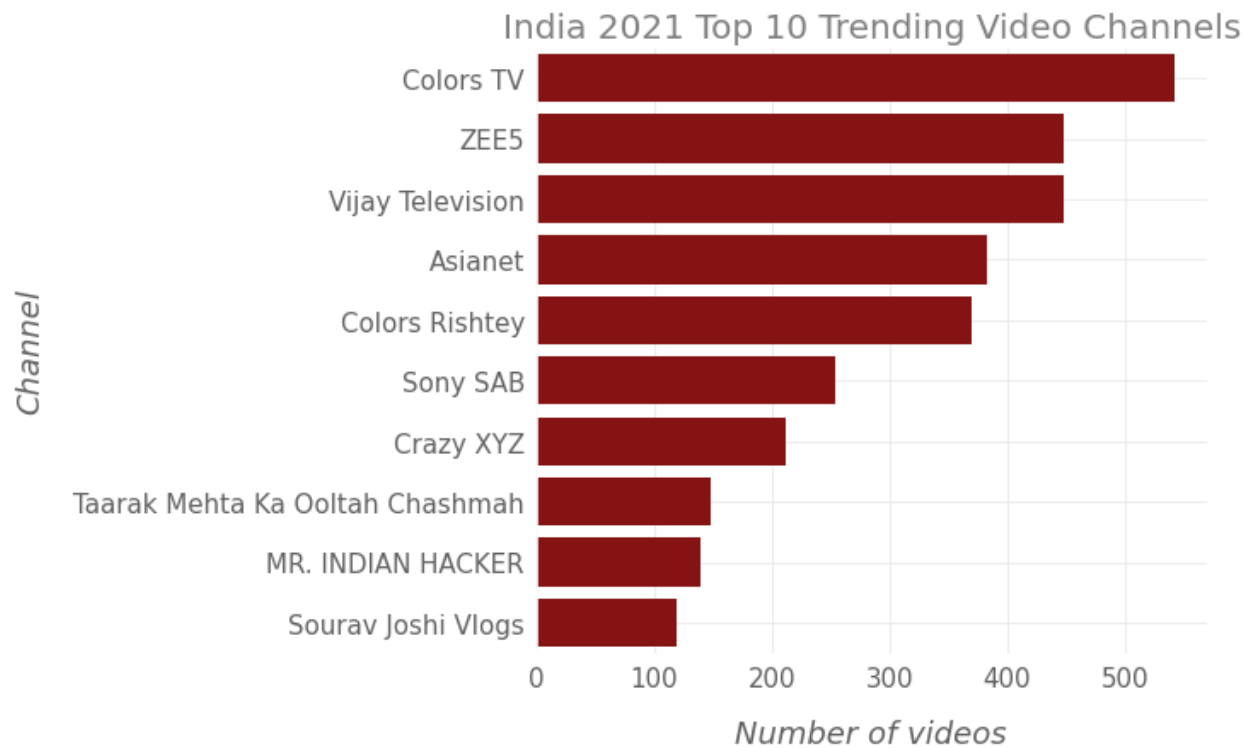
There are 13 categories for all trending videos in India. Among the 13 categories, the top 5 categories based on the number of videos are Entertainment, People & Blogs, Music, Comedy and Gaming. They look very similar to the top 5 categories in the US, except that Comedy rather than Sports is on the list in India. What is interesting is that, compared to the US, Entertainment is the category of videos that is much more popular than others in India, with a number of more than 40 percent of the total trending videos. While the first ranked category in the US (Gaming) takes only 20 percent. Overall, the top 5 categories in India cover 79.76% of all the videos.

Category	Number of Videos	Percentage
Entertainment	8328	43.49%
People & Blogs	2542	13.27%
Music	2345	12.24%
Comedy	1158	6.05%
Gaming	901	4.70%



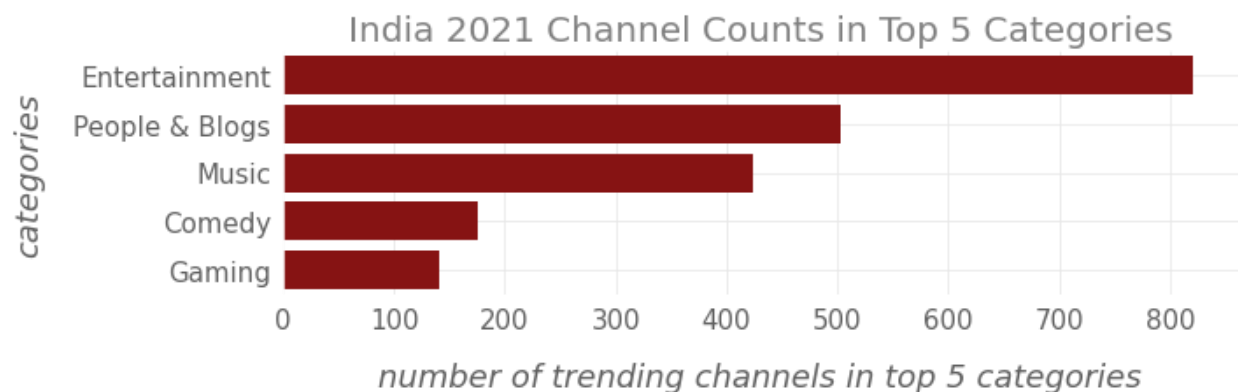
4.2.2. Most Popular Channel

Trending channels in India look much more enjoyable than those in the US. According to the dataset, the most popular channels in India are TV shows, comedy or story related. Unlike the diverse channels in the US, at least covering outdoor and indoor activities, talking and sporting shows, Indian trending channels are almost in the same type. We can also find the same results when considering the trending categories, Entertainment videos are way more attractive than all other types.



Take the most popular channel, Colors TV, as an example. There is a clear introduction for this channel on Wikipedia. It is an Indian general entertainment broadcast network owned by Viacom 18. The network's programming consists of family dramas, comedies, youth-oriented reality shows, shows on crime and television films. Overall, it provides typical relaxing TV programs of many types for the Indian audience. While Americans are following some specific topics and channels (computer games, basketball, football, etc.)

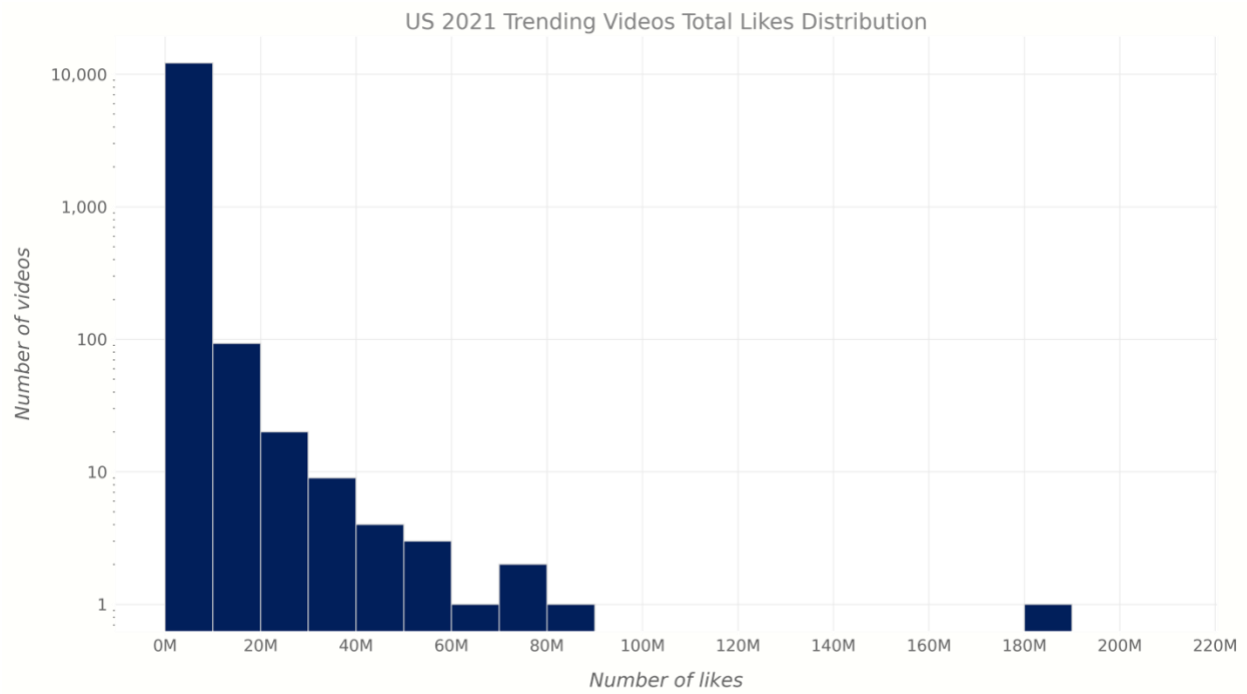
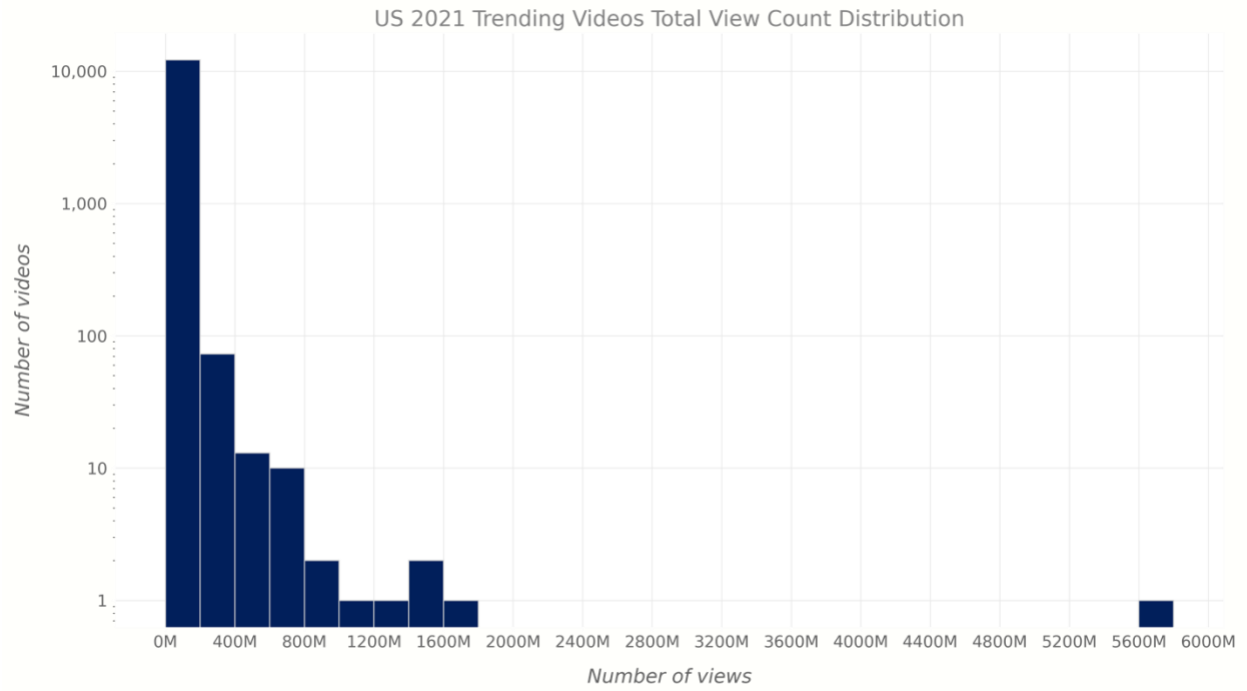
on YouTube, Indians make YouTube function just as another TV in their home. Similar to what we did to the US, we drew a bar plot for channels counts in each of the top 5 categories in India. But here we find that the rank of number of trending channels in these categories exactly matches the rank of categories themselves. This means there is no disproportionate relationship between categories and channels within them.

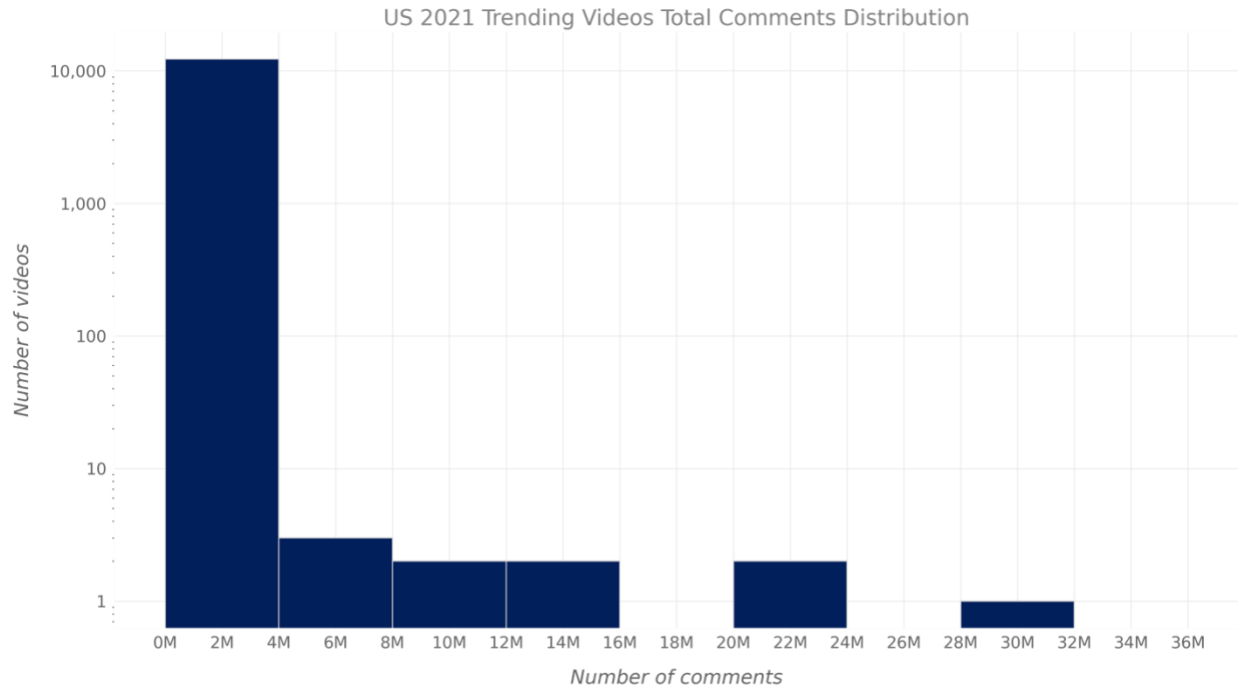


- 4.3. Sub-task 3: Among trending videos in the US, what are the distributions and characteristics of top 30 most viewed videos ? How are the likes and comment counts distributed? What are the response rate of those videos ?

In this task, we perform total counts of view count, likes, dislikes and comment count of videos over the trending days. We then sort by view count and then trending days. The accumulation and sorting give us a direct insight the trends and characteristics of those top viewed videos in 2021.

The histograms below show the distributions of views, likes, and comments for trending videos. Notice that the y-axis is log scaled that it is 10, 100, 1000.





We can see that around 10% of the trending videos have more than 30M total views, 1.7M likes, 111K comments in 2021 when they are in the trending list. The median (the 50th percentile value) are 5M in views, 250K likes and 17K comments respectively. To mention that, an unusually above average outlier exists in almost every metrics, the one seemed to be a virally popular video.

Below is the table of US top 30 trending videos by view counts. The response rate is calculated as the sum of likes, dislikes and comment count divided by view count, a metric reflecting to what extent audience interact with the video. The yellow highlighted videos are short videos while the pink ones are Korean music videos.

Tabel of US Top 30 Trending Videos by View Counts							
Video Title	View Counts	Likes	Dislikes	Comment Counts	Response Rate	Trending Days	Category
0 Turn into orbeez - Tutorial #Shorts	5,640,301,234	189,617,847	6,167,736	74,974	3.47%	36	Entertainment
1 Adele - Easy On Me (Official Video)	1,760,774,068	70,482,598	790,723	3,821,932	4.26%	18	Music
2 SPIDER-MAN: NO WAY HOME - Official Teaser Trailer (HD)	1,471,277,143	63,080,849	430,664	3,818,828	4.58%	24	Entertainment
3 My hidden talent #shorts	1,452,140,141	47,131,264	944,115	82,208	3.32%	20	Comedy
4 India claim stunning series win, end Australia's Gabba streak Vodafone Test Series 2020-21	1,201,206,446	26,718,566	831,123	1,737,039	2.44%	34	Sports
5 Dice Stacks from \$1 to \$100	1,101,102,782	76,139,711	1,235,502	236,629	7.05%	21	Sports
6 BTS (방탄소년단) 'Permission to Dance' Official MV	917,656,607	81,782,009	506,752	20,236,865	11.17%	8	Music
7 Turn into egg - Tutorial #Shorts	902,262,348	30,164,884	940,299	19,219	3.45%	13	Entertainment
8 Israeli Iron Dome filmed intercepting rockets from Gaza	789,779,224	6,006,436	1,113,732	-	0.90%	34	News & Politics
9 LISA - 'LALISA' M/V	753,794,302	59,808,328	490,595	13,596,010	9.8%	6	Music
10 She is foxy but not enough #Shorts	745,646,332	25,736,623	747,013	15,113	3.55%	8	Entertainment
11 SPIDER-MAN: NO WAY HOME - Official Trailer (HD)	680,265,124	36,807,548	285,868	2,481,655	5.82%	15	Entertainment
12 \$456,000 Squid Game In Real Life!	659,222,281	59,504,206	287,767	3,070,559	9.54%	7	Entertainment
13 MrRyhan Funny videos #tiktok #Shorts	646,085,488	11,757,028	532,965	46,287	1.91%	7	Entertainment
14 BTS (방탄소년단) 'Butter' Official MV	631,898,950	50,695,321	240,178	21,720,884	11.50%	4	Music
15 Bad Bunny - Yonaguni (Video Oficial)	627,031,303	36,000,610	770,899	1,802,284	6.15%	15	Music
16 ROSÉ - 'On The Ground' M/V	610,736,926	49,946,089	530,293	10,833,278	10.04%	8	Music
17 TWICE Alcohol-Free M/V	609,619,772	25,850,009	505,161	8,612,548	5.74%	11	Music
18 Floyd Mayweather vs Logan Paul: Fight goes the distance [Highlights, recap] CBS Sports H	554,989,292	4,911,012	763,923	919,911	1.19%	35	Sports
19 EXO 엑소 'Don't fight the feeling' MV	531,071,792	46,477,795	371,135	31,352,122	14.73%	13	Music
20 Crazy STATIC TRICK! #shorts	486,387,218	16,513,069	569,194	132,798	3.54%	7	Entertainment
21 JELLY FRUIT 🍓 CHALLENGE @BrianaSprinz #Shorts	485,870,212	11,226,378	562,354	28,904	2.43%	10	Entertainment
22 🍷 Fresh Farm Fruit Eating Tiktok China Oddly Satisfying Ninja Fruit Cutting #shorts Part 46	481,944,513	5,904,260	415,649	18,532	1.32%	10	People & Blogs
23 Billie Eilish - Lost Cause (Official Music Video)	466,451,877	36,194,672	1,000,837	2,303,651	8.47%	17	Music
24 Golden Buzzer: Nightbird's Original Song Makes Simon Cowell Emotional - America's Got Ta	461,989,465	14,865,390	138,781	979,677	3.46%	24	Entertainment
25 Bella Poarch - Build a B*tch (Official Music Video)	460,754,929	36,309,546	921,001	2,045,598	8.52%	9	People & Blogs
26 Anything You Can Fit In The Triangle I'll Pay For	448,529,602	25,337,159	223,203	1,308,233	5.99%	17	Entertainment
27 INSANE strawberry trick! #shorts	425,712,751	16,115,720	814,756	113,686	4.00%	9	Entertainment
28 I Spent 50 Hours Buried Alive	423,164,601	26,049,082	304,785	1,550,732	6.59%	9	Entertainment
29 ITZY 미,파,아. In the morning M/V	421,798,418	15,956,607	319,061	2,109,920	4.36%	8	Music

The trending video with the Highest Number of Views is a short video named Turn into orbeez - Tutorial by FFUNTV, a popular channel with 5.75M subscribers. The video was published on 03/July/2021, it appeared on the trending list with 5,640,301,234 views over 36 days, which basically is the highest number of views a trending video has in 2021.

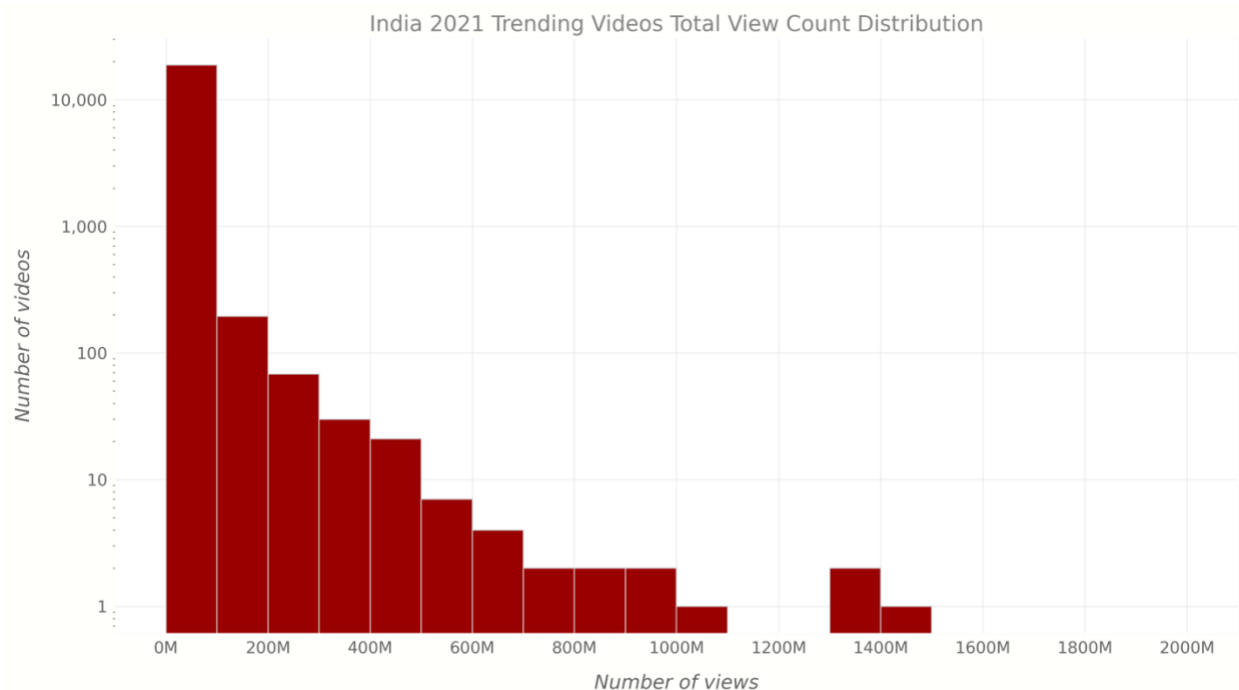
Among the top 30 most viewed videos, music accounts for nearly 50% of the total videos. Taking a closer look at the music videos in detail, those on the top of most viewed lists are videos of official videos of songs for new albums by popular singers such as Adele, Justin Bieber and some Korean singers and bands like BTS and Lisa. Interestingly, those top most view music videos from Korean bands enjoy some characteristics: firstly, they typically last for 8-10 trending days; secondly, the response rate for those videos are on average higher than other trending videos, with an average number of around 10%. Based on the numbers, it is safe to assume that the one reason why those Korean bands' music videos are on the trending list is that fans actively help boost popularity for their idols' new songs.

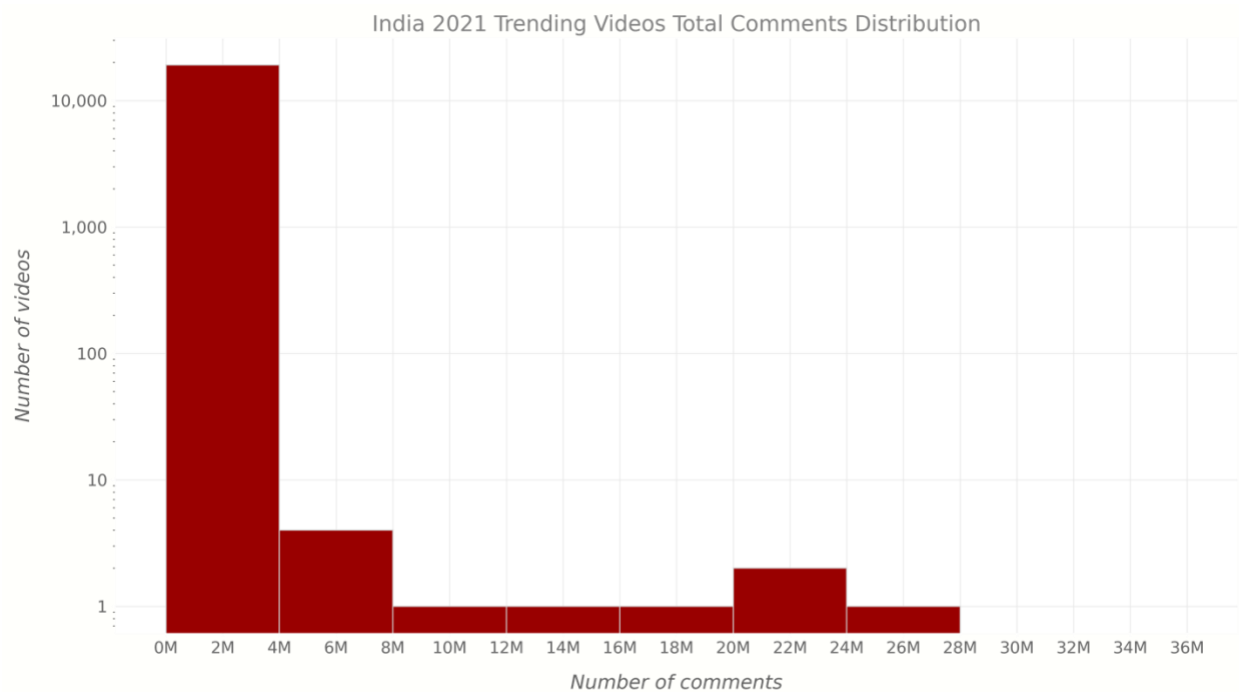
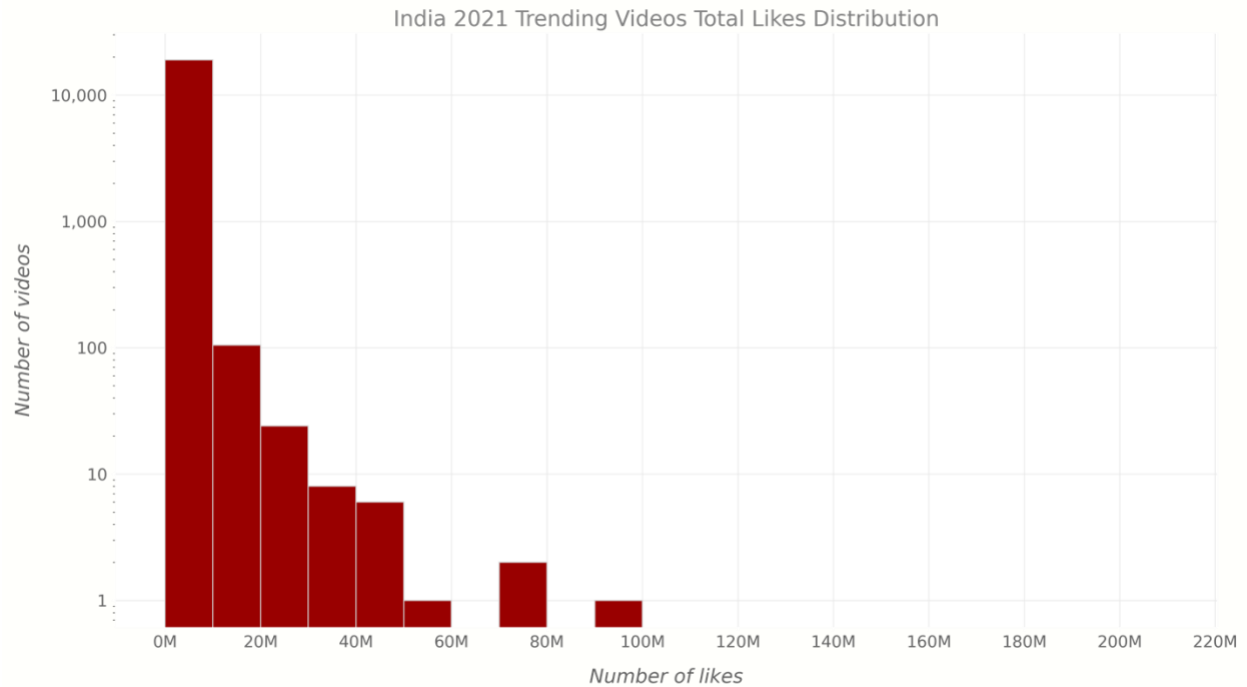
It is also worth mentioning that short videos were quite popular in the trending list, with 2 videos out of top 10 and 8 out of top 30.

4.4. Sub-task 4: Compared to trending videos in the US, what are the characteristics of top 30 most viewed videos in India? How are the likes and comment counts distributed? What is the response rate of those videos?

We apply the same functions in dealing with US data to India data. The table of top 50 most viewed trending videos is also sorted by view count and then trending days.

The histograms below show the distributions of views, likes, and comments for trending videos. Notice that the y-axis is log scaled that it is 10, 100, 1000.





As we can see that around 10% of the trending videos have more than 19M total views, 1M likes, 52K comments in 2021 when they are in the trending list. The median (the 50th percentile value) are 2.3M in views, 95K likes and 3.7K comments respectively.

Below is the table of India top 30 trending videos by view counts. The response rate is calculated as the sum of likes, dislikes and comment count divided by view count, a metric

reflecting to what extent audience interact with the video. The yellow highlighted videos are short videos while the pink ones are Korean music videos.

Video Title	View Counts	Likes	Dislikes	Comment Counts	Response Rate	Trending Days	Category
0 KGF Chapter2 TEASER [Yash Sanjay Dutt Raveena Tandon Srinidhi Shetty Prashanth Neel Vijay Kiragi]	1,495,945,829	75,880,519	609,054	6,523,778	5.55%	15	Entertainment
1 Filhaal2 Mohabbat Akshay Kumar Ft Nupur Sanon Ammy Virk BPraak Jaani Arvind Khaira	1,366,495,429	32,956,354	823,894	2,988,894	2.69%	10	Music
2 Paytm IPL 2021 Ad - The Salon (English)	1,327,627,464	16,690	16,642	5,682	0.00%	10	People & Blogs
3 BTS (방탄소년단) 'Permission to Dance' Official MV	1,080,130,335	94,008,261	614,627	23,039,574	10.89%	9	Music
4 Turn into egg - Tutorial #Shorts	961,205,962	31,703,110	1,017,264	20,338	3.41%	13	Entertainment
5 LISA - 'LALISA' M/V	954,306,098	74,742,197	622,654	17,260,520	9.71%	8	Music
6 She is foxy but not enough #Shorts	876,755,282	30,084,547	898,652	17,830	3.54%	9	Entertainment
7 When the cheating went wrong #Shorts	825,267,526	24,506,725	657,153	22,028	3.05%	7	Entertainment
8 Badshah - Paani Paani Jacqueline Fernandez Aastha Gill Official Music Video	757,873,239	13,952,000	1,503,302	1,069,184	2.18%	16	Music
9 Guru Randhawa: Nain Bengali (Official Video) David Zennie Vee Bhushan Kumar	750,886,955	5,794,966	407,081	827,307	0.94%	7	Music
10 Bachpan Ka Pyaar (Official Video) Badshah, Sahdev Dirdo, Aastha Gill, Rico	682,669,183	39,577,078	1,307,765	1,640,773	6.23%	11	Music
11 Don't be Oversmart 🤖 - You Can't Change your Destiny 🌟 - @Priyal Kukreja Dushyant Kukreja #s	679,024,854	28,123,126	782,286	133,883	4.28%	11	Entertainment
12 BTS (방탄소년단) 'Butter' Official MV	631,898,950	50,695,472	240,182	21,721,294	11.50%	4	Music
13 Aise kon Chori karta hai 🤔 #mkavy #Shorts	615,530,918	6,130,076	736,797	51,022	1.12%	15	People & Blogs
14 Bedardi Se Pyaar Ka Song Jubin N.Meet B,Manoj M Gurmeet C,Sherine S,Kaashish V,Altamash F B	571,463,247	23,038,845	586,600	1,246,759	4.35%	19	Music
15 JELLY FRUIT 🍓 CHALLENGE @BriansSprinz #Shorts	550,519,248	12,606,062	642,974	32,993	2.41%	11	Entertainment
16 Why Children are considered as Gifts of Gods 🌟 ? A Motivational Story 🌟 - Dushyant Kukreja #shor	528,262,917	26,437,119	552,804	92,345	5.13%	11	Entertainment
17 \$456,000 Squid Game In Real Life!	522,153,618	48,577,399	220,742	2,543,446	9.83%	6	Entertainment
18 Let's just have fun with your loved ones! 🥰 #PermissiontoDance Challenge only on YouTube #Shorts	517,539,612	42,016,808	918,853	472,623	8.39%	9	Music
19 TWICE Alcohol-Free M/V	511,279,379	23,540,824	446,199	7,716,275	6.20%	10	Music
20 Iko mere chupaye hue pese hmesha mil jate h 🤔 #shorts	507,034,012	9,732,113	583,366	42,541	2.04%	8	Entertainment
21 Crazy STATIC TRICK! 🤖 #shorts	495,982,721	17,098,232	590,159	135,980	3.59%	8	Entertainment
22 Chhor Denge: Parampara Tandon Sachet-Parampara Nora Fatehi, Ehan Bhat Arvind K, Bhushan	484,914,950	16,023,486	688,298	851,913	3.62%	10	Music
23 ROSÉ - 'On The Ground' M/V	483,786,259	42,210,749	408,360	9,119,816	10.69%	7	Music
24 Turn into orbeez - Tutorial #Shorts	483,433,094	17,812,545	569,762	6,501	3.80%	8	Entertainment
25 Join the BTS #PermissiontoDance Challenge only on YouTube #Shorts	480,211,776	-	-	3	0.00%	12	Education
26 Surja Ki Mashoor Daal 🍲 Most Eco Friendly Food 🍲 #streetfood #haridwar #rishikesh #shorts	478,364,165	7,371,928	536,105	25,455	1.66%	15	People & Blogs
27 Monster vs Dad.. Dednahype show #shorts	468,321,441	14,982,501	799,741	81,706	3.39%	14	Comedy
28 EXO 엑소 'Don't fight the feeling' MV	460,228,759	40,027,708	323,322	27,054,550	14.65%	11	Music
29 Lut Gaye (Full Song) Emraan Hashmi, Yukti Jubin N, Tanishk B, Manoj M Bhushan K Radhika-Vina	447,063,573	14,409,338	316,016	669,878	3.44%	9	Music

Compared to US, top viewed trending videos in India share some similarity. Among top 50 most viewed videos, music contributes to nearly 50% of total videos. Korean music videos such as singers like BTS and Lisa reveal the same patterns of popularity boosting by fans as those in the US. A number of short videos are prevailing both in the US and India, such as video *Turn into egg – Tutorial* and video *She is foxy but not enough*.

One of the difference the top 50 most viewed videos US and India shares is that the top list in India is step distributed while a video with unusually high in total view counts dominates the US trending video list.

4.5. Sub-task 5: What are the most common words in trending videos tags in 2021 in the US and India respectively?

Tags are an alternative way to depict the trend and popular topics of videos through a certain period. Through the lens of tags, we can compare the trending contents in 2021 between videos in the US and India.

We extract the column 'tags' in the data frame, store the tags by groupby their names in lists and then count the number of same tags as a dictionary. Finally, we apply word cloud

The word clouds below show us the most common 500 words (excluding None) in the US (background color in blue) and India (background color in yellow). It is obvious that words **like funny, comedy and Minecraft gaming** were more typical key words of the trending videos in the US. While **comedy, Hindi shows and big boss** are more common than other words in trending videos in India. In short, comedy videos are most popular across US and India. However, in 2021, gaming such as Minecraft related videos have been a trend in the US, a difference from that in India.

[illegible]

4.6. Sub-task 6 : Creating an Attractive Channel

In this part, we are going to design a brand new channel and try to make it popular in the US or India. We are going to decide what kind of videos to make and how to name the videos according to former analysis and some new information.

4.6.1. Decide Category

According to category analysis in Sub-Task 1, Entertainment, Music, Gaming, Sports and People & Blog videos are very popular in the US. So we will consider create a new channel in there categories. And also, we know that there are more different channels in Gaming, Entertainment and Music than channels in People & Blogs and Sports, which means there are more chance for us to be noticed as in these three areas. Also, since it will be hard to make a new personal channel popular competing with NBA or NFL, it proved again that it would be better not to choose a Sports channel. Then, considering that lots of trending videos of Music are actually official videos for new songs of singers or bands, and have a group of fans to support them, we may choose the other two categories, either Gaming or Entertainment.

We will create a new channel about Entertainment in India because this category is definitely the most trending one, and there are a large number succeeded examples for us to refer to. But we noticed that some of those channels are made by official accounts, and it would be impractical for us to do the similar things and put TV shows on our channel. So, we can try to make some videos related to our daily life, just be more interesting and creative, just like the channel "crazy xyz" did.

4.6.2. Decide Content

According to the analysis in Sub-Task 5, tags can help us to decide what content we should include in our videos. Below we list the top 25 tags in both the US and India.

From the table below, we can find that for Americans, funny things, game and sports related content will be attractive. As for the format, they enjoy vlogs and short videos. So we consider about producing some more "energetic" videos for them, and to control the length of our videos so that they will not take too much time.

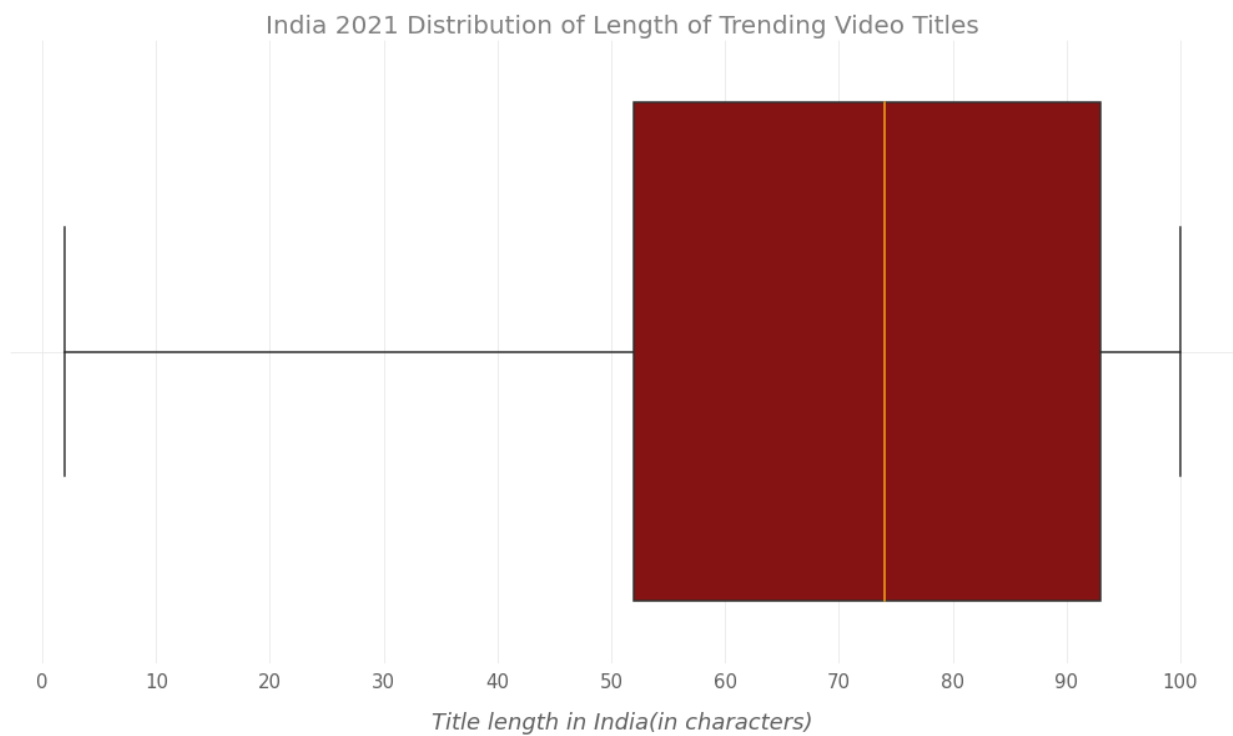
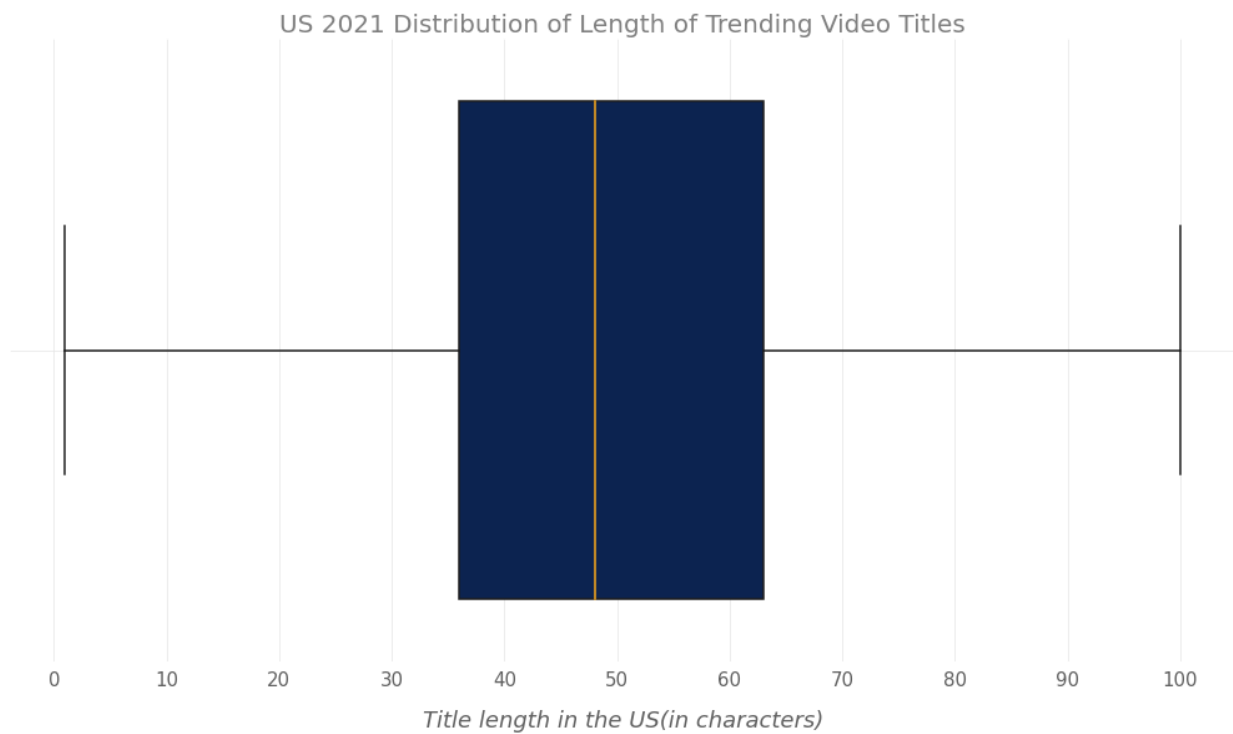
For Indians, they usually watch comedies or some soap operas. Based on these common tags, we should pay attention to produce the video with a good storyline, especially having interesting and somehow unexpected plots in it.

	US		India	
	tag	counts	tag	counts
1	funny	783	comedy	880
2	minecraft	553	comedy show	739
3	comedy	496	bigg boss	577
4	challenge	366	hindi shows	548
5	vlog	260	trending	530
6	gaming	246	funny	512
7	news	239	crime show	503
8	rap	197	colors tv new serial	502
9	highlights	196	colors tv promo	501
10	fortnite	192	colors tv serials all	496
11	animation	191	horror show	496
12	how to	189	कलर्स टीवी	496
13	music	189	colors tv khatron ke khiladi	496
14	football	188	colors tv naagin	460
15	2021	187	entertainment	455
16	family friendly	181	தமிழ்	441
17	tiktok	177	jethalal	441
18	Minecraft	175	Star Vijay TV	438
19	video	173	Vijay TV	438
20	new	172	தொலைக்காட்சி	438
21	sports	172	Tamil TV	437
22	reaction	169	Tamil Shows	430
23	game	158	vlog	427
24	family	156	तारक मेहता	402
25	NBA	156	reality show	400

4.6.3. Decide Names

And the last step is to give our videos some attractive names, so that people will be more interested in them.

First, the length of the videos is important. In the US, most trending videos have about 50 characters in its name, while in India, the number is much larger, which is over 70. This remind us that if we want our videos become popular in the US it will be fine to have their name at 50-character long. But we need to expand the names for videos in India.



Then, even with the same content in the video and same words in the title, sometimes symbols are also influential for whether users could notice the video and feel it is worthy for watching. In the table below, we list the most commonly used symbols of video titles in the US and India.

	US		India	
	Symbols	Counts	Symbols	Counts
1	"."	3928	"।"	35255
2	"_"	3750	"।"	8353
3	" "	3367	"०"	7994
4	"(""	2809	"_"	7153
5	")"	2806	"।"	4095
6	"!"	2746	"०"	3948
7	" : "	1968	" : "	3675
8	" , "	1659	"#"	3656
9	" . "	1317	" ० "	3296
10	"#"	893	"।"	3198

From the table, we can find that in the US, trending videos usually have some symbols that are typically used for giving explanation and comments. So, for our new channel, we should consider providing extra information about the video using underscores, parentheses, commas, colons or number signs. While in India, it turns out that many top symbols are in local language, which means that it would be better to name our videos in Indic languages when designing a new channel in India.

5. Conclusion

Throughout our analysis, we started from finding patterns of 2021 trending videos by exploring and visualizing the dataset and then compared difference in trending videos between US and India. We will summarize our insights derived from our analysis from 5 angles: video types, video channels, video numeric metrics, video tags and recommendation to create a potential popular channel on YouTube.

Video types

Top 5 categories of trending videos in the US and India were similar in 2021. Gaming, entertainment, music, sports and people & blogs are top 5 categories in the US while entertainment, people & blogs, music, comedy and gaming are top 5 ones in India. However, entertainment consisted of nearly half (44%) of total trending videos in India, while video categories spread evenly in the US.

Video channels

Distributions of video channels of 2021 trending videos are contrasting between US and

India. In India, top trending channels mirror the top categories of videos. I.E, the higher the percentage of certain category of video, the more channels of that category. Things are interestingly different in the US. Top channels distribution is not corresponding to top categories distribution. Sports channels dominate the top 10 channels but it only ranks the fifth in top categories list. This means that sport channels center in a few mainstream channels while the other top categories like entertainment, music and etc. are more diffuse in channels

Video numeric metrics

Music contributes to nearly 50% of top 30 most viewed trending videos both in the US and India. Short videos are prevailing in both countries as well, filling the majority of top 30 most viewed lists. It is an interesting insight to see that, both in the US and India, Korean music videos stands in the top viewed list because fans help boost popularity for their idols' albums. Usually the popularity boosting leaves the video trending for an average of 10 days and responsive rate of 10%, an above average number compared to other top viewed trending videos. Overall, 2021 top viewed videos in the US and India enjoy a great deal of commons.

Video tags

Depicted by word cloud graphs, the top 3 most common words of 2021 trending videos in the US are funny, comedy and Minecraft gaming and those in the India are comedy, Hindi shows and big boss. It is a similar vibe with slight difference for trending videos in these two countries. The audience profile is more of people who are game and fun oriented while it is more of comedy and opera oriented in India.

Recommendation to create a popular channel on YouTube

In the last task, we came up with some clues on creating a popular channel on YouTube by combining categories, contents and title names analysis.

To increase the chance of become a popular channel in the US, creating a gaming or entertainment channel with funny and gamed related videos with video titles of around 50 characters in short videos or vlogs format would be the ideal choice.

As for creating a popular channel in India, an entertainment channel with comedy oriented videos with long video titles of 70 characters should be an promising popular try.

6. Discussion

While our report primarily focused on comparing trending videos in the US and India, we did not explore other countries from the rich source of dataset. Another limitation is that we did not dig into other columns such as video published date and time and etc. Due to lack of time data in the date column, we also could not analyze the dynamic of trending videos in the lens of time and date. Description is another aspect we left out in our analysis due to time and energy limitation.

Apart from that, improvements could be made for detailed analysis of those numeric variables such as view counts, likes, dislikes and comment counts. It is a bit tricky to use the aggregated numbers instead of unique values, the latter would be better for readers to form an idea about the video metrics. However, in order to capture the overall trend of those trending videos, we used the aggregated numbers. Moreover, an correlations analysis of those numerical metrics is also worthy of evaluation to gain deeper insights. In the future, we might develop a more comprehensive framework to include all levels of metrics.

All in all, I believe this report offers some interesting and insightful conclusions on the comparison of YouTube 2021 trending videos in the US and India. Most of all, I hope it be helpful for someone who wants to create popular channels with trending videos on YouTube.