

# SOCIAL MEDIA ENGAGEMENT IN THE DISABILITY COMMUNITY

**A Report for Indiana Disability Rights**

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Acknowledgement

This project was a collaboration between Indiana Disability Rights and the Brian Lamb School of Communication at Purdue University. Under the supervision of Dr. Melanie Morgan and Dr. Bart Collins, M.S. student Phuong Nguyen conducted a literature review and social media data analytics research to study patterns of social media use and engagement in the disability community. Findings from the project were also presented at Indiana Disability Rights' office and via a webinar with national disability rights partners on May 9, 2017.

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# EXECUTIVE SUMMARY

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The prevalence of social media is no longer a topic of debate. According the most recent Pew Research Center survey in 2017, 69% of all adult Americans participate on social media. Individuals in general and those with disabilities engage with social media for various needs, socially, emotionally and cognitively (Leung, 2013; Damiani, 2013). Engaging with Facebook, Twitter, LinkedIn, and other social media sites have helped people with disabilities stay in touch with friends and families, follow relevant issues, find out about events, or learn about subjects (SAFE/Disability Rights Texas, 2016).

Within the past few years, social media has rapidly expanded its role as a gateway to news. 40% of Americans in 2015 identify Facebook, Twitter, or other networking sites as their news source, compared to just about 20% in 2012 (Newman, Levy, & Nielsen, 2015). Similar to the general population, people with disabilities (PWD) use social media for news and information. A study led by SAFE and Disability Rights Texas in 2016 found that PWD use social media multiple times a day for topics including safety, legal resources and rights, healthy relationships, abuse, etc. While PWD find social media advantageous in many aspects, concerns with accessibilities, privacy, confidentiality, and Internet safety have also been raised (SAFE/Disability Rights Texas, 2016).

Given the role of social media in the disability community, it is critical that disability right agencies maximize the effects of their social media campaigns for their outreach and advocacy mission. Understanding patterns of social media use in the disability community, which includes PWD, their families, caregivers, and care professionals, can provide executive leadership and communication teams with actionable insights. This report first provides a literature review from both scholarly and trade publications on social media use among the disability community. It then utilizes social media analytics to make specific recommendations on social media strategies for disability right agencies.

The data was extracted in March of 2017 from Facebook and Twitter using the data mining package RFacebook then analyzed using SPSS software. The data was collected from the official Facebook pages of state-level disability rights agencies. These state-level pages were selected for having over 3,000 page likes, an indication that they had enough followers to differentiate engagement with individual posts.

Literature review and analytics lead to the following recommendations:

1. **Platform of focus:** While each social media platform has its own strengths and weaknesses, if having to choose one platform to focus on, it would be Facebook. Not only is Facebook the most popular social media site generally and among people with disability, the platform is high-value. Social media users spend more time on Facebook than any other networks. \* Note: While using Facebook or any other platforms, agencies need to make sure their content is accessible.
2. **Post media types:** Video posts tend to be most effective in attracting likes, comments, and shares on Facebook.
3. **Post content:** Post content was coded into 4 categories including news, instruction, opinion and announcement. A sample of 700 Facebook posts from 7 state-level disability rights agencies showed that news posts was the most engaging type of content.
4. **Others:** Saturdays might be the most effective day to post on Facebook. Posting time did not appear to have a significant impact on engagement.

# LITERATURE REVIEW

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## 1. Based on review of existing research, how are different generations of users engaging with social media?

Social media has become increasingly ubiquitous in the recent years. As of the end of 2016, beginning of 2017, the Pew Research Center reported that 69% of all adult Americans use at least one social networking site (Pew Research Center, 2017). Among the different factors that influence social media use and engagement, one factor to consider is age. Different generations (commonly categorized into Generation Z, millennials, Generation X, Baby Boomers) have distinct characteristics when it comes to engaging with social media, including preferred platforms, patterns of usage, and content.

The following table delineates these generational differences in social media engagement.

	<b>Millennials 18-29</b>	<b>Gen X 30-49</b>	<b>Baby Boomers (50-64)</b>	<b>65+</b>
<b>Overall social media use (Pew Research Center, 2017)</b>	86%	80%	64%	34%
<b>Preferred platforms (most to least) (Pew Research Center, 2017)</b>	Facebook Instagram Pinterest LinkedIn Twitter	Facebook Pinterest Instagram (tie) LinkedIn (tie) Twitter	Facebook Pinterest LinkedIn Twitter Instagram	Facebook LinkedIn Pinterest Twitter Instagram
<b>Top 2 genres of content (Ahmad, 2015)</b>	Entertainment Technology	Entertainment Healthy Living	Entertainment World News	n/a
<b>Top content consumption time (Ahmad, 2015)</b>	Late evening (8pm-11.59pm)	Late evening (8pm-11.59pm)	Late morning (9am- 11.59am)	n/a

Scholarly research on social media engagement has found different ways to define and understand user’s engagement with the medium. Social media engagement is often seen as the activities of liking, sharing, creating, and commenting on content. However, beyond that level, social media engagement has to do with “the state of cognitive and emotional absorption in the use of social media tools” (Smith & Gallicano, 2015).

Researchers have found that users of different generations generate content on social media to address socio-psychological needs including: showing affection, venting negative feelings, gaining recognition, getting entertainment, and fulfilling cognitive needs (Leung, 2013). Across different

generations, the same study indicates that there is no generational differences when it comes to using Facebook and blogs to meet social and affection needs. Online forums are seen by all generations as “the preferred social medium for gaining recognition” (p. 1004). The study also emphasized that “social media users are usually motivated by two primary needs: one is the need to belong, predicted by demographic and cultural factors, and the other is the socio-psychological need for self-presentation management and relationship construction, predicted by personality traits (1005).”

In the case of millennials, research through interviews and focus groups found that this generation is motivated to engage with an organization’s social media for four purposes: information consumption, interest immersion, sense of presence, and social interactions (Smith & Gallicano, 2015).

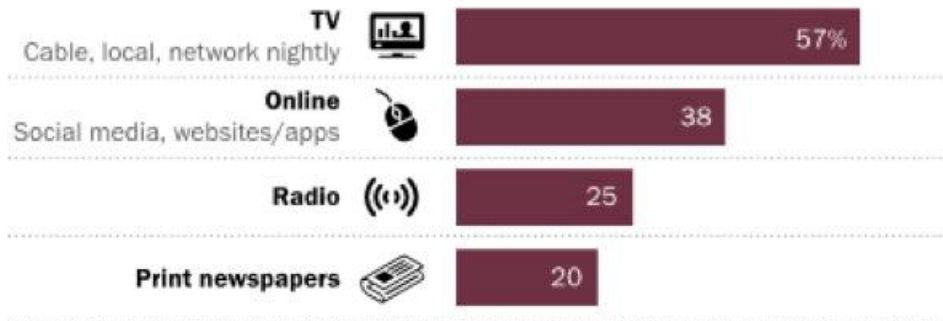
Engaging with an organization’s social media could lead to behavioral outcomes that are desirable for the organization. The more someone uses an organization or cause-related campaign’s social media sites, the more likely they “like” or “comment”, the more likely that they talk to others about it, and the more likely they take a helping action (Paek, Hove, Jung, & Cole, 2013). In the corporate context, public engagement with corporate social media sites can lead to the organization being seen as more authentic and transparent (Men & Tsai, 2014). The same study demonstrated evidence that users who engaged with the organization’s social networking sites were more likely to trust, identify with, and commit to the organization. They were also more likely to advocate for the organization. Therefore, social media should be used not only as a way to distribute information to users, but more importantly, as a way to build relationships with different stakeholders. ***Effective social media could yield significant returns on the organization’s investment.***

## 2. Based on existing research, where are different generations of users going for trusted resources?

According to the Pew Research Center (2016b), different generations look for information from different sources at various rates. As the same study reported, people above the age of 65 preferred TV and print newspapers. Baby Boomers (50-64 years old) rely mostly on TV as well, however, they utilize online resources more heavily than the previous generation. Starting from Generation X (30-49 years old), online sources become the dominant platform. Millennials, often considered even more tech-savvy, overwhelmingly go online for news over any other media. Overall, about 4 out of 10 American adults get their news from the Internet Pew Research Center (2016b).

## About four-in-ten Americans often get news online

*% of U.S. adults who often get news on each platform*



*% of each age group who often get news on each platform*

	18-29	30-49	50-64	65+
<b>TV</b>	27%	45%	72%	85%
<b>Online</b>	50	49	29	20
<b>Radio</b>	14	27	29	24
<b>Print newspapers</b>	5	10	23	48

Note: Just 1% said they never got news on any platform (not shown).

Source: Survey conducted Jan. 12-Feb. 8, 2016.

"The Modern News Consumer"

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When the sources of news are broken down in more detail, the generational differences become more pronounced (Pew Research Center, 2016b). Millennials (age 18-29) are more likely to get their news from websites/apps or social networking sites. Gen X (30-49) prefer websites/apps and local TV. Baby Boomers use local and network TV most often to obtain news, whereas the oldest cohort get their news mainly from traditional media including different types of TV and print newspapers.

Although online sources are becoming more popular, few people trust the information they find online, especially on social media. A mere 4 percent of Internet users surveyed by Pew indicate their trust in social media when it comes to news information. News organizations are still the most trusted news source for all ages (Pew Research Center, 2016b).

The Media Insight Project, a collaboration among the Associated Press, NORC at the University of Chicago, and the American Press Institute, conducted a study titled The Personal News Cycle in 2014. The study reviewed more insights into how Americans of different generations obtain information of different types. One important finding indicates that where people go for sources largely depends on the topic (The Media Insight Project, 2014).

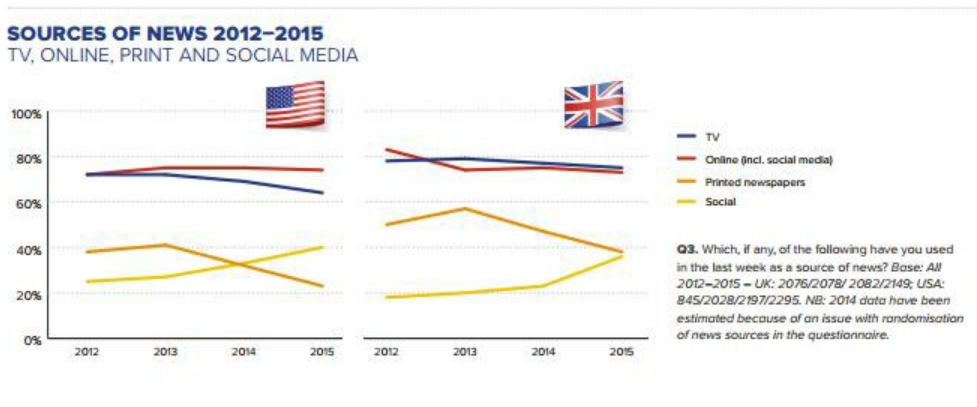
The same study pointed out the most Americans reported finding news using more than one source. More specifically:

- Directly from a news organization (a newspaper, TV newscast, website, or newswire): 88%
- Traditional word-of mouth: 65%
- Search engines: 51%
- Online news aggregators: 51%
- Methods of sharing like email, text message, or other ways online: 46%
- Social media: 44%

With regards to social media, while the medium has been increasingly important in news consumption across generations, there are differences between the generations. When asked if they learned news through social media in the last week, 7 in 10 adults under age 30, 6 in 10 of those age 30–39, 4 in 10 age 40–59 and 1 in 5 for those 60 or older, responded yes. However, social media appeared to be a supplemental, rather than alternative, way of getting news (The Media Insight Project, 2014)

Among online media, comparing millennials (who grew up with information-communication technology) and those before them (people that started using the technology later in life), millennials are more likely to get information from social media, whereas the older cohort relies on news websites and blogs more often (Bowe & Wohn, 2015).

However, **more recent studies have revealed another important insight:** more and more people, especially the younger cohort, use social media as their gateway to news, and the growth rate is rapid. According to Reuters Institute Digital News Report, within 3 years (from 2012–2015), the number of respondents who identify social media as a source of news in the US has almost doubled (Newman, Levy, & Nielsen, 2015).



The report also found that news organizations noticed significant increase in traffic to their sites from social media. Facebook is the dominant force among the general audience, especially after its change of the algorithm and video autoplay. 41% of respondents use Facebook to find, read, and interact with news, nearly doubling its closest rival. Additionally Facebook and Twitter are the most important social networks in terms of referral to and engagement with news (Newman, Levy, & Nielsen, 2015).

Some specific attention has been given to millennials. A more recent study from the Media Insight Project, the Millennials Report, share findings specifically about this age cohort (The Media Insight Project, 2015):

- Millennials are more likely than other generations to go to news websites/apps and social network sites for online news. They are also the group most likely to obtain news from social media.

- Civic motivations (74%), problem-solving needs (63%), and social factors (67%) are millennials' motivations to acquire news.
- Millennials use a variety of sources and go to different online sources for different topics, most common of the sources are search engines and Facebook.
- In terms of different social networking sites, millennials' are likely get news from each site in the following order: Facebook (88% of respondents), YouTube (83%), Instagram (50%), Pinterest (36%), Twitter (33%), Reddit (23%), and Tumblr (21%).

### 3. Based on existing research, how are individuals with disabilities engaging with social media?

Research estimated the use of social media is generally high among PWD (Morris, Mueller, & Jones, 2014). DigitalGov, by the US General Services Administration states that they use social media for similar reasons like everyone including social interaction, professional development, entertainment, purchasing, etc. (Damiani, 2013). However, technical features of social media create certain advantages as well as barriers for people with certain types of disabilities.

Use of social media among people with disabilities has been found to be correlated with age (Morris, Mueller, & Jones, 2014). Similar to the general population, social media is found more common among younger people compared to their counterparts. One qualitative study indicated that young people with a variety of disabilities use the Internet for various purposes, one of which is to reduce social isolation (Ragheendra, Lawry, Wood, & Newman, 2012). Among other factors, social media help individuals with disabilities keep in touch with others, be understood by others, and provide a medium for richer self-expression (Hynan, Murray, & Goldbart, 2014) although the main barriers to independent use of social media, such lack of access to equipment, mobility issues, and limited literacy skills, remain significant.

So far, the most comprehensive data collection in research about social media use by PWD was conducted in a study sponsored by SafePlace and Texas Disability Rights (SAFE/Disability Rights Texas, 2016). Through interviews and focus groups with 51 individuals with a variety of disabilities include brain injury, blindness, intellectual/developmental disabilities, mental illness key findings about their social media engagement include:

- The most common social media platforms were Facebook (76%), Twitter (18%), LinkedIn (16%), Blogs (12%), Google+ (4%), and other (14%). Youtube was mentioned by 50% of participants as well.
- Participants reported using social media to keep up with friends and family (59%), followed by a way to follow issues (38%), to find out about events (34%) and, to learn about things (31%).
- The majority of participants use social media multiple times a day.
- Respondents from the study mentioned that their engagement with social media fall into the following contents:

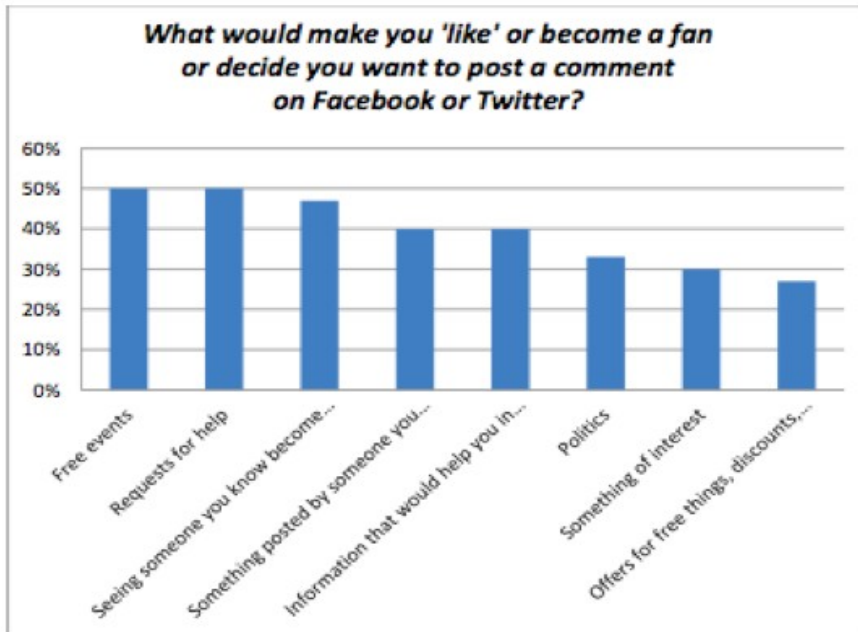


Figure 5. Percentage of discussion group and interview participants who indicated methods that would make them *like*, become a *fan* or decide to post a comment on Facebook or Twitter.

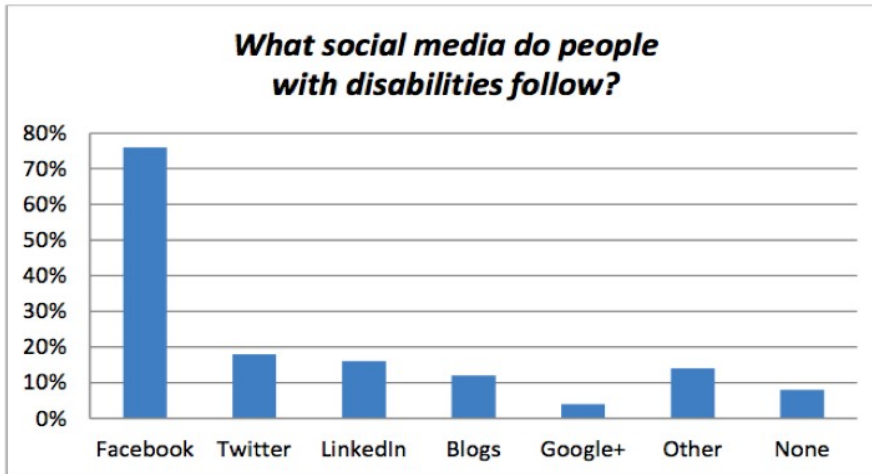
- Most popular topics that PWD are interested in engaging include: safety, legal resources and rights, healthy relationships, finding help for abuse or assault, how to volunteer, and sexuality (in this order).

When engaging with social media, however, PWD are specifically concerned with issues of accessibility as well as the combination of privacy, confidentiality, and Internet safety. **The formats of many social networking sites make it difficult, if not impossible, for individuals with certain types of disabilities to access certain sites or content.** Participants in the study also expressed concerns when their personal information was made available on the Internet (SAFE/Disability Rights Texas, 2016).

**a. What are the most utilized platforms and by whom?**

Facebook, the social media platform most common among the general population (Pew Research Center, 2016a), is also the most used tool by PWD (SAFE/Disability Rights Texas, 2016)

The next popular social networking sites are respectively Twitter (18%), LinkedIn (16%), Blogs (12%), Google+ (4%), none (4%) and other (14%). Youtube is also a very common platform for many.



*Figure 2.* Most discussion group and interview participants reported using Facebook, followed by Twitter, LinkedIn, Blogs, Google+, other and none.

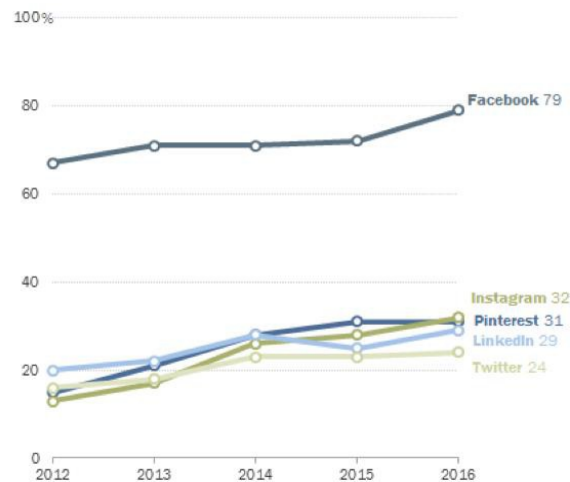
**Note:** While it was not given as an example, 50% of the participants also volunteered that they use YouTube.

#### 4. If we have to choose where to spend our time to reach our populations of focus, which platforms should we focus on?

Each social media platform has its own features that come with distinct advantages and disadvantages. Among the general population, according to the Pew Research Center (2016a), the most popular social media platforms are: Facebook (79% of online Americans use Facebook), Instagram (32%), Pinterest (31%), LinkedIn (29%), and Twitter (24%). On a total population basis (including those who do or do not use the internet), 68% of all U.S. adults use Facebook, 28% use Instagram, 26% use Pinterest, 25% use LinkedIn, and 21% use Twitter.

## Facebook remains the most popular social media platform

% of *online* adults who use ...



Note: 86% of Americans are currently internet users  
 Source: Survey conducted March 7-April 4, 2016.  
 "Social Media Update 2016"

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Additionally, people spend more time on Facebook than any other platform (Lella, 2015). On mobile devices specifically, the Facebook app is also far more time-engaging (Dvorak, 2016).

It is noteworthy noteworthy, however, that most users use more than one social networking site. More than half of the social media users (Pew Research Center, 2016a) use more than 1 out of the 5 most predominate social media platforms.

## Substantial 'reciprocity' across major social media platforms

% of users of each social media site who use another social media site

	Use Twitter	Use Instagram	Use Pinterest	Use LinkedIn	Use Facebook
% of Twitter users who ...	–	65%	48%	54%	93%
% of Instagram users who ...	49	–	54	48	95
% of Pinterest users who ...	38	57	–	41	92
% of LinkedIn users who ...	45	53	43	–	89
% of Facebook users who ...	29	39	36	33	–

Source: Survey conducted March 7-April 4, 2016.  
 "Social Media Update 2016"

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Among the population with disabilities, Facebook remains the most popular platform (SAFE/Disability Rights Texas, 2016; Raghavendra, Lawry, Wood, & Newman, 2012). Therefore, if we have to choose to focus on one platform, Facebook would be the strongest choice. The following section reviews research on specific use of Facebook among individuals with disabilities. Twitter and blogs are also mentioned as preferred social media for other reasons.

**Facebook:**

- For PWD, Facebook provides social, emotional, and professional support (Shpigelman, & Gill, 2014).
- Most PWD in the study visit Facebook at least once a day and spend up to 30 minutes each time (Shpigelman, & Gill, 2014).
- PWD communicate with both individuals with and without disabilities on Facebook (Shpigelman, & Gill, 2014).
- Privacy, safety, and confidentiality are common concerns among PWD using Facebook (Shpigelman, & Gill, 2014).
- “For post producers medicalizing disability and representing it as a personal tragedy, Facebook is a sort of postmodern diary, in which they can confess their problems stemming from their bodily limitations. For those approaching disability on social grounds, Facebook is mainly a tool for promoting their political positions, while for those defining disability in an affirmative manner, Facebook is an outlet for making known their distinct culture and lifestyle” (Stamou, Alevriadou, & Soufla, 2016, p.14).

**Twitter:**

- Since Tweets are short and use fewer keystrokes for communication, Tweeter is useful for people with communication-related disabilities (Hemsley, Palmer, Balandin, 2014)/
- PWD who use augmentative and alternative communication find experiences using Twitter positive. Seeking help in Twitter and engaging with hashtags communities are reasons behind higher tweeting frequency and building Twitter networks (Hemsley, Dann, Palmer, Allan, & Balandin, 2015).

**Blogs:**

- PWD might prefer blogs or other online platforms such as Dreamwidth or LiveJournal to Facebook groups when sharing personal experiences and contacting others with disabilities, although the reason of why that is the case needs to be further investigated (Shpigelman, & Gill, 2014).
- Besides Facebook and Twitter, blogs are used by para-sport participants to find information, participate in advocacy, and build their online and offline networks (Bundon & Hurd, 2015).

Audience demographics also differ across platforms (Pew Research Center, 2016). The following tables from Pew’s Social Media Update in 2016 show the differences between the demographics of the top social networking platforms.

**24% of online adults (21% of all Americans) use Twitter**

*% of online adults who use Twitter*

All online adults	24%
Men	24
Women	25
18-29	36
30-49	23
50-64	21
65+	10
High school degree or less	20
Some college	25
College+	29
Less than \$30K/year	23
\$30K-\$49,999	18
\$50K-\$74,999	28
\$75,000+	30
Urban	26
Suburban	24
Rural	24

Note: Race/ethnicity breaks not shown due to sample size.  
Source: Survey conducted March 7-April 4, 2016.  
"Social Media Update 2016"

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**79% of online adults (68% of all Americans) use Facebook**

*% of online adults who use Facebook*

All online adults	79%
Men	75
Women	83
18-29	88
30-49	84
50-64	72
65+	62
High school degree or less	77
Some college	82
College+	79
Less than \$30K/year	84
\$30K-\$49,999	80
\$50K-\$74,999	75
\$75,000+	77
Urban	81
Suburban	77
Rural	81

Note: Race/ethnicity breaks not shown due to sample size.  
Source: Survey conducted March 7-April 4, 2016.  
"Social Media Update 2016"

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**32% of online adults (28% of all Americans) use Instagram**

*% of online adults who use Instagram*

All online adults	32%
Men	26
Women	38
18-29	59
30-49	33
50-64	18
65+	8
High school or less	27
Some college	37
College+	33
Less than \$30K/year	38
\$30K-\$49,999	32
\$50K-\$74,999	32
\$75,000+	31
Urban	39
Suburban	28
Rural	31

Note: Race/ethnicity breaks not shown due to sample size.  
Source: Survey conducted March 7-April 4, 2016.  
"Social Media Update 2016"

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**31% of online adults (26% of all Americans) use Pinterest**

*% of online adults who use Pinterest*

All online adults	31%
Men	17
Women	45
18-29	36
30-49	34
50-64	28
65+	16
High school or less	24
Some college	34
College+	34
Less than \$30K/year	30
\$30K-\$49,999	32
\$50K-\$74,999	31
\$75,000+	35
Urban	30
Suburban	34
Rural	25

Note: Race/ethnicity breaks not shown due to sample size.  
Source: Survey conducted March 7-April 4, 2016.  
"Social Media Update 2016"

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**29% of online adults (25% of all Americans) use LinkedIn**

*% of online adults who use LinkedIn*

All online adults	29%
Men	31
Women	27
18-29	34
30-49	33
50-64	24
65+	20
High school degree or less	12
Some college	27
College+	50
Less than \$30K/year	21
\$30K-\$49,999	13
\$50K-\$74,999	32
\$75,000+	45
Urban	34
Suburban	30
Rural	18
Employed	35
Not employed*	17

Note: Race/ethnicity breaks not shown due to sample size.  
\*Not employed includes those who are retired, not employed for pay, disabled or students.  
Source: Survey conducted March 7-April 4, 2016.  
"Social Media Update 2016"

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## 5. How much and what kinds of original content should we be creating?

Social media scholarship has provided insights on different types of content and how they receive differentiated engagement. Saxton and Waters (2014) investigated non-profit organizations' messages to draw insights on what stakeholders like, comment, and share on Facebook. The findings indicated that community-building and dialogue messages got more likes and comments than informational

messages while mobilization and promotional messages (call to action) received some of the highest number of likes and comments. However, users are most likely to share informational messages with others in their network.

Cho, Schweickart, and Haase (2014) also looked at social media engagement with Facebook messages by examining 678 posts by non-profits. Cho et al. (2014) found that publics were most likely to comment (or highly engage) with messages that use two-way symmetry communications, a communication model that emphasizes mutual relationships and interests between both sides of the conversation (in this case, the organization and its audience), opposite to the infamous organizational PR “spin” approach.

In terms of mechanic characteristics of Facebook posts, Sabate et al. (2014) linked richness (vividness of types of content) and time frame of the Facebook posts with their performance. They found that posts with images and videos were more likely to get likes, while those with images published during business hours were more likely to get comments. Additionally, including links in a post could hurt the number of comments. Tafesse (2015) found that while vividness of brand posts could lead to more likes, brand post consistency and novelty can lead to increase in both likes and shares. Their findings also indicated that entertainment posts could lead to more responses than transactional or informational posts, although the effect was small.

Another study by Su, Reynolds, and Sun (2015) looked at 14 different factors related to themes, media, characteristics, and time to test their influences on the number of likes, shares, and comments on a Facebook page of a hotel. According to their findings, featuring hotel products and attributes decreases the brand’s engagement performance on the hotel’s page, while including award and discount information with humor and requests to like tend to result in more likes. Plus, questions are more likely to get comments but less likely to bring likes. In terms of sharing, posts with pictures or relating to environment concerns tend to attract more shares.

Content that features personal narratives could also generate more user engagement than other types of content, as in the case of mental health videos on YouTube (Oliphant, 2013). In the realm of Twitter, Stieglitz & Dang-Xuan (2012) followed previous stream of research that suggested more feedback and participation could result from affective messages. They studied the role of sentiments in impacting retweeting behaviors. The researchers found that the number of words indicating affective dimensions was positively correlated with retweetability.

Looking specifically at the disability community, SAFE/Disability Rights Texas Report provided suggestion on the activities, formats, and topics PWD prefer to engage with on social media. For examples, organizations should provide a discussion forum for PWD to share with and learn from one another. PWD should be included as contributors. According to SAFE’s findings, social media posts should have clear text description and be kept short and concise. Topics such as safety, legal resources, and relationships would be beneficial to PWD (please *check out the full SAFE/Disability Rights Texas report referenced at the end*).

## 6. What are some ways to push people from social media to our website?

In general, referral from social media sites is becoming increasingly important for website traffic (DeMers, 2015). A few strategies are recommended by content marketing blogs to increase social media traffic to website:

- Use more conversion keywords and visual content (Khan, 2015)
- Identify high engagement content pieces and amplify them (Khan, 2015)
- Share content multiple times on different platforms and optimize messages for each platforms (Kissmetrics, 2014)

# ANALYTICS

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In order to determine factors that influence social media engagement in the disability community, we conducted a social media analytics study of Facebook pages managed by disability rights agencies. Social media analytics has the ability to examine a large data set of Facebook posts and identify patterns that lead to actionable insights. By looking at the actual Facebook posts put out by the organization and the numbers of likes, shares, and comments each post received, we can develop strategies to increase the number of likes, shares and shares for future posts.

## Research questions

RQ1: What type of media is most engaging?

RQ2: What type of content is most engaging?

RQ3a: When are the best days to post?

RQ3b: When are the best times to post?

RQ4: What other factors might influence social media engagement?

## Methods

To collect the data, a social media analytics package called RFacebook was used to collect information from different disability rights pages on March 27, 2017. These pages all had over 3,000 likes to assure that there was sufficient variation on engagement among the posts (North Carolina's page was not included since the page was deactivated at the time pages were selected). The data included all the posts officially posted on the page's site by its administration. Information about the posts included its content, created date, counts of likes, shares, and comments, types of posts (as categorized by Facebook), links to content, ID numbers and names of the administrative account, and unique ID numbers of the posts. The data was collected in March of 2017.

For each page, we decided to sample 500 most recent posts starting from March 24, 2017, three days previous to the data collection date. This three-day period was established to assure that the more recent posts had enough time to accumulate likes, comments, and shares. From the seven organizations, a total of 3,500 posts were extracted. The table below shows descriptive information about the dataset:

Table 1: Sample description (N=700)

Page name	Number of page likes (as of March 27, 2017)	n
Disability Rights Arkansas	3,497	500
Disability Rights California	5,134	500
Disability Rights Florida	36,125	500
Disability Rights Ohio	4,175	500
Disability Rights Oregon	7,804	500
Disability Rights Texas	3,737	500
Disability Rights Washington	6,338	500

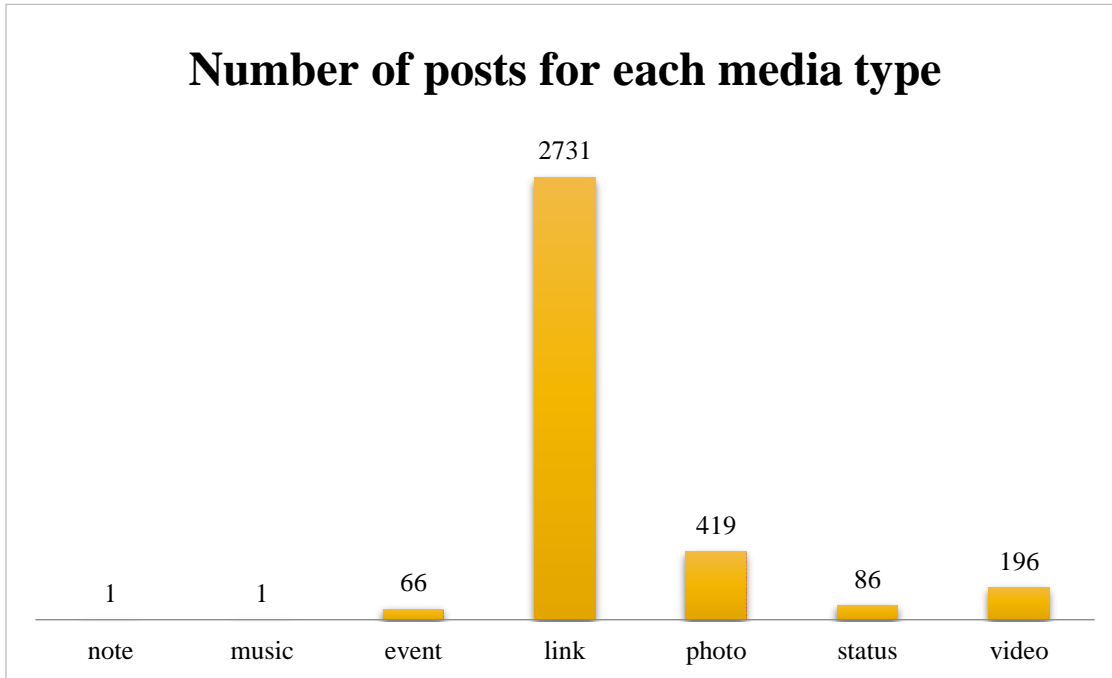
These pages vary quite significantly in the number of page likes. A page with a greater number of page likes would mean that its posts have a higher chance of getting liked, commented, and shared. To control for this factor, post engagement metrics (number of likes, comments, and shares) were standardized using z-scores by page before being compared across the board. This means, each post's level of engagement was measured by its relative performance compared to other posts in the same page, instead of its absolute engagement metrics. Therefore, as shown in the results, standardized likes, comments, and shares were the units of measurement. A 0 standardized score means that the post received the average number of engagement counts (likes, shares, or comments) of all posts sampled. A positive standardized like score means that the post received more likes than the average of all posts from the same page and vice versa. The greater the standardized scores are, the better the post did, compared to the rest of the posts from the same page. Using the standardized metrics, we were able to determine whether a factor caused a post to gain more likes, comments, and shares than the rest of the posts on that same page. This comparison, as a result, is free from the influence of page popularity.

Multivariate analyses were conducted using SPSS to determine whether there were differences in terms of standardized numbers of likes, comments, and shares among the different categories of posts corresponding the each research questions. Post-hoc Tukey's tests were then run to identify the pair differences among the different categories.

## Results

### RQ1: What type of media is most engaging?

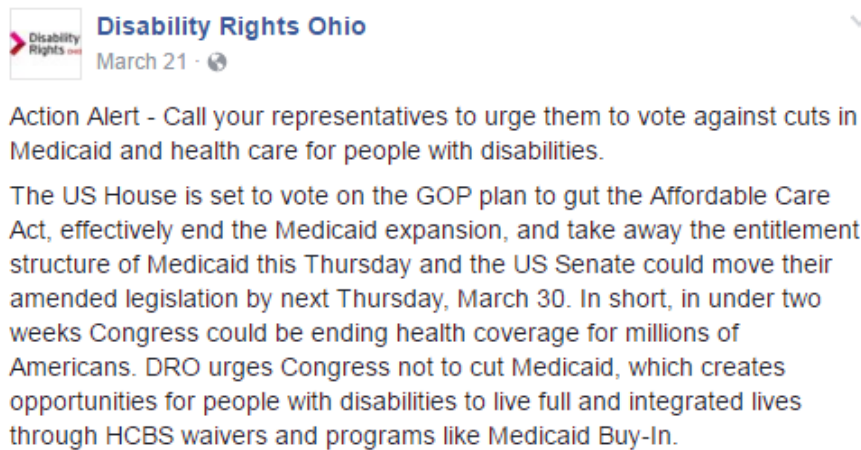
The total dataset of 3,500 posts were analyzed to answer RQ1. We examined the media types of posts (as categorized by Facebook) and the impact of post types on the number of likes, shares, and comments. Facebook categorizes posts into different media types including status, photo, link, video, event, music, and note.



Since there was only one note post and one music post, there was not enough information to compare these two types with the rest of the media types. Therefore, they were excluded from further analyses.

Below are examples of status, video, photo, link, and event posts.

A **status** post is a Facebook post that contains only text.



A **video** post is a Facebook post that contains a video, with or without text. YouTube sharing and live videos also count as a video post.



A **photo** post is a Facebook post that contains an image, with or without text.



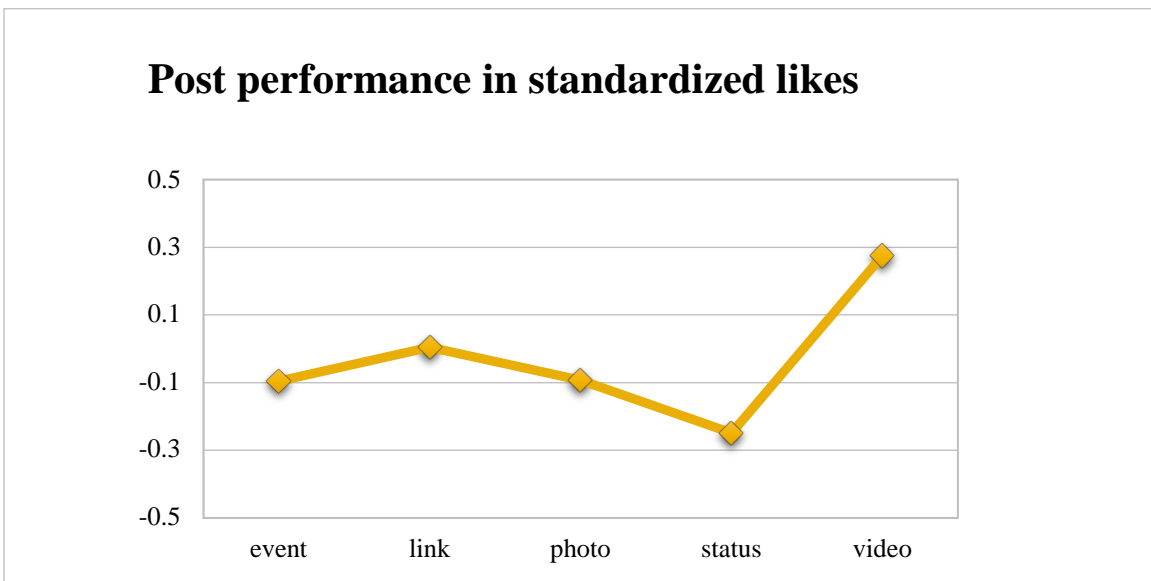
A **link** post is a Facebook post that contains an external link, with or without text.



An **event** post is a Facebook post that contains an event, with or without text.

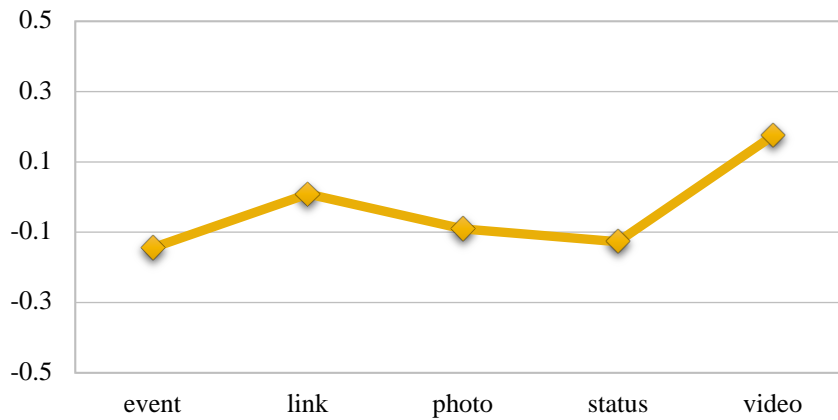


**Results:** Video posts attract more likes, comments, and shares than other types of posts. Pair comparison statistical differences were significant in standardized likes (between video-link, video-photo, video-status), in standardized comments (between video-photo), and in standardized shares (video-event, video-photo).



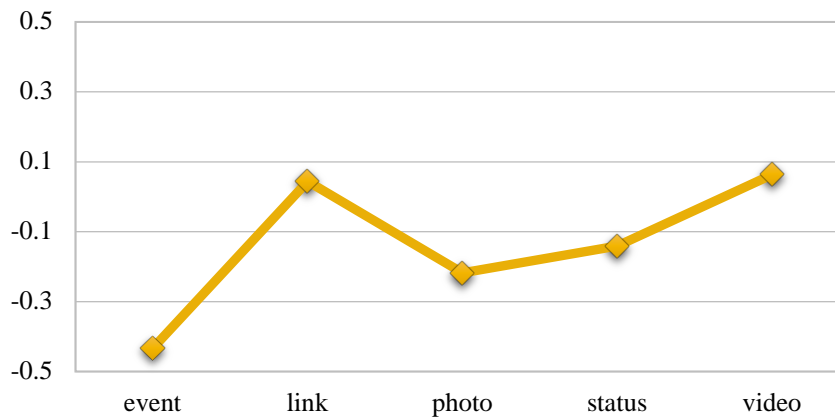
Note: Values are standardized such that the average number of likes equal zero.

### Post performance in standardized comments



Note: Values are standardized such that the average number of comments equal zero.

### Post performance in standardized shares



Note: Values are standardized such that the average number of shares equal zero.

## RQ2: What type of content is most engaging?

To answer RQ2, the most recent 100 posts from each of the seven pages was sampled. During pre-processing, one post was removed due to having no content (due to software-related data extraction error). The final sample had 699 posts. We closely examined the content of each post and divided them into 4 categories: news, instruction, opinion, and announcement.

Below are examples of news, instruction, opinion, and announcement posts.

**News** posts focus on informing of journalistic events. This category often includes lawsuits, settlements, political news, research findings, technology advancements, etc. This type of content would most likely appear in the Features section of the newspaper.

 **Disability Rights Oregon**  
March 22 · 🌐

Today, the Supreme Court ruled that schools must provide students with disabilities the chance to make meaningful progress.

This is a resounding victory for one student with autism, all students with disabilities and an America where everyone has a chance to succeed.  
<http://n.pr/2mQNYls>



**The Supreme Court Rules In Favor Of A Special Education Student**

In a case involving a Colorado school district, the high court finds that schools must ensure students make more than minimal progress.

NPR.ORG

**Instruction** posts focus on providing instructions or guidelines on how to go about certain issues. Some of these posts are white papers, agency’s publications, fact sheets while the rest are articles or videos giving how-to advice.

 **Disability Rights California**  
March 23 · 🌐

Two of our publications are now updated and available for distribution.

“The Rights of Tenants with Mental Health Disabilities to Service or Emotional Support Animals”, Pub #CM12.01 – The direct link to this publication is: <http://www.disabilityrightsca.org//pubs/CM1201.pdf>

“Your Right to a Service or Emotional Support Animal as a Tenant with a Mental Health Disability”, Pub #CM13.01 – The direct link to this publication is: <http://www.disabilityrightsca.org//pubs/CM1301.pdf>

**Opinion** posts focusing expressing opinions about a specific disability issues or sharing personal narratives. These posts would most likely appear under the Opinion or Letters to the Editor section in the newspaper.

 **Disability Rights Arkansas**  
March 21 · 🌐

We need both- accommodations and inclusion. <https://t.co/GVWmiPKi1K>

 **Think Inclusive on Twitter**  
"Why Isn't Accommodating the Same as Inclusion?"  
<https://t.co/8FJTbY8N0T> #spedchat #inclusion"

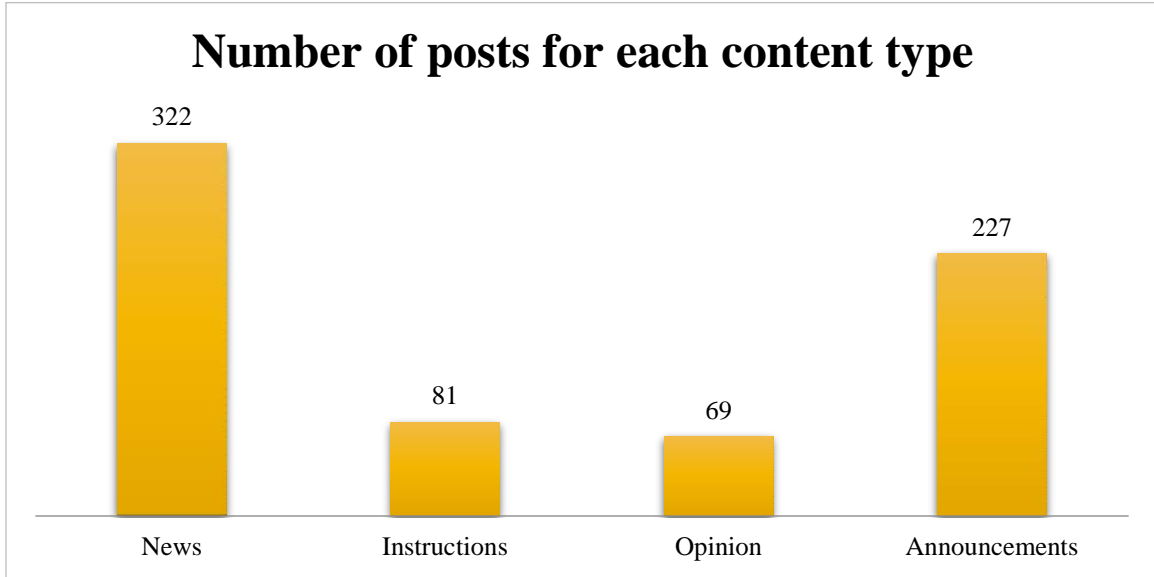
TWITTER.COM/THINK\_INCLUSIV...

**Announcement** posts include updates about agencies' activities, event announcement, surveys, job postings, etc. Any posts that did not fall in the previous categories are placed in this category.

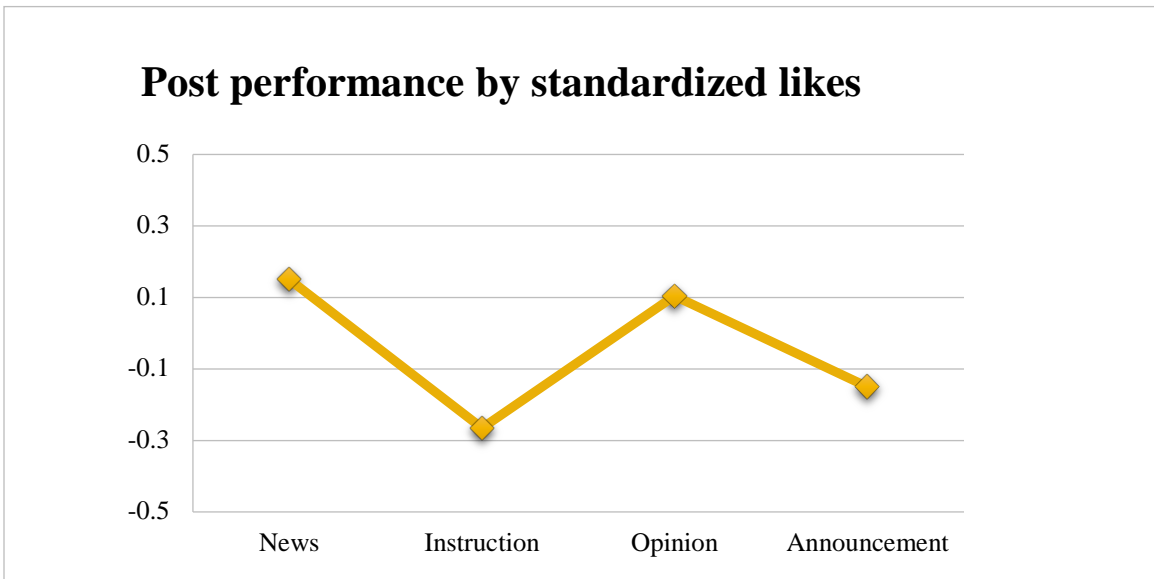
 **Disability Rights California**  
March 17 · 🌐

#WhatWeStandFor We envision a barrier-free world that values individuals and allows their voices to be heard. Support Disability Rights California as we fight policies and funding cuts at the federal level. Support what we stand for – what we fight for. <http://www.disabilityrightsca.org/.../dona.../WhatWeStandFor.htm>

 **Disability Rights California**  
Donations to this fund will be used by Disability Rights California to ensure that Californians with disabilities are guaranteed basic human rights: healthcare, affordable and accessible housing, education, and employment with competitive wages.  
DISABILITYRIGHTSCA.ORG

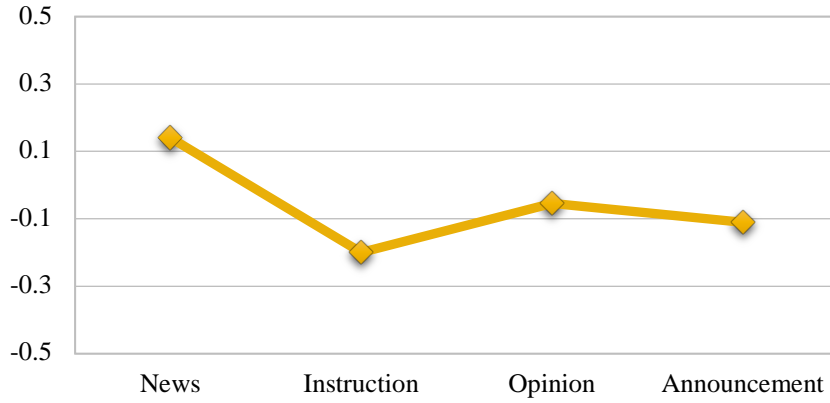


**Results: News posts are most likely to get the most likes, comments, and shares compared to other types.** Pair-wise statistical differences were significant in standardized likes (between news-instruction, news-announcement), standardized comments (between news-instruction, news-announcement), and standardized shares (between news-instruction, news-announcement). Opinion has the second highest likes, shares, and comments. There was no statistical significant differences between news and opinion posts.



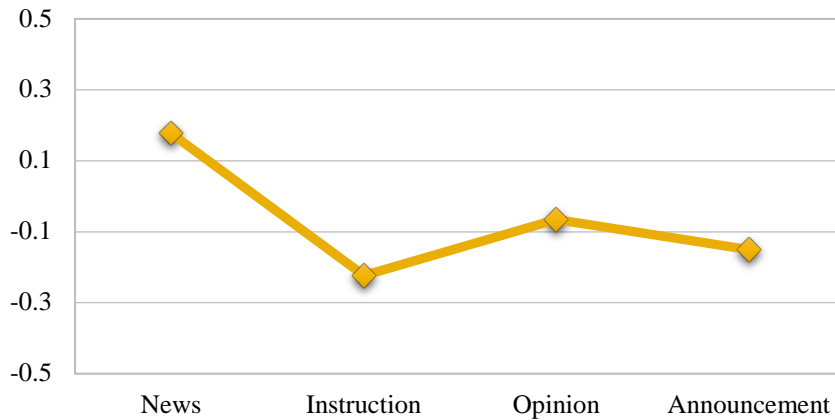
Note: Values are standardized such that the average number of likes equal zero.

### Post performance by standardized comments



Note: Values are standardized such that the average number of comments equal zero.

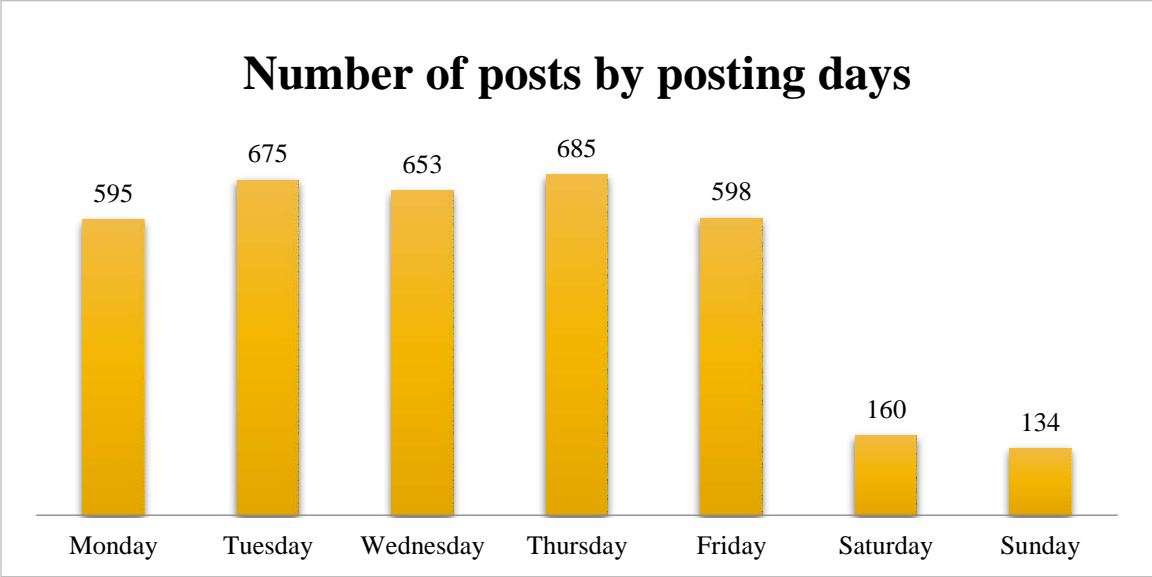
### Post performances by standardized shares



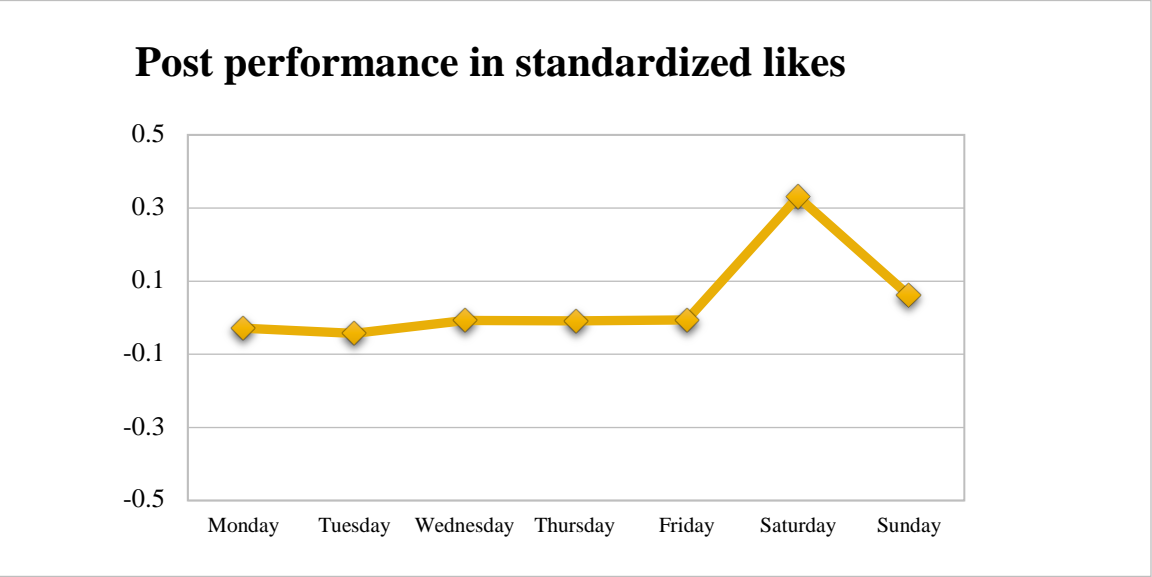
Note: Values are standardized such that the average number of shares equal zero.

### RQ3a: When are the best days to post?

To answer the question about posting time, we examined the full dataset of 3,500 posts. The posts were categorized in seven groups by days of the week. The chart below reports the number of posts by posting days (Monday through Sunday) from the total 3,500 posts.

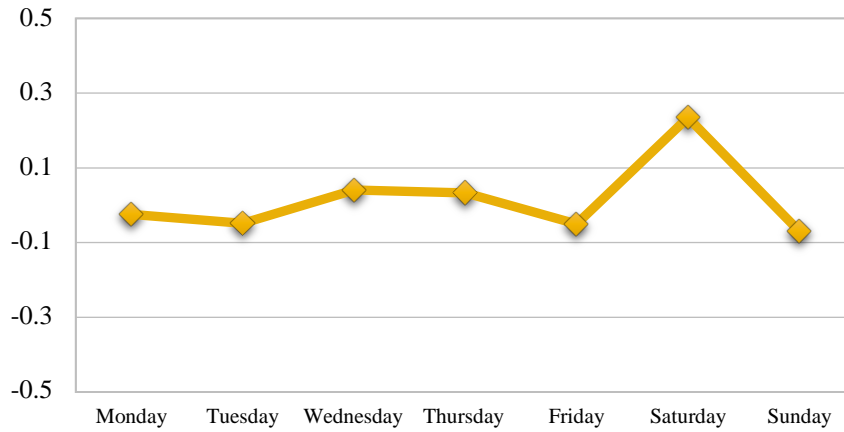


**Results: Posts on Saturday tend to get the most likes, comments, and possibly shares.** Pair-wise statistical differences were significant in terms of standardized likes (between Saturday-Friday, Saturday-Monday, Saturday-Thursday, Saturday-Tuesday, and Saturday-Wednesday) and standardized comments (between Saturday-Friday, Saturday-Tuesday). Descriptive statistics show that Sundays might be good for likes, Thursdays and Wednesdays might be good for comments, Sundays, Thursdays and Wednesday might be good for shares. However, these differences are not significant and should be used with caution.



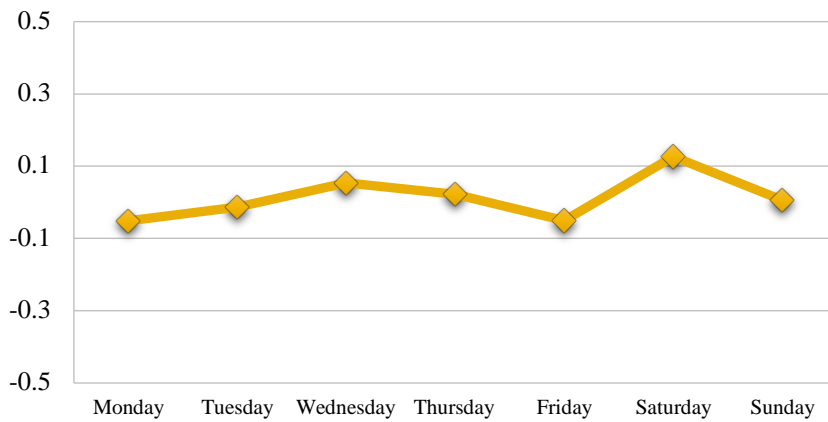
Note: Values are standardized such that the average number of likes equal zero.

### Post performance in standardized comments



Note: Values are standardized such that the average number of comments equal zero.

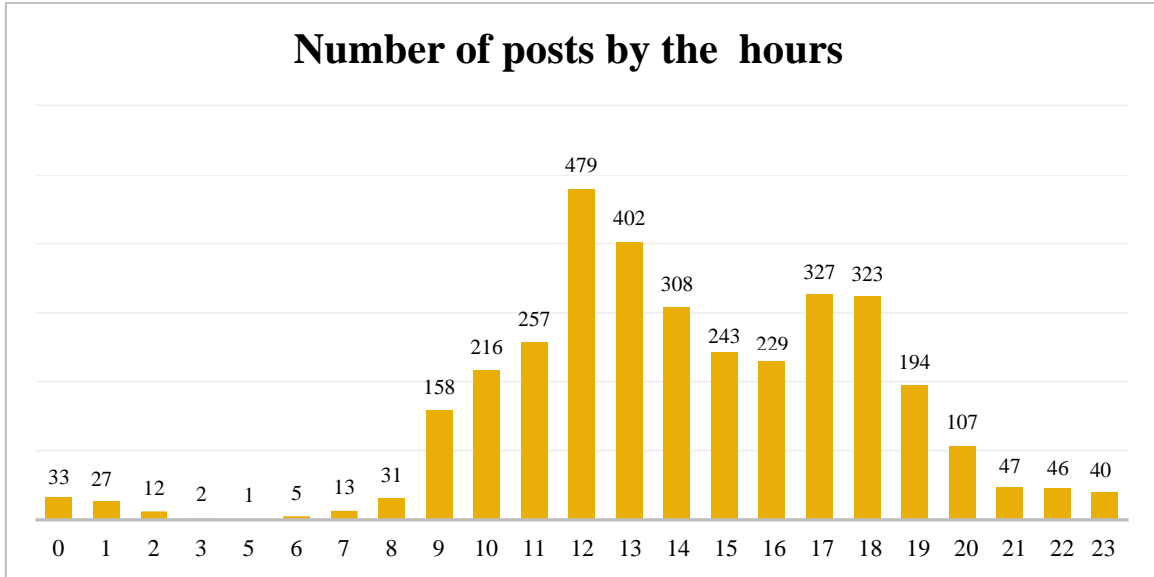
### Post performance in standardized shares



Note: Values are standardized such that the average number of shares equal zero.

### RQ3b: When are the best times to post?

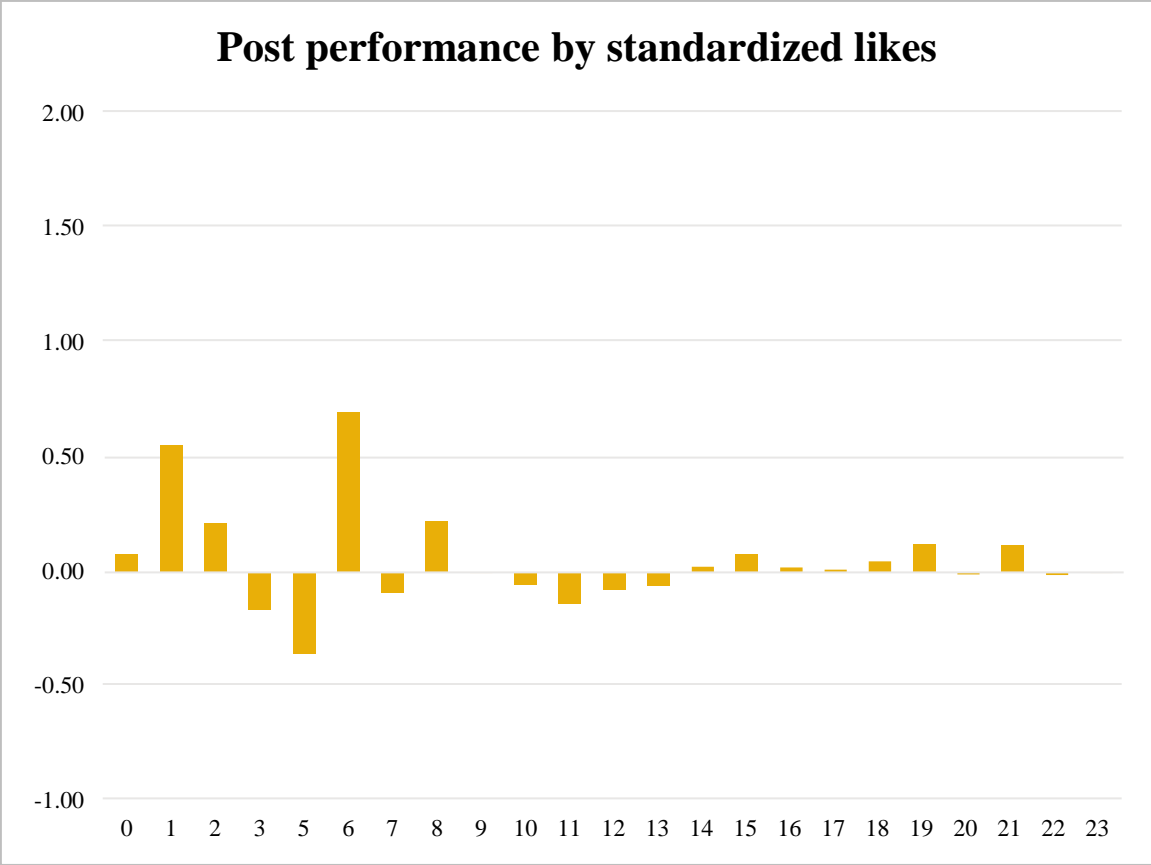
Using our 3,500 post dataset, the chart below shows the breakdown of number of posts by the hours of the day.



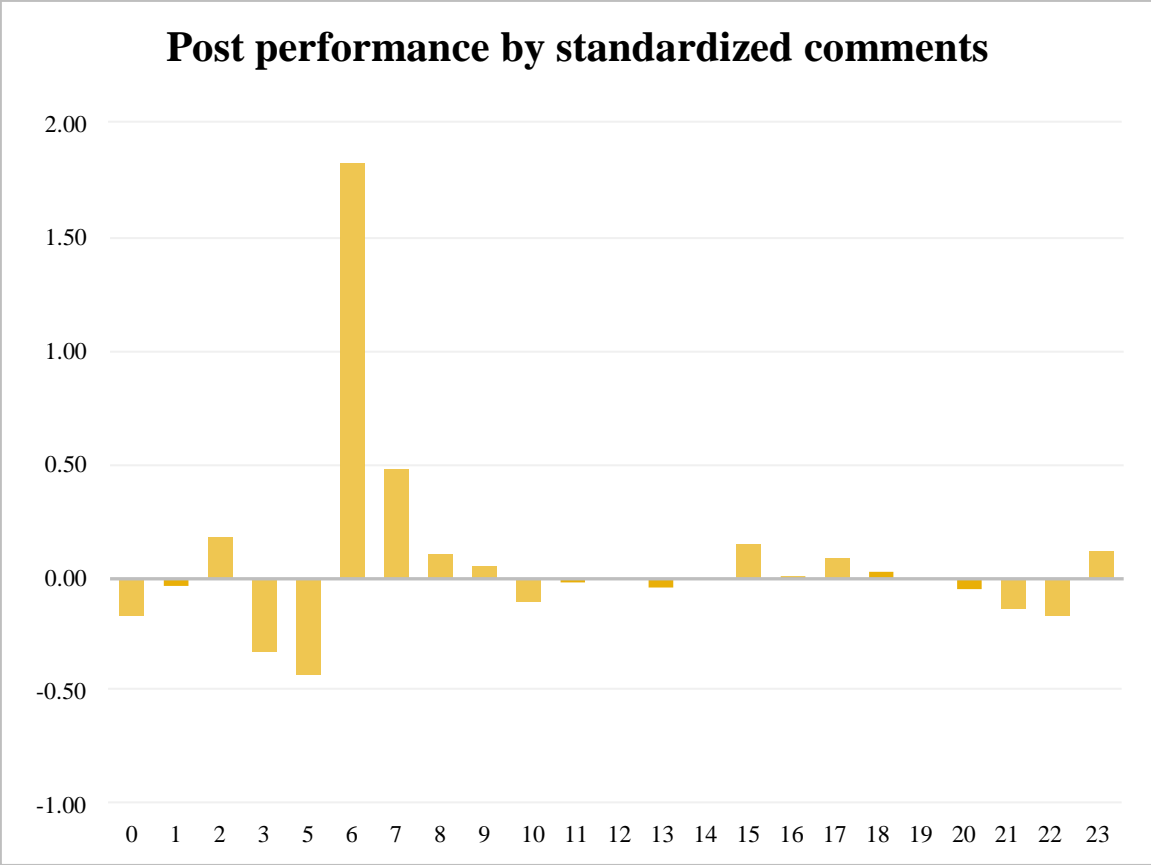
Note: The hours are in military time with 0 as 12am to 23 as 11pm.

**Results: There was not enough evidence to suggest the best posting times.** In terms of standardized likes, shares, and comments, several data points between the hours of 1-6 seem to differ greatly from the rest of the hours. However, since there were so few posts posted during these times, it is not reliable to generalize that those hours are more or less effective in gaining likes, shares, and comments.

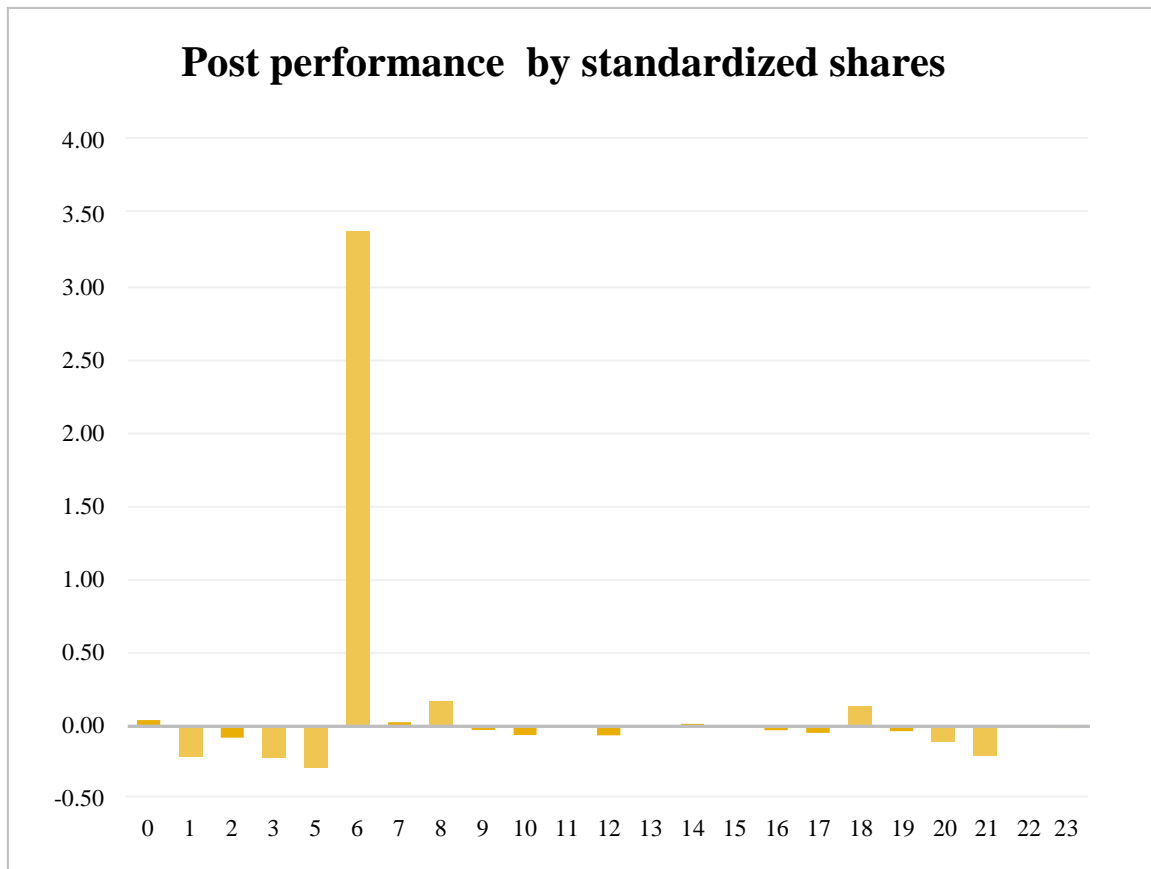
The only consistent trend is between the hours from 10 to 13, or 10 am to 1pm. Descriptive statistics show that all engagement metrics (standardized likes, comments, shares) were lower than average during these hours. However, a significant portion of postings (38.7%) occurred during these times. More data is needed in order to make concrete conclusions about posting times.



Note: Values are standardized such that the average number of likes equal zero.



Note: Values are standardized such that the average number of comments equal zero.



Note: Values are standardized such that the average number of shares equal zero.

## RQ4: What other factors might influence social media engagement?

Using the 700 post dataset (most recent 100 posts from each page), we examined whether there were other factors that could influence engagement.

**Results: Narrative presence or emotional expression might have partial effects on engagement.**

**The first factor is narrative presence.** We tested to see whether the presence of a personal narrative makes a post more engaging. An independent sample t-test was run to determine whether there was a significant difference between narrative posts (38/700 posts) and non-narrative posts (662/700 posts). Findings ( $p = .012$ ) indicated that result was significant for standardized likes: narrative posts ( $M = .53, SD = 1.30$ ) had more likes than non-narrative posts had  $M = -.03, SD = .97$ .

**The second factor was emotional expression.** We investigated whether expressing emotions in a Facebook posts help us gain more likes, shares, or comments. The textual contents of all posts were inputted into LIWC (Linguistic Inquiry and Word Count) software to see whether they contained “affective words”, or words implying positive or negative components. The program assigned each post an affective score. The higher the score, the more emotional the post is. If the post received a 0, it had a neutral sentiment that did not express any emotions. Since we were only concerned with whether a post was emotionally expressive, not the level of expressiveness, we categorized the 700 posts into 2 categories. Posts with affective scores greater than 0 were coded “emotional.” Posts with

a LIWC score of 0 was coded “non-emotional.” An independent sample t-test was then run to test differences between these two groups. There were 263 non-emotional posts and 437 emotional posts. Differences between posts with and without emotional expression were statistically significant in terms of standardized likes and shares ( $p = .007$  and  $.022$ ), but not comments. In terms of standardized likes, emotional posts had  $M = .08$ ,  $SD = 1.05$ , non-emotional posts had  $M = -.12$ ,  $SD = .88$ . In terms of standardized shares emotional posts had  $M = .06$ ,  $SD = 1.03$ , non-emotional posts had  $M = -.11$ ,  $SD = .93$ . In other words, a post expressing emotion, either negative or positive emotion, is more likely to attract more likes and shares than emotionally neutral posts.

# RECOMMENDATIONS

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## Platforms

The variety of social media platforms offers disability rights agencies with different options of platforms, while presenting an important challenge: how do we choose which platforms to spend our resources on? Based on academic and industry research, we recommend the following approach to choosing platforms of focus:

- **The most important platform at the moment is Facebook.** Not only does Facebook attract the most social media users compared to other social media sites, it also has the highest engagement time. People use Facebook for all kinds of purposes including social, entertainment, and informational goals. This is true both for the general population and for PWD. More importantly, when people are on Facebook, they spend more time consuming content than on other sites. Therefore, focusing efforts on Facebook would generally result in the highest return on investment.
- It is also recommended that **disability rights agencies be present on at least another platform.** Since social media users tend to use more than one social media sites, being on several of them increases the chance that content reaches out to more people. Additionally, the same content can be used multiple times by tweaking and posting it on multiple platforms.
- **Agencies should be strategic when deciding which platforms** other than Facebook to spend their resources on. Each platform has unique features and audience, and depends on agencies' resources and goals, some platforms are more effective than others. For example, Twitter is mainly a “news outlet” with more young and college educated users. Instagram is a visual, mobile-friendly, more female-dominated platform, with young users. LinkedIn is more popular among college-degree users with higher income. Pinterest is more prominent among female users with focus on specific interests. YouTube is a video sharing platform used heavily for entertainment and educational purposes. In the scope of this report, we mainly focus our analytics component on Facebook. However, insights from Facebook engagement could provide some ideas about social media engagement in general.
- **Regardless of the platforms, agencies need to make sure that their content is accessible,** as that is a major concern for PWD when joining social media.

## Post media

- Analytics findings show **video posts have the highest chance of gaining likes, comments, and shares.** However, video posts are only used 31 times out of the 699 posts sampled. Agencies, therefore, can leverage the use of videos to increase their followers' engagement.
- Since original videos are time-consuming and costly to produce, the easiest way to take advantage of video engagement is to share relevant video content, as agencies have done effectively with links.
- The new video feature, Facebook Live, has promising potentials of increasing engagement. Not only do they have the appeal of regular videos, their hybrid nature (can be viewed during or after the live event) encourages more conversations on the site.
- **Videos should be made accessible whenever possible.**

## Post content

- **From the analytics findings, news are the most effective type of content, followed by opinion posts.** Agencies should continue to share links to these news and opinion articles, with texts showing key takeaways or quotes from the original articles.
- **Instructions tend to have low engagement, which should be improved,** as these are important, useful informational materials that should be made known widely to the disability community. Additionally, previous research indicated that PWD use social media to find different instructional resources such as legal resources, or how to increase safety (SAFE/Disability Rights Texas, 2016). Therefore, it is important that Disability Right agencies find ways to make these contents more engaging and approachable. One way to improve instruction posts' engagement is by connecting with relevant news in the caption, connecting with personal narrative, or utilize the more engaging video format.

## Posting time

- Findings indicated that **Saturdays were more likely to attract audience engagement, however, they were rarely used.** Analytics results suggest agencies to explore posting on Saturdays to maximize this time frame.
- There was **no substantial evidence to prove that certain hours were more effective than others** in increasing engagement. The only consistent trend to note is the hour period 10 am to 1pm (local time). Engagement, on average, decreased during these hours. However, a significant posting occurred during these times. However, this trend was not statistically tested. We would recommend agencies to take into account the times their audience are online (using Facebook insights) and experiment with different times.

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