

# Divergent Discourses: A Comparative Examination of Blackout Tuesday and #BlackLivesMatter on Instagram

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## Abstract

On May 25th, 2020, a viral eleven-minute clip showing the murder of George Floyd sparked international outrage and solidarity, leading to the digital memorial event Blackout Tuesday on Instagram. We analyzed posts to compare Blackout Tuesday discourse with #blacklivesmatter movement conversations. Using topic modeling, we identified dominant themes and counter-narratives in Blackout Tuesday and #blacklivesmatter captions. Using hashtag co-occurrence analysis, we investigate hashtag networks to situate the discourses within spheres of Instagram activism. Our findings indicate that both corpora share themes like "calls to action", but Blackout Tuesday posts are shorter and solidarity-focused, while #blacklivesmatter posts are longer and address white privilege more explicitly. #blacklivesmatter is linked to anti-racist activism hashtags, while Blackout Tuesday connects more with popular culture and #Alllivesmatter. This supports qualitative research on Blackout Tuesday's performative allyship, adding a quantitative perspective to existing research.

## Keywords

Blackout Tuesday, #blacklivesmatter, Instagram, Cultural Analytics

## 1. Introduction

The number of posts from the #blacklivesmatter movement (#blm) is estimated to be 28 million, which exemplifies the movement's impact on society [1, 2]. However, the popularity of the movement reached a peak when "Blackout Tuesday" (BT) took place, a digital memorial day on Instagram [1, 2]. BT was caused by a wave of outrage about the murder of George Floyd, an African American who was killed on May 25, 2020 by two white police officers in Minneapolis. The outrage was sparked by an 11-minute clip of the murder which went viral in social media. The video was posted in the context of the #blm movement and in a cultural setting where African Americans perceived law enforcement as agents of brutality [3]. To postulate solidarity with African Americans in their fight for racial justice, social media users posted a black square and added a post caption with the hashtag #blackouttuesday. Given the cultural context, the video supported the perception of white police brutality, white supremacy, and systemic injustice against African Americans. While #blm needed years to gain a large international audience, BT reached millions within a day.

The #blm movement has received significant attention in research and has had a strong impact on discussions in mainstream media; however, little attention has been

paid to BT to date. Most existing research on BT has been conducted using interview studies and hermeneutic methodologies. In addition, there is one quantitative study by Chang et al. [7] which examines the contents of images, focusing on visual and geographic analyses. Because a large share of the posts related to BT feature a black tile rather than an image, it is also important to examine the text in the post, the caption.

To fill this gap, this study used text mining to investigate the content of posts on BT. We examined the interrelations between BT and #blm by applying topic modeling and hashtag co-occurrence analysis to both discourses within the same period of time. Our aim was to understand how BT has impacted the #blm discourse. We also wanted to compare the different types of discourse, as BT is a digital memorial day, whereas #blm is a new social movement.

## 2. BT and #blm on Instagram

#blm is a movement started by the three African American women Alicia Garza, Patrisse Cullors, and Opal Tomet. It is described as: "an ideological and political intervention in a world where Black lives are systematically and intentionally targeted for demise. It is an affirmation of Black folks' contributions to this society, our humanity, and our resilience in the face of deadly oppression" [4]. The number of posts from the #blm movement is estimated to be 28 million, which exemplifies the movement's impact on society [1, 2]. #blm is a *new-new social movement*: hierarchical, participatory and decentralized, deeply mediated, accommodating both online and offline

CLiC-it 2024: Tenth Italian Conference on Computational Linguistics, Dec 04 – 06, 2024, Pisa, Italy

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repertoires, combining connective with collective action [5, 6]. In the summer of 2020, 20 million people joined protests to address racial injustice and demand accountability for the murder of countless Black people at the hands of law enforcement [7, 8].

BT was part of the campaign #TheShowMustBePaused, spreading from the music industry to social media [9, 10]. It was started by Jamila Thomas and Brianna Agyemang, both female music executives at major record companies in the U.S. [10]. The campaign was opened in response to the murders of George Floyd, Breonna Taylor, Ahmaud Arbery and other Black citizens at the hands of police [11]. Thomas and Agyemang encouraged music industry professionals to halt business operations for the duration of June 2, 2020 to prompt conversation about financial empowerment of Blacks in the music industry [10, 11]. The campaign involved posting a black square on Instagram, while refraining other social media activity that day [10]. Soon, the hashtag morphed and circulated, with posts being different than intended [9, 10]: the hashtag was used to postulate solidarity with George Floyd, instead of encouraging financial empowerment of Blacks in the music industry. This also impacted the #blm conversation on Instagram.

Often, users posted the hashtag #blm in #blackouttuesday posts. Hashtags allow users to find specific information or to monitor a situation because they serve to structure discourse centered around a specific topic in social media platforms like Instagram [12, 13]. In table 2, we show that nearly 10% of #blackouttuesday posts were tagged with the hashtag #blm. Using #blm in BT posts concealed #blm posts with social justice information, hindering critical collective organization [10, 13]. Therefore, #blm called not to use the hashtag along with BT posts. Next to concealing #blm posts, BT critics called it “white guilt day” [14]. Posts were considered as empty gestures [15, 10]. This accusation was not made in the context of #blm.

With a bird’s eye view on hashtag relations and topics, we hope to gain insight into differences between BT posts and #blm. Thus, we investigated the following research questions:

1. **Topic prevalence and significance:** What are the dominant themes and topics in the #blackouttuesday and #blm Instagram captions? Comparing the two, what are the core concerns?
2. **Counter speech:** Which counter narratives appear?
3. **Hashtag co-occurrences** Which hashtags co-occurring in the #blackouttuesday and #blm feeds are most prevalent, and do their interconnections form distinct clusters? What do these hashtag networks suggest about the broader contexts and intersections within the sphere of black activism?

4. **Digital memorial day versus new social movement:** BT and #BlackLivesMatter constitute different forms of political participation in social media. Is this visible in the posts, topical clusters and networks of hashtags? If so, can we draw conclusions about how discussions are led differently depending on the type of participation, in this case a memorial day versus a new social movement?

### 3. Data Collection and Description

Building on the framework of *Cultural Analytics*, we base our analysis on cultural sampling [16]. Because hashtags structure online discourse [12], we used the hashtags #blackouttuesday and #blm to create our cultural sample. Manovich highlights that current humanities research follows “Close Reading” [17] as the dominant paradigm of textual analysis which puts single artifacts by professional authors at the center of research [16, 18]. Using cultural samples allows to investigate nonprofessional vernacular created by “regular” people [16]. We add a distant reading perspective to existing research on racial justice movements by extracting a cultural sample of #blm and BT from Instagram posts.

We collected our corpus retrospectively using CrowdTangle<sup>1</sup>. We used the two search terms #blacklivesmatter and #blackouttuesday to find public Instagram posts published within a three month period following the death of George Floyd. Our corpus comprises posts from 05/24/2020 11:59 pm to 08/24/2020 12:00 am. We exported the data in two batches, as CrowdTangle’s search limits exports to a maximum of 300,000 posts. Using this method, we collected 548,249 posts for #blm, and 305,344 posts for #blackouttuesday. The CrowdTangle dataframes contain posts as a link to one image per post and the “description” column that contains the caption of the post. In addition, the exported data includes metadata for each post: The timestamp when the post was published, the username and name of the creator, and interaction metrics for likes and comments. Our analysis concentrates on captions, the textual part of Instagram posts. Additionally, we use the timestamps for a descriptive analysis of trends within our corpus.

We collected the top hashtags and sorted them by usage in Table 2. Expectedly, #blm posts referenced BT, with #georgefloyd, #blackouttuesday and #icantbreathe in the top twenty hashtags. Unlike #blackouttuesday, #blm contains no references to the original campaign #theshowmustbepaused in the top hashtags. #blackouttuesday also includes #alllivesmatter, a hashtag signaling counterdiscourse. Breonna Taylor, another victim of police brutality, is referenced in the #blm corpus.

<sup>1</sup>crowdtangle.com

**Table 1**

Comparison of BT and #blm statistics

	BT	blacklivesmatter
Type-token density incl. hashtags	0.96	0.88
Type-token density excl. hashtags	0.56	0.79
Average post length in tokens	19	69
Average post length in tokens excl. hashtags	16	60
Average sentence length in tokens	7	10
Average sentence length in tokens excl. hashtags	6	8

**Table 2**

Frequencies and percentages of hashtags for BT and #blm

Hashtags	Frequencies	Percent	Hashtags	Frequencies	Percent
#blackouttuesday	305159	100%	#blacklivesmatter	555992	100%
#blacklivesmatter	29849	9.78%	#blm	98124	17.65%
#theshowmustbepaused	15954	5.22%	#georgefloyd	73198	13.17%
#blackoutday2020	7745	2.53%	#justiceforgeorgefloyd	46370	8.34%
#georgefloyd	6742	2.21%	#blackouttuesday	25621	4.61%
#justiceforgeorgefloyd	6178	2.02%	#love	24172	4.35%
#TheShowMustBePaused	4667	1.52%	#nojusticenopeace	22030	3.96%
#blm	4557	1.49%	#protest	20363	3.66%
#love	3664	1.20%	#icantbreathe	17774	3.20%
#BlackLivesMatter	3003	0.98%	#racism	17189	3.09%
#vidrasnegasimportam	2725	0.89%	#justice	15364	2.76%
#stopracism	2665	0.87%	#breonnataylor	14953	2.69%
#icantbreathe	2523	0.82%	#blackgirlmagic	14821	2.67%
#blackout	2382	0.78%	#justiceforbreonnataylor	14768	2.66%

The type-token density is a measure for language complexity. It allows insight into the complexity of both discourses, which we present in Table 1. Expectedly, type-token density is high in both discourses when measured including hashtags. We attribute this to special characteristics of social media language, such as frequent use of hashtags, non-standardized spelling and the use of emojis. While BT has a higher type-token density than #blm when hashtags are included (0,96 vs 0,88), we can see that #blm has a higher type-token density when hashtags are excluded (0.79 vs 0.56 without hashtags). This shows that more different hashtags are used in #blackouttuesday posts than in #blm posts. At the same time, the text without hashtags is less lexically diverse than in #blm posts. The type-token density in #blackouttuesday is only slightly above average (0.56), while #blm has a type-token ratio that is quite high (0.79). #blm posts are also longer than #blackouttuesday posts. On average, #blm post length is three times longer than that of #blackouttuesday posts (69 tokens incl. hashtags to 19 tokens). This ratio remains consistent when subtracting hashtags (60 vs 16 tokens).

## 4. Hashtag Co-Occurrences

Omena introduces hashtags as natively digital objects that enable users to join debates on the local and global scale through their indexing function [19]. Following Roger’s digital methods approach [20], we use these hashtags as digital traces [21] to study the #blm movement in the light of BT. Co-occurrence analysis allows to extract a network of hashtags, which gives insight into the movements’ relations to other activist discourses indexed by hashtags.

For the co-occurrence analysis, we preprocessed both corpora in the same way. We extracted the hashtags from each caption using regex, lowercased the hashtags and counted the occurrences of each hashtag. We selected the top 1,000 hashtags for each corpus and created a co-occurrence network, counting the co-occurrence for each hashtag pair. Each network was imported to Gephi, where we used the modularity algorithm [22] to find hashtag clusters [23]. In a last step, we plotted the network for each modularity class within each of the two networks. These plots were the basis for our qualitative exploration of the hashtag clusters. Through this exploration, we were able to name each cluster based on the hashtags they contain. We extracted the modu-

larity classes associated with each hashtag to conduct a quantitative assessment of the hashtag clusters. We excluded the search hashtag from each network during this mapping process to mitigate potential biases (#black-outuesday for the one, #blm for the other). Each post was then assigned to a specific class based on a majority rule approach which considered the hashtags present in the post. We labeled cases as 'ambiguous' where a clear majority for a particular modularity class was not evident. The hashtag clusters are saved in a digital repository.<sup>2</sup>

## 5. Topic Modeling

Topic modeling is a method to cluster themes in large corpora that is widely applied in the digital humanities. Typical for social media data, our posts are quite short, with post length ranging from  $\bar{x} = 19$  token for BT posts to  $\bar{x} = 69$  token for #blm posts. Therefore, we chose to employ BERTopic [24] for the topic modeling due to its ability to handle sparse data.

We applied only minimal preprocessing. We removed @mentions for privacy protection and deleted 29 post duplications that are a result of the scraping process. Next to this, we removed words with two or less letters, stopwords and the hashtags.

After preprocessing and topic modeling, we assigned labels to the 100 most frequent topics of each dataset (postprocessing). For a human eye, it becomes clear that many topics follow broader themes. Therefore, we add an additional step by identifying broader themes consisting of similar topics after the postprocessing.

Firstly, we apply the baseline application of BERTopic [24], using UMAP for dimensionality reduction and the HBDSCAN minimal cluster size to 30 [25, 26]. This reduced the amount of topics drastically, which is why we set the minimal cluster size to 150 items. Although the baseline application of BERTopic [24] yields good results in terms of readability and topic diversity, we conducted an experimental study for finetuning on samples of both datasets to increase topic diversity ( $n=0,1\%$ ). Maximal Marginal Relevance considers the similarity of tokens with the document, along with the similarity of already selected keywords and keyphrase [27, 24]. We found that topic words consisted of two words instead of one in many cases, but would sometimes contain the same word twice. The application of MMR did not increase topic diversity. We found that the right preprocessing is more important to obtain high topic diversity.

## 6. Results

### 6.1. Core concerns and narratives

We visualize the most frequent themes occurring in the datasets in figure 1 and figure 2, with the bubble size representing the relative frequency within the 100 most frequent topics. The colors for shared topics in both discourses correspond. The datasets share many common themes. We identify that both datasets contain many "calls to action". Apparently, many posts aim to activate readers politically, for example by joining protests or signing petitions. Other calls to action are more generic, manifesting in topic words like *fight* or *change*. Other posts ask readers to become conscious of racism and white privilege. In the #blm dataset, 30% of posts are "calls to action", while only 13 % of the BT posts fall into this category.

We identified the theme "voice-of-color" in the topics. The voice-of-color is an established thesis from critical race theory. It holds that alleged minority status brings with it a presumed competence to speak about race and racism [28]. The speech act of "breaking the silence" appears in both corpora. It is more present in the #blm dataset (for a comparison, see figure 1 and figure 2). Within the BT dataset, this becomes visible with topics that include words such as *voice, heard, voices, use, space*. Within the #blm dataset, this becomes even more clear, with topics such as *Silent, silence, quiet, staying, silenced, Voice, voices, heard, amplify, use*.

Both corpora share themes, but we identify two big differences. Common themes are mentions of other anti-racist movements, references to African American artists and musicians, or references to platform affordances. A difference lies in internationality. 21% of BT topics are written in other languages than English, such as Spanish, German, French or Russian which points to the international character of BT (considering the 100 most frequent topics). In contrast, #blm is rooted in the English speaking countries U.S., Canada, and Australia [29]. Another difference between the corpora is the perspective of solidarity which is prevalent in BT posts. 7% of topics relate to solidarity, using hashtags like #icare or #togetherforchange. In contrast, the #blm dataset thematizes equality and privilege, calling out white privilege (3% of topics). While solidarity expresses the perspective of an outsider, the corresponding #blm theme expresses a deeper understanding of racism and systems of oppression.

### 6.2. Connection with other spheres of Black activism

The modularity algorithm discovered five communities within the hashtag co-occurrences for #blm, and six for BT. In case of BT, hashtags were split unevenly between

<sup>2</sup>[https://osf.io/cu2bj/?view\\_only=bc770f9539c64682a0bd477d5bd6bb99](https://osf.io/cu2bj/?view_only=bc770f9539c64682a0bd477d5bd6bb99)



the classes: Classes 2–4 contained between 3.6% ( $n=33$ , class 3) and 5.8% ( $n=53$ , class 4) of all hashtags, while the classes 0, 1, and 5 contained between 16.6% ( $n=152$ , class 0) and 35.4% ( $n=325$ , class 1) of all hashtags. The smallest cluster contains hashtags referring to food and animals. Class 4 contains references to sport and class 5 the #blackgirlmagic and #blackbusiness theme. The classes 0, 1, and 5 contain political hashtags, multilingual hashtags, and content-related hashtags (like #portrait). The hashtag #blackouttuesday appears in class 0, the multi-lingual class, possibly as the unique bridge to the other clusters. When mapping posts to modularity classes based on the top 1000 hashtags, 71.6% ( $n=56783$ ) of all posts were identified to belong to class 1, the cluster that contains most hashtags related to the movement, like #theshowmustbepaused and #justiceforgeorgefloyd. 10.6% of posts ( $n=8371$ ) were mapped to the multilingual cluster (0), 8.21% ( $n=6507$ ) to cluster 5, and 6.28% ( $n=4975$ ) of posts were classified as ambiguous, as they did not show a clear majority for the one or the other cluster. A minority of posts was mapped to classes 2–4.

The hashtags co-occurring in the #blm network are more evenly split into four clusters: from 37.3% ( $n=373$ ) in class 3 to 13.7% ( $n=137$ ) in class 2. Hashtags contained in the largest cluster (3) are mostly non-political and mundane (#family, #food, #college, #followme). The smallest class (2) contains #black+x hashtags, like #blackqueen, #blacknews, #blackbloggers. Class 0 (24.4%,  $n=244$ ) contains hashtags revolving around justice in combination with different topics, as well as allyship hashtags (e.g. #standwithyou), while class 1 (24.6%,  $n=24.6$ ) clusters hashtags related to politics and policy issues (e.g. #notmypresident, #guncontrol). The classification based on the hashtag mapping for posts shows a more even distribution for the #blm hashtag which is congruent with the hashtag distribution across clusters. Most posts were mapped to cluster 1 (31.1%,  $n=127410$ ), with the ambiguous classification coming second (19.2%,  $n=78706$ ). 17.5% ( $n=71907$ ) posts were mapped to the mundane class 3, and 17.3% ( $n=70947$ ) to class 0. Finally, the smallest amount of posts (15.0%,  $n=61308$ ) were classified to cluster 2.

In general, the #blm co-occurrence network shows that the social movement is closely related to other hashtags of Black activism, while also containing links to popular culture that are common to Instagram, such as art or photography. In the aftermath of George Floyd’s death, the hashtags #justiceforgeorgefloyd, #protest, #policebrutality, #justiceforbreonnataylor and the German hashtag #gegenrassismus (“against racism”), are closest to different spellings of #blm. An example of the hashtag’s relatedness to other movements of Black activism are empowerment hashtags, such as #blackexcellencex, #unapologeticallyBlack and #BlackGirlMagic.

While BT co-occurrence networks contain hashtags from a wider political spectrum than #blm, they are also

related to off-topic hashtags. For example, two hashtag networks contain mundane content related to the food blogging and wildlife, such as #animalsofinsta, #animallover or #wildlifeonearth. Another network revolves purely around U.S. sports men and basketball. Unlike the comparable co-occurrence network at #blm, these networks do not contain any other hashtags from African-American communities except for #blm and #blackexcellence within the animal topics. This shows the mainstream character of BT compared to #blm. This is supported by the wide political spectrum visible in solidarity hashtags, referencing conservative and republican hashtags alongside hashtags on the political left such as #socialist or contents related to the democratic party.

A shared topic are support networks for black businesses and empowerment content of black women, related to hashtags such as #BlackGirlMagic, #BlackEmpowerment or #melaninpoppin. Scholars have established that empowerment occurs within the realm of social media. For example, #BlackGirlMagic, introduced by CaShawn Thompson, negotiates societal presentations of Black women [30]. Black women-centered discourse achieves empowerment by highlighting their experiences in ways that are often neglected or distorted in traditional media outlets [31]. Within the #blm corpus, these hashtags are closely connected to mental health content. In the BT context, hashtags are connected to support hashtags for Black businesses.

### 6.3. Counter Speech

Another hashtag shared by both #blm and BT is the colorblind hashtag #alllivesmatter. #Alllivesmatter is a counter-protest hashtag whose content argues that equal attention should be given to all lives regardless of race [32]. The “All Lives Matter” movement is, “one of the primary ways in which people resisted the #blm movement [...] in the form of [...] a counterslogan to undermine the purpose and message of the #blm call to action” [33]. Powell et al. have shown that the use of #blm or #AllLivesMatter are signals of political identity [34].

### 6.4. Political Hashtags

Several political hashtags appear close to #blm, like #berniesanders, #NeverTrump, #NeverBiden and #Progressives. A number of city hashtags are close to these hashtags, namely #LosAngeles, #Hollywood, #Brooklyn, #Atlanta, and #Chicago. A study analyzing Twitter profile information found that the #blm movement is largely ignored in places with a large percentage of white or Hispanic populations, compared to places with smaller percentages of these groups [35]. Published in 2019, the study was conducted before BT which gave the #blm movement a new spark both in the U.S. and internation-

ally. A geospatial analysis could provide insight into whether this finding remains true after BT and if it is true for both #blm and BT posts.

## 7. Discussion: Digital memorial day versus new social movement

Previous work has investigated visual aspects of BT, studied posting motivations and the role of celebrities, while we studied Instagram post captions [36, 37, 14]. We contrasted topics and hashtag co-occurrences of the digital memorial event BT and the impactful movement #blm. We found that they share many similar topics, such as calls to action, mentions and thoughts of George Floyd, and connections to other antiracist movements. However, BT posts were posted from the solidarity perspective, while #blm discourse broaches the issue of white privilege. Moreover, #blm is more closely related to other hashtags of Black activism, while BT posts are more frequently connected to posts related to popular culture, underscoring its place in mainstream micro-activism. Nevertheless, topic modeling results show that many BT posts seek to mobilize people or express solidarity towards the murder or police brutality (see figure 2, figure 1).

We gain insight into networks of Black activism on Instagram. #blm is embedded in a network of anti-racist activism. Posts with the hashtag are on average more than twice as long and have a higher type-token ratio. In contrast, BT posts are shorter and contain many different hashtags. Posts in various languages characterize the memorial day as an international event. BT is an international spark of outrage – and in its nature more superficial than #blm. We point to Wellman’s study, who investigates BT in the light of performative allyship [37]. Next to this, future work should compare the contents of #alllivesmatter and BT posts.

## 8. Ethics

This paper is based on a poster created for the 8th annual conference of the association *Digital Humanities im deutschsprachigen Raum*, which called for papers with the topic “Kulturen des digitalen Gedächtnisses”, engl. *Cultures of digital memory* [38]. We researched #Blackouttuesday due to the actuality of the topic and the true interest in the memorial culture of Blackout Tuesday, an international memorial day to the African American victims of white police brutality in the U.S.. This paper is limited due to the authors’ outsider perspective. As white Europeans, we can in no way comprehend the

intersectional discrimination of African Americans and carry unconscious biases that are potentially harmful.

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## A. Appendix

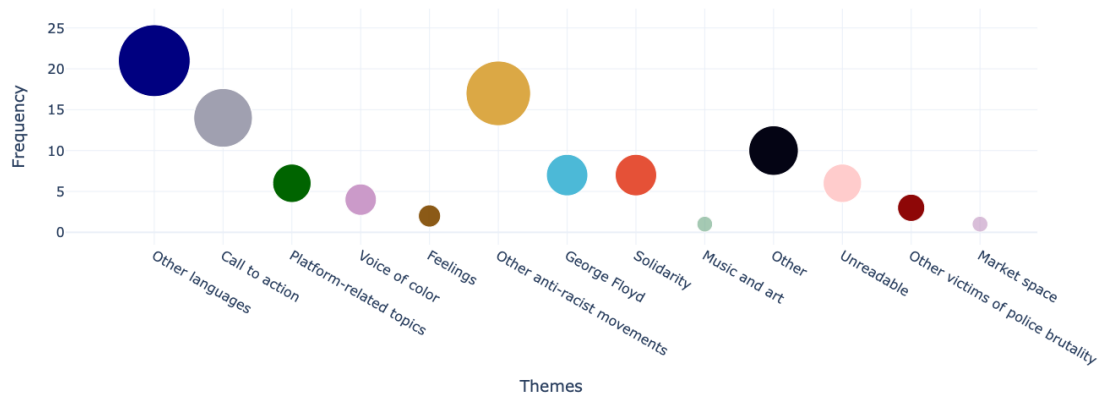


Figure 1: Distribution of BT topics sorted after themes.

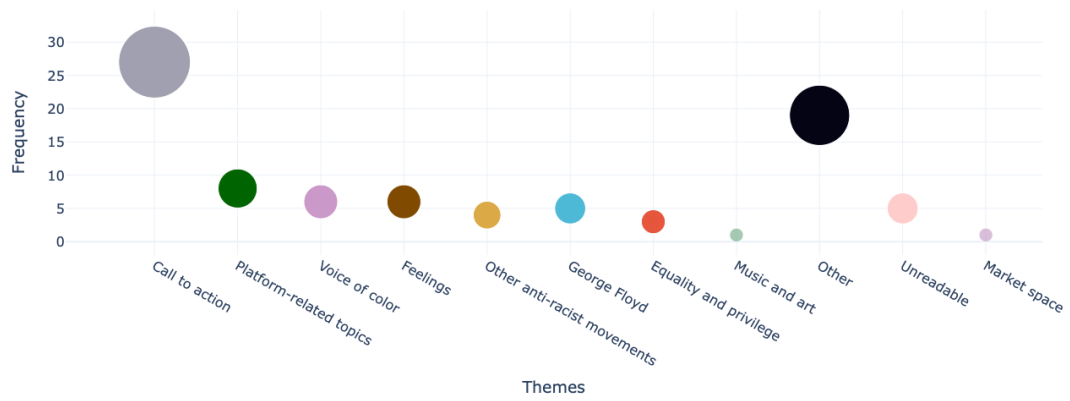


Figure 2: Distribution of #blm topics sorted after themes.