# YouTube Videos Produced by U.S. Public Libraries: Analysing Factors that Increase Views

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**Abstract:** Public libraries are increasingly posting content on social media platforms such as Facebook, Twitter, and YouTube. In this paper, we focus on YouTube videos produced by U.S. public libraries and identify the factors that increase their views. Specifically, we compared 107 popular videos (with over 700 views) and 109 unpopular ones (with less than 12 views) and analysed their differences. This research revealed that the unpopular videos were often too short (less than 30 seconds) or too long (more than 20 minutes). The popular videos overall were more informative than unpopular ones (e.g. with longer titles to identify the contents of the videos). Furthermore, the ratios of tutorials and story times for popular videos (28.0% and 21.5%, respectively) were significantly higher than those for unpopular ones (6.4% and 10.1%, respectively). The ratios of reports on events and event notices among popular videos (7.5% and 12.1%, respectively) were significantly lower than those for unpopular ones (26.6% and 25.7%, respectively).

Keywords: YouTube; Public Libraries; Library Marketing; Library Services; Social Media; Content Analysis

### 1. Introduction

Many public libraries are now posting content on such social media platforms as Facebook, Twitter, and YouTube. As will be discussed in Section 2 below, many studies have been conducted regarding libraries' uses of Facebook and Twitter. However, there have been very few studies on libraries' employment of YouTube.

In this paper, we focus on YouTube videos produced by U.S. public libraries and examine the factors that helped to increase their views. First, we examined how many U.S. public libraries used each major form of social media, including YouTube, based on information from their official websites. We then developed a list of libraries posting YouTube videos and selected 107 popular videos (those having over 700 views) and 109 unpopular videos (those having fewer

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than 12 views). We compared popular and unpopular videos with a focus on the videos' (1) time lengths, (2) titles, (3) descriptions, (4) uses of voice (i.e., whether or not the videos featured voices), (5) contents, and (6) cast members. This research presents a real-world picture of libraries' YouTube use and should be helpful to libraries want to increase views of their YouTube videos and better serve the public.

# 2. Related Studies

Many studies have been conducted regarding libraries' use of Facebook and Twitter. For example, Vassilakaki and Garoufallou (2014) conducted literature review on libraries' uses of Facebook, analysing 50 papers published between 2006 and 2012. They found that main body of the relevant literature focused on reporting experiences, problems, and lessons learned from building a presence on Facebook. Vassilakaki and Garoufallou (2015) also conducted a literature review of libraries uses of Twitter. They conducted database retrieval using LIS databases with research phrases such as 'Twitter and libraries' or 'Twitter and librarians', and 630 papers were identified. Based on the review of 51 papers, they found that the papers mainly presented the reasons behind the adoption of Twitter and how it is used specifically to meet the various needs and purposes of libraries. Some research clarified the actual use of Facebook and Twitter based on data posted from libraries. For example, Aharony (2012) conducted an exploratory analysis of Facebook pages developed by 20 American public and academic libraries to understand patterns of libraries' Facebook use. Aharony (2010) also analysed tweets posted by 30 public and academic libraries and conducted statistical descriptive analysis and content analysis. Yoshida (2014) and Ishikka et al. (2012) also conducted similar analyses of public and academic libraries in Japan.

On the other hand, usage trends on YouTube were examined with the other social media platforms. For example, Taylor & Francis (2014) conducted a survey on libraries' use of social media, including YouTube. The survey found that more than 70% of libraries were using social media tools, 60% had a social media account for three years or longer, and 30% of librarians were posting at least once per day. It also found that Facebook and Twitter remained the most popular platforms, but there was a particular acceleration of interest in visual platforms such as YouTube, Pinterest, and Snapchat. Moreover, the survey showed that social media platforms including YouTube were increasingly considered collection management tools, offering flexible ways to present resources such as digital video collections.

Although they are fewer in number than studies focused on libraries' Facebook and Twitter use, there are some studies that have examined libraries' uses of YouTube. Webb (2007) discussed the effectiveness of libraries' YouTube use. Ariew (2009), Intahchomphoo (2013), and Cho (2013) discussed the possibilities and problems with libraries' YouTube use based on the examples of the University of South Florida, University of Ottawa's Brian Dickson Law Library, Harvard Law School Library, and the libraries of the University of British Columbia, respectively. Colburn and Haines (2012) examined libraries' YouTube use in detail to understand how libraries employ YouTube for outreach. To select sample videos, they searched YouTube with four keywords (library, libraries, librarian, and librarians), categorized 373 videos, retrieved 55 videos that were created by libraries for promotional purposes, and analysed those videos in detail with a focus on the content, websites linked to the videos, interactive features such as comments, and views. Colburn and Haines found that the 'General promotion/appreciation' of libraries was the most common type of library promotional material created, following 'Orientation/Tour videos', 'Patron-generated', and 'Promotion of service/collection'. Their research also found that from 2008 to 2009, view counts grew by 174 per cent on average.

Our study also focuses on YouTube use in libraries. In addition, in light of Aharony (2012, 2014) and Colburn and Haines (2012), we have adopted an empirical approach to relevant social media content produced by libraries. However, unlike previous research, we aimed to identify the factors that increased view counts. To this end, we focused on YouTube videos produced by U.S. public libraries, comparing 107 popular videos (having over 700 views) and 109 unpopular ones (having fewer than 12 views), and examined their differences. To our knowledge, this is the first such study to identify the factors that increase libraries' views on YouTube.

# 3. Method

We first examined how many U.S. public libraries used YouTube. In addition, based on the collected data, we determined the elements that increased their view counts. In this section, we will explain each method.

# 3.1 Method of Investigation for Libraries' Utilization of YouTube

We first determined how many U.S. public libraries used YouTube. We examined not only YouTube but also other social media platforms, such as Facebook, in order to view the use of YouTube in more detail.

For background, we investigated libraries' official websites. If there were notices or links to social media on a library's website, we assumed the library was engaged with social media. Data from official websites were obtained from American Library Directory (http://www.americanlibrarydirectory.com/), published by Information Today. It includes profiles of approximately 36,000 public, academic, special, and government libraries and library-related organizations in the U.S. and Canada—including website URLs. We assumed the URLs were the official websites, and we conducted the survey based on those URLs. We selected the sample libraries and URLs according to the following steps:

550 Yuhiro Mizunuma et al

- (1) We downloaded records of 9,629 U.S. public libraries (only main libraries) using American Library Directory. More specifically, we conducted advanced searches using research options shown in Figure 1.
- (2) We randomly chose 1,000 library records from the 9,629 library records.
- (3) We excluded 157 libraries that had no website URL data (843 library records remained).
- (4) We excluded 112 libraries with websites that we could not reach for such reasons as broken links (731 library records remained).



# Figure 1. Search Condition<sup>1</sup>

Next, we investigated how social media platforms, including YouTube, were used in 731 public libraries. The platforms we considered included (1) YouTube, (2) Facebook, (3) Twitter, (4) Instagram, (5) Pinterest, (6) Flickr, (7) Tumblr, (8) LinkedIn, (9) Goodreads, and (10) SoundCloud. As mentioned above, if there were advertisements or links to social media on a library's official website, we assumed the library utilized the social media.

We also determined the details of the accounts and links. More specifically, we classified the accounts and links based on the following conditions: (1) The library had its own account; (2) the library did not have its own account, but it

had the respective municipality's account and posted library's information; (3) the library did not have its own account but had the municipality's account, and it had not posted library's information; (4) the website had a notice or icon for social media but no link to the social media platform; (5) the website had a notice or icon for social media, but the link was broken; (6) the website had a notice or icon for social media, but we could not view the account for such reasons as location restriction. We conducted this survey from 8 September to 12 September 2018.

# 3.2 Method for Investigating the Factors that Increase Social Media Views

Based on the data collected regarding libraries' utilization of YouTube, we investigated the elements that increase their views. More specifically, we compared libraries' popular YouTube videos with unpopular ones and identified their differences. We used 107 popular videos and 109 unpopular videos as our sample. Videos were selected based on the following factors:

- (1) The 96 libraries investigated in the previous section possessed their own YouTube accounts. The number of unique accounts was 93<sup>2</sup>. We excluded one account that could no longer be found<sup>3</sup>. We also excluded 27 accounts that posted more than 50 videos<sup>4</sup>.
- (2) We defined popular videos as those with over 700 views. The sample of popular videos included 107 videos.
- (3) We defined unpopular videos as those with less than 12 views and with a gap of six months since uploading<sup>5</sup>. The sample of unpopular videos included 109 videos.

We compared the 107 popular and 109 unpopular videos, considering characteristics shown in Table 1. For example, we compared popular and unpopular videos, focusing on the video's length, and attempted to determine the factors that increased views. The 'Contents' section in Table 1 highlights classifications based on videos' contents, and it will be explained in more detail in the next section. The race of the video cast members was estimated based on a face recognition web service, Betaface (https://betaface.com/demo\_old.html), using a screenshot from each video. We conducted this survey from 24 September 2018 to 1 April 2019.

# 4. Results

In this section, we first show the results of the investigation into libraries' uses of YouTube. Afterward, we will show the results concerning our investigation of the factors that increase views. The results are shown in terms of time, title, descriptions, voices, contents, and cast members in this order.

Time	Video Length (hh:mm:ss)	
Title	Length of the title (Number of the characters and words)	
	The words in the title	
Descriptions	Whether the video included written descriptions	
Voiœ	Whether the video had voice sounds or not	
	Language of the video (English or Spanish)	
Contents	Contents of the video	
Cast members	Whether the video had a cast	
	Number of cast members	
	Race of the cast members	
	Roles of the Cast	
	Table 1. Investigation Items	

### 4.1 Results Concerning Libraries' Utilization of YouTube

Table 2 through Table 6 show the utilization ratios of each social media experience, and classifications (a) to (f) represent whether (a) the library had its own account; (b) the library did not have its own account, but it had the municipality's account on which it posted library information; (c) the library did not have its own account and had its municipality's account, but it had not posted library's information; (d) there was an advertisement or icon for social media on the website but no link to the social media account; (e) there was an advertisement or icon for social media on the website, but the link was broken; and (f) there was an advertisement or icon for such reasons as location or privacy restriction.

The numbers in parentheses in Table 2 represent the number of libraries investigated. For example, concerning YouTube, 92 libraries have library accounts, and this comprises 12.6% of our sample libraries (731 libraries). Facebook's utilization ratio was higher than any other social media's ratio. Concerning the '(a) ratio of library account', the utilization ratio of YouTube (12.6%) was the fifth highest in our sample of social media, following Facebook (69.5%), Twitter (31.6%), Instagram (20.9%), and Pinterest (14.8%). Almost all sample social media contained broken links; this study shows that maintenance of links is an issue for libraries.

Qualitative and Quantitative Methods in Libraries (QQML) 8,4: 547-560, 2019 553

n = 731	YouTı	ıbe	Facebook
(a) Libraries' account	12.6% (	92)	69.5% ( 508 )
(b) Municipalities' account with library post	0.7% (	5)	0.1%(1)
(c) Municipalities' account with no library post	1.9% (	14)	2.2% (16)
(d) No link	0.0% (	0)	0.1%(1)
(e) Broken link	0.7% (	5)	2.6%(19)
(f) We cannot view	0.0% (	0)	1.9%(14)

 Table 2. Utilization Ratios of Social Media Platforms (1)

n = 731	Twitter	Instagram
(a) Libraries' account	31.6% (231)	20.9% (153)
(b) Municipalities' account with library post	0.5% (4)	0.0% ( 0)
(c) Municipalities' account with no library post	2.1%(15)	0.7% (5)
(d) No link	0.0% ( 0)	0.0% ( 0)
(e) Broken link	2.6%(19)	1.4%(10)
(f) We cannot view	0.0% ( 0)	0.0% ( 0)

 Table 3. Utilization Ratios of Social Media Platforms (2)

n = 731	Pinterest	Flickr
(a) Libraries' account	14.8% ( 108 )	4.9%(36)
(b) Municipalities' account with library post	0.0% ( 0)	0.0% ( 0)
(c) Municipalities' account with no library post	0.0% ( 0)	0.1%(1)
(d) No link	0.0% ( 0)	0.0% ( 0)
(e) Broken link	0.8% (6)	0.0% ( 0)
(f) We cannot view	0.0% ( 0)	0.0% ( 0)

# Table 4. Utilization Ratios of Social Media Platforms (3)

n = 731	Tumblr	LinkedIn
(a) Libraries' account	1.5% ( 11 )	1.4%(10)
(b) Municipalities' account with library post	0.0% ( 0)	0.1%(1)
(c) Municipalities' account with no library post	0.0% ( 0)	0.4% (3)
(d) No link	0.0% ( 0)	0.0% ( 0)
(e) Broken link	0.1%(1)	0.1%(1)
(f) We cannot view	0.0% ( 0)	0.0% ( 0)

 Table 5. Utilization Ratios of Social Media Platforms (4)

n = 731	Goodrea	ads	SoundC	loud
(a) Libraries' account	1.1% (	8)	0.8% (	6)
(b) Municipalities' account with library post	0.0% (	0)	0.0% (	0)
(c) Municipalities' account with no library post	0.0% (	0)	0.0% (	0)
(d) No link	0.0% (	0)	0.0% (	0)
(e) Broken link	0.4% (	3)	0.0% (	0)
(f) We cannot view	0.0% (	0)	0.0% (	0)
Table 6. Utilization Ratios of Socia	al Media I	Platfor	rms (5)	

#### 4.2 Results Concerning Time

Table 7 represents the length of the videos in terms of the mean (average), median, maximum, and minimum times. The mean for popular videos was 3 minutes, 44 seconds and the mean for unpopular videos was 4 minute 29 seconds. There was no significant difference between popular and unpopular videos based on Welch's t-test at 0.05 levels. Table 7 further shows that the maximum length of unpopular videos (one hour 23 minutes 18 seconds) was longer than that of popular videos (19 minutes 41 seconds), whereas the minimum length of unpopular videos (3 seconds) was shorter than that of popular videos (29 seconds). In addition, there were 19 videos in which the lengths of time were longer than 20 minutes or shorter than 30 seconds for all (i.e., popular and unpopular) videos. Remarkably, only one of them was a popular video, and the rest (18 videos) were unpopular ones.

	Popular	Unpopular	
	(n=107)	(n=109)	
Mean	0:03:44	0:04:29	
Median	0:02:52	0:02:01	
Maximum	0:19:41	1:23:18	
Minimum	0:00:29	0:00:03	
Table 7. Video Length (hh:mm:ss)			

#### 4.3 Results Comparing Video Titles

Tables 8 and 9 show the results of the length of each video's title. Table 8 shows the mean, median, maximum, and minimum of the number of characters in the title. Table 9 shows the number of words in the title. The asterisks in the 'Mean' column represent significant differences based on Welch's test. Single asterisks indicate that there was significance at the 0.05 level; double asterisks indicate significant differences at the 0.01 level. Concerning both the number of characters and the number of words, the mean and median of popular videos were higher than unpopular videos, and there were significant differences between popular and unpopular videos.

Table 10 shows the frequency of certain words in the titles. We calculated frequencies of the words, and the top 10 words are presented in Table 10. The numbers in parenthesis represent words' frequencies. 'Library' appeared with the highest frequency in both popular and unpopular videos. In this table, findings show that, unlike unpopular videos, popular videos included 'tutorial', and terms related to eBooks such as 'eBooks', 'OverDrive', and 'downloading'. On the other hand, unlike popular videos, unpopular videos included words that may be related to library records such as 'Vlog', '2017', and '2013'.

	Popular	Unpopular
	(n=107)	(n=109)
Mean	38.74 **	30.94
Median	38	28
Maximum	80	82
Minimum	8	8

	Popular	Unpopular
	(n=107)	(n=109)
Mean	6.25 **	5.21
Median	6	5
Maximum	14	13
Minimum	1	1

	Popular	Unpopular
1	library (42)	library (24)
2	the (32)	the (16)
3	public (15)	display (13)
4	OverDrive (14)	CBPL, Vlog (12)
5	for (13)	time (10)
6	your, to (12)	FPLDs, toddler, is , for (9)
7	and (11)	2017, 2013 (8)
8	downloading (9)	of, a, with (7)
9	with (8)	book, reading, at, summer, 2 (6)
10	tutorial, eBooks, episode (7)	interview, public, celebration, 1, 01 (5)

Table 9. Length of Video Title (The Number of Words)

Table 10. The Top Ten Words in the Title

## 4.4 Results Concerning Descriptions

Table 11 provides the ratios of the videos that included descriptions. The table shows that 95.3% of popular videos had descriptions, whereas only 78.0% of unpopular videos included descriptions. The research found significant differences in the ratio between popular videos and unpopular videos, based on the Z-test for proportions at the 0.01 levels.

Popular	Unpopular
(n=107)	(n=109)
95.3% **	78.0%
 <b>D</b> (1 0 <b>1</b> 1	<b>T</b> 1 11 B

**Table 11. The Ratios of Videos Including Descriptions** 

## 4.5 Results Concerning Voice

Table 12 shows the ratios of the videos that had voice sounds. Table 12 shows that 86.9% of popular videos included voical sounds, or voices, whereas 74.3% of unpopular videos included voices. There were significant differences between the ratios among popular videos and unpopular videos based on the Z-test for proportions at 0.05 levels.

Interestingly, among popular videos, Spanish was spoken in three videos, and sign language was used in one video. There was no such video among unpopular videos.

Popular	Unpopular	
(n=107)	(n=109)	
86.9% *	74.3%	

Table 12. The Ratios of the Video Including Voice Sounds

## 4.6 Results Concerning Contents

Table 13 displays the results of our content analysis. The findings show that some libraries provided library services through YouTube and others used YouTube to introduce or promote their libraries. Library services provided through YouTube included the introduction of materials such as books or CDs, and it included tutorials and story times. Typical tutorials included those for knitting, cord cutting, installing eBooks, and playing a board game. When libraries offered introductions to the library, they typically included general introductions of promotional videos, services, events, buildings, and displays. There were entertainment videos, comedies, or videos to build familiarity. The 'Others' category includes 'August Storm' videos, for example, featuring recordings of thunderstorms pushing recycling bins around the library's parking lot. 'Unknowns' were videos for which we could not understand the purpose. Table 13 shows that there were significant differences between popular and unpopular videos in terms of content. The ratios of popular videos were

unpopular videos in terms of content. The ratios of popular videos were significantly higher than those of unpopular videos concerning tutorials (28.0% and 6.4%, respectively), story times (21.5% and 10.1%, respectively),

## Qualitative and Quantitative Methods in Libraries (QQML) 8,4: 547-560, 2019 557

introductions of services (26.2% and 6.4%, respectively), and entertainments, comedies, or videos to build familiarity (14.0% and 0.0%, respectively). On the other hand, the ratios of unpopular videos were significantly higher than those of popular videos concerning introduction of materials (20.2% and 0.0%, respectively), introduction of events or programs, both reporting (26.6% and 7.5%, respectively) and notification (25.7% and 12.1%, respectively), introductions of displays (12.8% and 0.0%, respectively), and unknowns (5.5% and 0.0%, respectively).

			Popular	Unpopular
			(n=107)	(n=109)
Providing	Information services	Introduction of materials	0.0%	20.2% **
library		Tutorials	28.0% **	6.4%
services		Other information services	0.0%	0.9%
	Targeted services	Story times	21.5% *	10.1%
Introduct-	General introduction	s or promotion videos	9.3%	6.4%
ion of the	Introduction of servic	xs	26.2% **	6.4%
library	Introduction of event	s or programs (report)	7.5%	26.6% **
	Introduction of event	s or programs (notification)	12.1%	25.7% *
	Introduction of their	particular buildings, spaces, or facilities	1.9%	4.6%
	Introduction of their	displays	0.0%	12.8% **
	Introduction of other	things	3.7%	3.7%
	Entertainments, com	edies, or videos to build a familiarity	14.0% **	0.0%
Asking for s	supports		0.9%	3.7%
Reading pro	omotion videos		0.9%	0.0%
Others			2.8%	1.8%
Unknowns			0.0%	5.5% <b>*</b>

# Table 13. Video Contents

### 4.7 Results concerning the Cast Members

Table 14 displays the numbers of cast members in the videos. In Table 14, '2~3' represents the videos in which cast members were two or three people, and '4~' represents the videos which included four or more cast members. There was no significant difference between popular and unpopular videos concerning the number of cast members. It was found that there was at least one cast member in 73 popular and 73 unpopular videos.

In addition, we investigated the racial makeup among cast members using Betaface when there were three or fewer cast members. Table 15 shows the general racial distribution among cast members of popular and unpopular videos. 'Unknown' refers to the videos that were judged as showing no faces by Betaface. Table 15 shows that there were no African American<sup>6</sup> cast members in the popular videos, and there was only one African American cast member in one unpopular video. In addition, we randomly selected ten unpopular and popular videos (a total of 20 videos) with a number of cast members at four or

more and investigated the role of each cast member. Concerning popular videos, librarians appeared in eight videos. In these videos, one librarian appeared in one video, two librarians appeared in one video, seven librarians appeared in one video, and ten or more librarians appeared in four videos. In the unpopular videos, librarians appeared in eight videos. In these videos, one librarians appeared in six videos, two librarians appeared in six videos, two librarians appeared in one video, and three librarians appeared in three videos.

	Popular	Unpopular	
	(n=107)	(n=109)	
0	34	36	
1	24	35	
2 <b>~</b> 3	12	12	
4~	37	26	
Table 14.	Number of	Cast Membe	

	n	White	Asian	Indian	African American	Mideast	Unknown
Popular	49	37	6	3	0	0	2
Unpopular	r 66	49	3	0	1	1	9
Table 15. Race of Cast Members							

# 5. Discussions

As the first factor increases views of libraries' YouTube, we will discuss regards the length of the videos. The analysis found that unpopular videos were often extremely short (less than 30 seconds) or very long (over 20 minutes). It is quite possible that people quit watching the videos if the videos were too long or too short. In addition, popular videos tended to have longer titles and include descriptions more often, compared with unpopular ones. Our analysis has determined that the popular videos were more informative than the unpopular ones. The results regarding video contents indicated that popular videos tended to provide library services by themselves such as offering tutorials or story times. On the other hand, the ratios of introduction of their displays, event reports and event notices among popular videos were significantly lower than those among unpopular ones.

It is interesting to note that popular videos included three Spanish videos and one sign language video. This finding may indicate that YouTube videos could be effective ways to provide services for underserved communities, such as speakers of English as a second language or sign language speakers. Moreover, as we describe above, many libraries provide library services such as information services and children's services via YouTube. This means that YouTube videos can be helpful not only for speakers of foreign language but also for people with disabilities who might not be able come into libraries regularly.

Next, the second key factor in libraries' uses of YouTube concerns cast members of the videos in our sample, beginning with race. For videos with three or fewer cast members, none of the popular videos and one of the unpopular videos included African American cast members. This was only 0.9% of our sample cast members. The 2010 census of U.S. showed that the ratio of black or African American people living in the U.S. was 12.3%. The ratio of African American people appearing in libraries' YouTube videos was significantly lower than the number of African American people living in the U.S. according to the census report.

Another factor for success with YouTube video views concerns librarians. In relation to the videos with four or more cast members, many librarians appeared in popular videos whereas few librarians appeared in unpopular videos. In the videos where many librarians appeared, librarians often explained how wonderful the libraries were. In order to provide such explanations, librarians might strive to create varied and detailed elements of videos, and thus they might produce more popular and higher-quality videos. In addition, it is easy for video viewers to recommend such videos to their friends, including students or new residents, and these high view counts for this style of video may occur as a result.

# 6. Conclusions

In this paper, we focused on YouTube videos made by U.S. public libraries, showing the actual state of libraries' YouTube utilization and the factors that increase their views. Specifically, we first examined how many public libraries were utilizing each social media platform, including YouTube, based on information from their official websites. In addition, we compared 107 popular videos (having more than 700 views) and 109 unpopular ones (having fewer than 12 views) and analysed their differences. Results showed that the unpopular videos were often very short (less than 30 seconds) or very long (over 20 minutes). The popular videos were more informative than the unpopular ones (e.g. they had longer titles and included descriptions more often to identify the contents of the videos). Furthermore, the ratios of tutorials and story time among popular videos were significantly higher than those among unpopular ones. Nevertheless, the ratios of event reports and event notices among popular videos were significantly lower than those among unpopular ones. Further, the results suggested the potential effectiveness of YouTube to provide services for minority and underserved populations. In fact, the ratio of African American people appearing in libraries' YouTube videos was significantly lower than that of the U.S. population, according to the last census report.

In future study of this area, we would like to increase the sample size. In addition, we would like to investigate these factors in relation to other social

media. Such additional work is needed to identify more effective methods for both providing information and in marketing of libraries.

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### Notes

<sup>1</sup> American Library Directory. Access date 26.08.2018 available at http://www.americanlibrarydirectory.com/AdvSearch.asp

<sup>2</sup> The number of libraries' accounts and the number of unique accounts were not equal because some libraries shared one account. For example, two of our sample libraries shared the 'Four County Library System' account.

<sup>3</sup> Before starting this investigation, the official websites had been updated, and the link to YouTube video content had apparently been deleted.

<sup>4</sup> We excluded the accounts that posted many times because it could influence factors other than the factors of the video itself.

<sup>5</sup> We excluded the videos because fewer view counts were caused not by the video itself but by the brief time that the video had been online.

<sup>6</sup> 'African Americans' used here were the people who referred to as 'Black' in Betaface.

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