Emoji Usage Across Platforms: A Case Study for the Charlottesville Event

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Abstract

We study emoji usage patterns across two social media platforms, one of them considered a fringe community called Gab, and the other Twitter. We find that Gab tends to comparatively use more emotionally charged emoji, but also seems more apathetic towards the violence during the event, while Twitter takes a more empathetic approach to the event.

1 Motivation and Related Work

Emojis are increasingly viewed as a form of universal language used across platforms and cultures (Ai et al., 2017; Wijeratne et al., 2017). While information flow has been studied across social media platforms (Zannettou et al., 2017), to our best knowledge, emoji usage has not been compared before. This work aims to contribute in this area by comparing emoji usage across platforms. We focus on Twitter, a social networking site, and Gab, a largely unmoderated social media platform, studied mainly for its alt-right echo chamber-like properties (Zannettou et al., 2018). We describe insights into how emojis are used differently on these platforms and how they enhance the communication of human behaviors, in the context of a specific crisis event.

2 Data Collection and Analysis

The Unite the Right rally was held at Charlottesville, USA in August 2017. A protester ran his car through a group of anti-protesters, injuring 19 and killing one person, sparking online and offline social movements. We analyze social media activity related to this crisis event. We collected Twitter data between June to October, 2017 with a curated set of keywords including *cville*, *antifa*, *Nazi* and *neo-Nazi*, resulting in 608,657 tweets. The Gab data was extracted from publicly available data[1] within the same time frame and same filter rules as the Twitter data, consisting of 133,130 Gab posts.

We extracted all emojis from the Twitter and Gab corpora for English language users. These include only the Unicode characters, and do not include emoticons such as :). Next, we computed the sentiment and neutrality scores of emojis using the method described by Novak et al. (2015) from the emoji sentiment website.[2] The `ggplot` R package[3] was used to create the emoji sentiment maps as shown in Figure 1. The position of an emoji is determined by its sentiment score $\overline{S}$ (*x-axis*) and its neutrality (*y-axis*). The neutrality represents the objectivity of the emojis, while the size of the emoji represents frequency in the corresponding corpora.

3 Results and Discussion

Observations from analyzing the emoji sentiment map reveal interesting contrasts between the two platforms. The aggregate sentiment expressed via emoji usage, calculated using the occurrence of positive to negative emojis, is more negative on Gab than Twitter. Comparing individual emoji reveals that the frog face emoji 🐸 is used much more frequently on Gab than on Twitter. This is the Pepe the Frog meme

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[1] https://twitter.com/jasonbaumgartne/status/1057496300348940290
[2] http://kt.ijs.si/data/Emoji_sentiment_ranking/emojimap.html
[3] https://tinyurl.com/y9ekcutf

adopted widely by the alt-right. The heartbreak 💔 and peace ☮ emoji are starkly absent from Gab but present in Twitter, which might indicate apathy towards human violence surrounding the event. An interesting observation while analyzing the data in Gab and comparing sentiment expression with Twitter was that Gab users tend to post positive sentiment emojis within negative connotation text. An example includes *"well the other kid is clearly dressed in antifa garb...must have already lost the bandana... 😁"*.
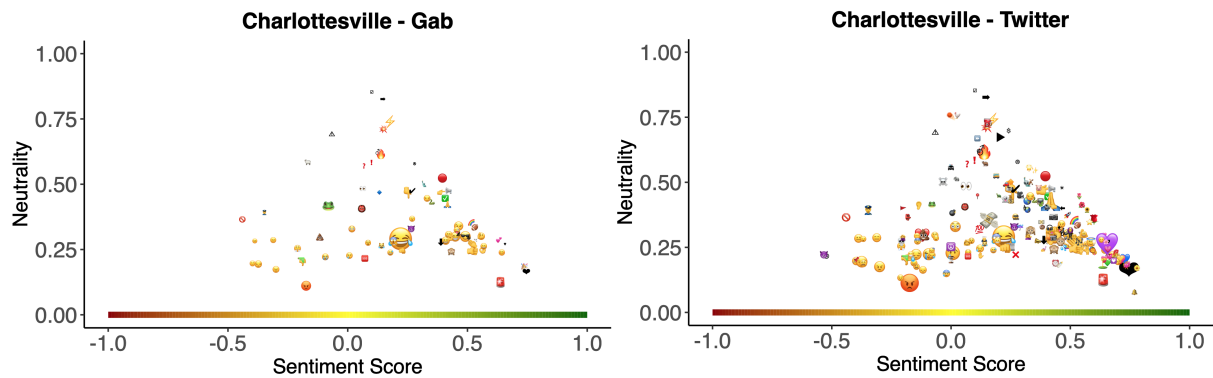
Figure 1: Emoji usage during the Charlottesville Protests on Twitter and Gab

Rank	Gab	Emoji SS	Usage %	Twitter	Emoji SS	Usage %
1	😂	0.221	19.79	😂	0.221	6.28
2	⚡	0.177	4.62	💜	0.654	5.38
3	👍	0.521	3.11	❤️	0.746	4.97
4	👎	0.247	3.06	👏	0.52	4.12
5	🐸	-0.08	3.01	😡	-0.173	3.79

Table 1: Top emojis used on Gab and Twitter. SS refers to the sentiment score. The 'Emoji SS' field is taken from the emoji sentiment website.

| Gab	Twitter
Well man... Its #Antifa 😂😂 try not to keep high expectations about anything related to them... Specially when it comes to logic or might involve general thought 😂😂	KKK tryna rally in Charlottesville 😂😂 wtf is going on? What year is it?
😂😂😂😂😂😂 "please kill yourself" You like that Jew #NeverTrumper #BenShapiro. Go to your local #Antifa rally and protest #Trump like all the other fags. #GabFam #SpeakFreely	Had no idea The KKK still around. In Virginia ? 😂😂
transgender Antifa member attacks a conservative videographer but ends up getting her/his ass kicked 😂😂😂 https://milo.yiannopoulos.net/2017/06/trans-antifa-wrecked-portland/	Not even kidding: The Charlottesville neoNazi marchers were using citronella tiki torches. 😂
🤣Haha! This ugly ass tranny got its ass handed to him for trying to bully the wrong person. Fuck antifa! He didn't get what he deserved but he got some lol 😂 https://twitter.com/bevhillsantifa/status/873720441117917184	Best part of the #Charlottesville #UniteTheRight March is those tiki torches were clearly purchased from Bed Bath and Beyond. 😂😂

Figure 2: Example usage of the 😂 emoji on Gab and Twitter

The trends observed in Figure 1 are also demonstrated via Table 1, which compares the top five most frequent emoji on both platforms. We observe that Gab users tend to use emojis in more quantities to emotionally charge their posts. Figure 2 shows a sample of the 😂 emoji usage on both the platforms. Gab users tend to use the emoji more in a sarcastic tone, whereas Twitter users tend to use the emoji more to express their disbelief during the event.

Our research points to the need of further study to understand how toxic speech could affect emoji usage. We aim to explore such differences across platforms towards the communication of human behavior, especially fringe communities such as Gab and compare them to social media platforms like Twitter.

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