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Navigating negative emotions: The role of negativity bias in digital activism

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Abstract

This study investigates the influence of negativity bias in digital activism (e.g., #BlackLivesMatter, #AllLivesMatter, and Nike's #TakeAKnee campaigns). Analyzing over 3.5 million tweets across a decade, the research highlights how predominantly negative emotions, such as anger and disgust, shape public perceptions in the context of social justice movements and brand involvement in social issues. The results from a robust methodological framework, using social media analytics and advanced sentiment analysis tools like VADER and the TTL transformer model, showed that negative emotions significantly impact the overall sentiment of African Americans and companies like Nike. Specifically, anger within the #BlackLivesMatter and #AllLivesMatter discourses negatively related to overall sentiment toward African Americans, while emotions such as sadness in the #TakeAKnee discussions positively related to overall sentiment toward Nike. Also, expressions of disgust within #AllLivesMatter and #TakeAKnee were associated with positive perceptions of African Americans. In contrast, positive emotions such as joy, and the neutral emotion of surprise showed no significant effects. These results underscore the dual impacts of negativity bias in digital activism, indicating the need for strategies to mitigate its effects and enhance the effectiveness of digital campaigns.

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Introduction

Digital activism has significantly altered the contemporary landscape of social justice movements, bringing worldwide attention to pressing social issues through platforms like Twitter and Facebook. Hashtags such as #BlackLivesMatter (BLM), #AllLivesMatter (ALM), and #TakeAKnee (TAK) exemplify how social media can rapidly mobilize public support or opposition (e.g., Bestvater et al., 2023; Goodman et al., 2024).

While brands often engage in cause-related messaging or find themselves entangled in controversial social debates (for example, a public boycott call against a major retailer or coffee chain) (Pöyry & Laaksonen, 2022; Vredenburg et al., 2020), *their involvement can have unpredictable outcomes. Among various factors influencing these outcomes, we focus on how negativity bias and emotional contagion can amplify the effects of digital activism, sometimes undermining the original intent.* This study contends that understanding these emotional mechanisms, negativity bias (the stronger weight of negative information) and emotional contagion (the spread of that emotional state), is critical for explaining why certain campaigns spur support and others foster backlash.

Digital activism, which leverages electronic communications— such as social media, email, and other platforms—to advocate for political, social, or cultural causes (Shukla & Pandey, 2021), plays a crucial role in this dynamic. Researchers have shown that social media usage increases awareness of and engagement with global issues (Rotman et al., 2011; Valenzuela, 2013). However, the same mechanisms that drive activism and community engagement can also intensify negative sentiments, particularly around contentious matters of racial justice, leading to a backfire effect (Gerbaudo, 2017; Shah et al., 2013).

In addition, negativity bias - the human tendency to prioritize negative content (Kahneman & Tversky, 2013) - *can amplify adverse perceptions on social media, overshadowing any parallel positive narratives.* This dynamic becomes particularly significant when brands engage with social issues, as seen in Nike's stance on the Colin Kaepernick #TakeAKnee protests. The backlash and polarized reactions toward Nike demonstrate how negative bias can shape public discourse and influence brand perception.

Building on this, the current research examines how negative emotions, such as anger and disgust, and negativity bias shape public perception in online activism. Additionally, we investigate how emotional contagion - a process where emotional states spread from person to person (Hatfield et al., 1993) - contributes to the rapid proliferation of negative sentiment. Ultimately, we aim to provide insight into how these mechanisms impact both social movements (i.e., #BLM and #ALM) and brand outcomes (i.e., Nike's image during #TakeAKnee).

This study aims to investigate the impact of negative emotions in digital activism on both campaign objectives and the broader social and commercial environments. RQ1 *"How do negative emotions affect the general social outcomes of digital activism?"* explores how negative emotions in digital activism affect social engagement and behavior, analyzing their social outcomes. Building on this, RQ2a *"What is the impact of negative emotions on specific brands that support or are involved in digital activism?"* examines how the negative emotions of participants in digital activism influence brand image and consumer trust. Finally, RQ2b *"How do negative emotions alter broader social perceptions and behaviors in the context of digital activism?"* investigates the social impact of negative emotions on public opinion and explores whether these emotions can trigger

broader social changes. Collectively, these research questions provide a comprehensive understanding of how negative emotions function in digital activism.

This paper is structured to systematically explore the influence of negativity bias in social media-based digital activism. In the following, the paper progresses through a detailed literature review that contextualizes negativity bias within the domain of social media discourse and explores its implications for digital activism. Subsequent sections present our methodology, analyze the data, and discuss the findings in depth, offering a nuanced understanding of how negative emotions impact social perceptions and brand associations within digital activism campaigns.

Literature review

Brand activism

Brand activism can be defined as the efforts by brands to promote social, environmental, economic, or political causes, aiming to bring about social change while enhancing their brand image and loyalty (Moorman, 2020). Digital brand activism, a subset of brand activism, involves using digital platforms to disseminate messages, mobilize support, and engage with consumers on social issues (Rotman et al., 2011). Research shows that brand activism can have both positive and negative impacts on brand image and consumer perception. Brands that align with social causes can enhance their brand equity, consumer loyalty, and market differentiation (Sarkar & Kotler, 2020). For example, Nike's involvement in the #TakeAKnee campaign significantly bolstered its brand perception among supporters of the cause, demonstrating the potential positive impact of brand activism (Tufekci, 2017). Similarly, brands like Ben & Jerry's have successfully integrated activism into their brand identity, leading to positive consumer engagement and loyalty (Castillo Esparcia et al., 2023).

Several notable cases highlight the dual-edged nature of brand activism. The interaction of brand activism with social media can amplify negative emotions, significantly affecting how these initiatives are received by the public. For example, Starbucks' legal action against a pro-Palestinian tweet led to the #BoycottStarbucks movement, resulting in significant financial and reputational damage (Shah et al., 2013). *Although brand activism can enhance equity and loyalty* (Herzberg & Rudeloff, 2022), *negative emotional responses can overpower the intended positive messaging. This study highlights how consumers' negativity bias on social media can amplify even minor mistakes or unpopular stances. As a result, a well-intentioned activist campaign can quickly become a reputational hazard, underscoring the need to understand and manage negativity bias in this context.*

Negativity bias in social media discourse

Negativity bias, a psychological phenomenon where negative events or emotions have a more significant impact on an individual's psychological state than neutral or positive events, (Kahneman & Tversky, 2013) plays a crucial role in social media discourse. Müller-Pinzler et al. (2019) find that negativity bias towards self-perception is modulated by prior beliefs and self-esteem, suggesting that individual differences in processing negative information could influence engagement with digital activism content. Bachleda et al. (2020) introduce a survey-based measure of negativity bias in news selection, showing individual-level differences in attention to negative news, which could explain the heightened engagement with negative content in digital activism. Kätsyri et al. (2016) demonstrate that negative social media messages draw more attention than positive ones,

underscoring the role of negativity bias in the amplification of negative perceptions associated with digital activism campaigns. Li et al. (2020) find that anger, anxiety, and sadness significantly affect the propagation of social media posts after natural disasters, showing the impact of negativity bias on information dissemination in times of crisis, which could parallel the dynamics of digital activism.

In social media, negativity bias is intensified because negative posts and comments often garner higher engagement and spread more quickly across networks. Berger and Milkman (2012) showed that negative news articles were more likely to be shared on social media platforms than their positive counterparts. This is attributed to the heightened emotional arousal and cognitive processing elicited by negative information. Anger and disgust are frequently used in political discussions to rally support or incite opposition, not only in the real world but now increasingly on social media. Grover et al. (2019) found that discussions during the 2016 US presidential campaign significantly polarized users, emphasizing the role of social media in amplifying political emotions and influencing voter behavior. Additionally, negative emotions associated with social media-driven movements like #MeToo and #BlackLivesMatter can drive social activism by highlighting injustices and mobilizing individuals to act (Tufekci, 2017). Negativity bias plays a significant role in social media discourse, with negative emotions having a greater impact on engagement and influence than positive emotions. Therefore, it is crucial for brands to understand whether and how these emotions affect their social media messaging strategies.

Negative information can be very damaging to any brand (Ahluwalia et al., 2000) and can engender emotional responses such as feelings of sadness or betrayal that may threaten customer loyalty (Grégoire & Fisher, 2008) and negatively impact consumers' purchase preferences. Negative information such as exaggerated negative word of mouth, negative online review comments, or full brand onslaught via online forums, can reach customers rapidly and have a greater impact on consumers' brand perception and brand allegiance than the company's own marketing efforts (Harris et al., 2016; Homburg et al., 2015; Labrecque et al., 2013; Merlo et al., 2024). According to Merlo et al. (2024) "even customers who love a brand can turn against it when negative information enters the picture" (p.140). Two high-profile cases illustrate this point. The CEO of Abercrombie & Fitch (A&F) claimed that A&F was "exclusively for 'cool kids.'" The comment generated outrage: consumers petitioned against A&F and appealed to previously loyal customers to donate A&F clothing to the homeless (Fierberg, 2016). These anti-brand comments went viral, and the public outcry and anti-brand activism were directly linked to A&F's financial troubles (Thau, 2013). Spanish fashion brand Balenciaga experienced a similar online reaction and consumer responses to an advertising campaign that led to global mass boycotting of the previously popular brand. Negative information directly related to a brand may even turn brand-loyal customers against the brand, and studies indicate that customers with the strongest relationship react even more adversely (Grégoire et al., 2009) by seeking revenge or ignoring the brand.

Building upon the understanding of negativity bias, emotional contagion in digital environments was examined. This phenomenon, where emotions spread rapidly across social networks, magnifies the effects of negativity bias and significantly impacts public discourse and action. Emotional contagion, especially on social media platforms (Ahmad & Guzmán, 2021; Liu et al., 2022), adds complexity to how negative emotions propagate during digital activism campaigns, warranting a detailed examination of its influence on social movements and brand perceptions.

Emotional contagion

Emotional contagion, the process through which emotions spread among individuals through observation or interaction, is amplified on social media platforms due to the vast reach and the networked nature of digital interactions (Goldenberg et al., 2020). This phenomenon occurs when people subconsciously mimic the emotions they perceive in others, leading to a shared emotional experience (Hatfield et al., 1993). On social media, it can be intensified due to the rapid and widespread dissemination of emotional content (e.g., Kramer et al., 2014), impacting users' mood and behavior significantly (Ferrara & Yang, 2015). This contagion can create a cascade of negative sentiment when digital activism triggers negative emotions, leading to a backlash against the intended positive outcomes of activism. Norris (2019) revisits negativity bias, providing evidence from neuroscience measures, highlighting the fundamental role of emotional contagion in the spread of negative sentiments online. For instance, "doomscrolling" which refers to excessive engagement with negative news, is driven by emotional contagion (Shabahang et al., 2022). This shows that emotional contagion can exacerbate negative emotions and thoughts relevant to the dynamics of digital activism, even influencing involvement in digital activism. Leidecker-Sandmann (2021) discusses negativity in election campaign coverage, suggesting that media focus on negative events or so-called 'bad news' is more newsworthy, which can be seen as a form of emotional contagion where negativity spreads more readily than positivity. de León and Trilling (2021) demonstrate a negativity bias in news sharing and engagement on social media, with excessive anger in response to political news, highlighting how emotional contagion can influence the dissemination of political content online. For instance, expressions of anger or disgust at racial injustices can mobilize new supporters who recognize the moral weight of such messages.

Despite these challenges, negative emotions can sometimes play a positive role in digital activism. Research on the #ShutItAllDown social protest in Namibia shows that negative emotions expressed on social media can accelerate participation in social protests by highlighting injustices and mobilizing support for the cause (Eniayejuni, 2023). Additionally, Ferrara and Yang (2015) suggest that emotional contagion on social media can lead to a higher adoption of the emotions expressed, with negative emotions compelling users to engage more deeply with the content, although this comes with its own set of complex dynamics. These findings underscore the complexity of emotional influence in digital activism, highlighting both the risks and potential benefits of leveraging negative emotions within campaigns.

Conceptual framework

We integrate the concepts of negativity bias and emotional contagion to explain the dual-edged nature of negative emotions in digital activism. Although we measure discrete emotions as the independent variable (IV) and an overarching sentiment as the dependent variable (DV), these concepts inevitably overlap, making it difficult to completely disentangle discrete negative emotions from the overall negative tone. Nevertheless, by concurrently measuring both granular emotions (IV) and broader sentiment (DV), we gain a holistic perspective that captures the specific influence of discrete emotions and the overarching attitude, an approach that aligns well with our research objectives. RQ1 focused on understanding the broad social ramifications of negative emotions, particularly within the #BlackLivesMatter and #AllLivesMatter movements, on public sentiment towards African Americans. The investigations for RQ2a and RQ2b explored the specific effects on brands involved in digital activism, anticipating that negative emotions linked to the #TakeAKnee movement could significantly alter brand perception (e.g., consumer trust and loyalty

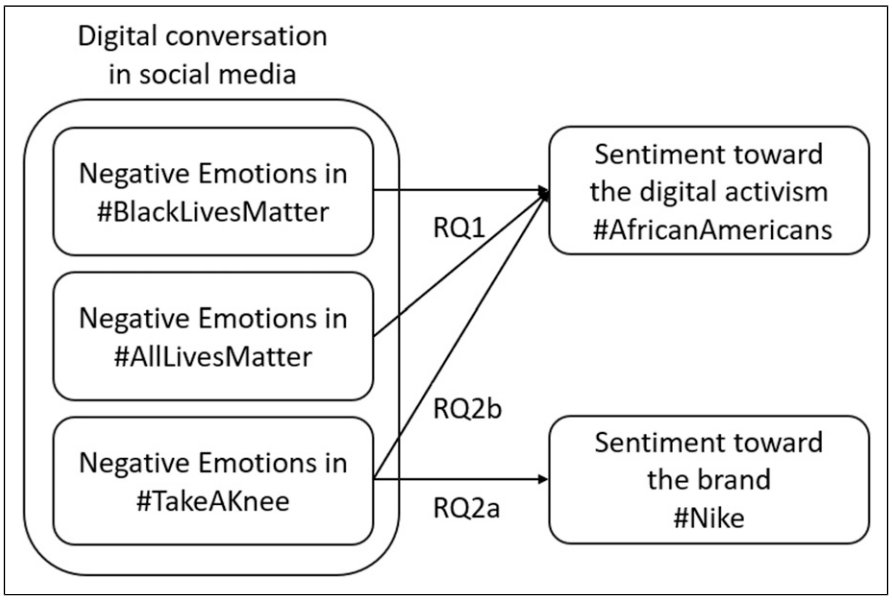

Figure 1. The impact of negative emotions in digital activism on public Sentiment.

toward Nike). RQ2b then examined how these emotions shape broader social perceptions and behaviors toward African Americans. Figure 1 outlines a research framework that delineates how negative emotions linked to different social movements can influence public sentiment toward specific entities. Collectively, these insights underscore the dual-edged role of negative emotions in digital activism, underscoring the importance of strategic emotion management to harness their power while mitigating potential pitfalls.

Method

Collecting dataset

To unravel the intricate interplay between social movements (#BlackLivesMatter and #AllLivesMatter) and the perceptions of African Americans online, we adopted a robust methodology to leverage the power of big data as recorded by social media analytics. Anchored in the Social Media Analytics Framework (Stieglitz et al., 2018), our approach comprehensively integrated data collection and analysis. Tweets were collected using Twitter API, which enables the extraction of public tweets by specified hashtags over a designated period.

The racial justice dataset consisted of a longitudinal sample of tweets, amounting to 2,214,912 in total, spanning a period of 10 years from August 2010 to August 2021. However, this approach does not fully address potential seasonal variations (e.g., spikes in emotion tied to holiday periods or key events). Due to privacy constraints and sparse location data, we cannot definitively confirm that all tweets originate from U.S.-based or African American users. Our sample thus captures broader public discourse around these hashtags, rather than strictly a single demographic. We highlight this as a key limitation in generalizing our findings. These tweets contained one or more of the following hashtags: #BlackLivesMatter (BLM), #AllLivesMatter (ALM), and #AfricanAmerican. It's crucial

to note that we maintained the exclusivity of these hashtags, excluding tweets featuring both #BlackLivesMatter and #AllLivesMatter, to ensure independent samples.

The #BlackLivesMatter movement originated in 2013 following the acquittal of George Zimmerman in the shooting to death of African American teenager Trayvon Martin. It is a decentralized social movement advocating against incidents of police brutality and all racially motivated violence against black people (Edrington, 2022). The hashtag #BlackLivesMatter became a rallying cry through social media, helping to mobilize community responses and bringing attention to the systemic racism that African Americans often face in the United States. In response to the BLM movement, the #ALM hashtag emerged. Antagonists of ALM argue that it was created to undermine the BLM message by diluting its focus on the specific injustices faced by African Americans. Proponents of ALM claim it promotes racial harmony by emphasizing the importance of all human lives, regardless of race (Gallagher et al., 2018). However, the ALM movement has been widely critiqued for dismissing or negating the specific issues of race and inequality that BLM seeks to address.

The study on brand polarization collected a dataset consisting of a longitudinal sample of tweets, amounting to 1,323,781 in total, spanning a period of seven years from August 2015 to August 2021. These tweets contained one or more of the following hashtags: #TakeAKnee and #TakeTheKnee, and #Nike.

The social activism campaign #TakeAKnee took place primarily between 2016-2017. Instigated by Colin Kaepernick, a quarterback for the 49-ers at the time, Kaepernick refused to stand up during the national anthem as a form of protest against police brutality and criminal injustices towards African-Americans. This act of protest spurred an extensive online conversation, predominantly centered around the hashtags #TakeAKnee and #TakeTheKnee. On September 5, 2018, Nike unveiled its 30th-anniversary campaign featuring Kaepernick, Serena Williams, and Lebron James. The advertisement generated significant backlash, with over 30,000 tweets using the hashtag #NikeBoycott, as many Nike customers threatened to boycott the brand (Intravia et al., 2020). Some customers, including social media personality John Rich, publicly demonstrated their dissatisfaction by burning, cutting and destroying their Nike products (Abad-Santos, 2018). Amid this controversy, President Trump predicted significant economic losses for Nike, arguing the company should have anticipated the public reaction.

Emotion analysis as independent variables

The advent of deep learning technology (LeCun et al., 2015; Mu & Zeng, 2019) has significantly advanced the field of Natural Language Processing (NLP) (Deng & Liu, 2018), particularly through the development of transformer models like BERT (Devlin et al., 2018) and RoBERTa (Liu et al., 2019). These models leverage self-attention mechanisms, which analyze the importance of each word in the context of others within the text, allowing for a nuanced understanding of complex linguistic structures. RoBERTa, an iteration over BERT, uses a much larger corpus for training (160 GB compared to BERT's 13 GB), enhancing its ability to interpret text data effectively.

The "transformer transfer learning" (TTL) model is an application of these transformer models specifically geared towards the detection and quantification of emotional content in text (Lee et al., 2023). This approach is crucial because it allows the identification and quantification of six basic emotions: fear, anger, sadness, joy, surprise, and disgust (Ekman, 1992), providing a structured framework to use these emotional metrics as independent variables in various analyses. This model incorporates a novel two-stage learning process. The initial phase involved training on over 3.6 million instances from four datasets comprising self-reported emotions. This stage was designed

to capture a wide array of emotional expressions as directly articulated by individuals. In the subsequent phase, the model underwent further training with more than 60,000 instances from seven different datasets, where emotions have been rated by annotators, aligning it with socially recognized emotional expressions. The TTL model demonstrates a commendable classification accuracy of 84% across 11 datasets, which are available online for academic research (Lee et al., 2023).

Lee and de Villiers (2024) provide a detailed application of TTL. Their analyses of over 3 million online book reviews uncovered emotional trends across different literary genres. The research identifies variations in emotional expression between fiction (hedonic) and nonfiction (utilitarian) books. Lee and de Villiers' study not only highlights the advanced capabilities of TTL in processing large-scale textual data but also sheds light on the nuanced emotional landscape of literary consumption. Their findings reveal distinct emotional patterns; nonfiction books elicited higher levels of joy compared to fiction, which showed higher intensities of anger, sadness, and surprise.

These insights, derived from TTL's analysis, demonstrate the utility of using quantified emotional data as independent variables. The TTL model quantifies the emotional context of each tweet by assigning probability scores to six specific emotions. Consider the tweet, "Unbelievable how poorly the medical community treated this black family. #BlackLivesMatter," where the emotion scores are as follows: Anger = 0.779, Disgust = 0.088, Fear = 0.021, Joy = 0.000, Sadness = 0.109, and Surprise = 0.002. This model captures the presence and intensity of each emotion with decimal values ranging from 0 (no presence) to 1 (full presence), with the total summing to 1. Such detailed analysis helps in understanding the complex mix of emotions in responses to social situations, showing how multiple emotions can be indicated as independent variables (Lee et al., 2021).

Sentiment analysis as a dependent variable

Sentiment analysis aims to identify the sentiment (negative, neutral, or positive) behind a series of words. The Valence Aware Dictionary and sEntiment Reasoner (VADER) is a lexicon and rule-based sentiment analysis tool that is specifically attuned to sentiments expressed on social media. Developed by Hutto and Gilbert (2014) at the Georgia Institute of Technology, VADER incorporates a combination of qualitative and quantitative methods to produce sentiment metrics. The tool uses a finely tuned sentiment lexicon of about 7,516 words, each rated for positive or negative sentiment strength. VADER is highly effective in capturing the sentiment of text data due to its sensitivity to both the polarity and the intensity of emotions.

The utility of VADER lies in its precision and reliability in real-time sentiment analysis, which makes it particularly advantageous for use as a dependent variable in various studies. This is because the output from VADER provides a continuous measure from −1 to +1, where −1 represents extremely negative sentiment, +1 represents extremely positive sentiment, and scores around zero represent neutral sentiment. This quantified sentiment can then be used as a dependent variable in research that explores the effect of various factors on public opinion or emotional tone in textual data.

An example of VADER's application is found in the study by Errmann et al. (2023), which explored the effects of mindfulness on the sentiment of tweets posted by participants of a 60-day online meditation challenge. The study applied VADER to assess the sentiment of tweets from users who completed the challenge with those who did not. The findings indicated significant differences in sentiment scores between the two groups, with those completing the challenge displaying more positive sentiment in their tweets. Specifically, the research showed that post-challenge, the tweets

of participants who completed the mindfulness meditation challenge showed higher positive sentiment than those who did not complete the challenge.

These insights underscore the value of using VADER for sentiment analysis as a dependent variable in behavioral research. VADER assigns sentiment scores to each word, rating them on a scale from 0 (0%) to 1 (100%), with the scores across categories (negative, neutral, and positive) totaling 1. For instance, in the tweet: "It's free! A short story about a man's conflict and fears. #AfricanAmerican", the sentiment analysis resulted in 0.344 of negative, 0.446 of neutral, and 0.21 of positive. The overall sentiment used as dependent variable, as indicated by a compound

Table 1. Tweet samples expressing specific emotions.

Emotion	Tweets	#
Anger	I'm livid about police killing Black people "How dare him": Chicago officials are livid about JS" #ChicagoPolice #BlackLivesMatter	BLM
Anger	#BlackLivesMatter is towards the police brutality in America. Yes i see how #AllLivesMatter was a comeback to it but it's not	ALM
Anger	"I am incandescent with rage. #TakeAKnee	TAK
Disgust	Disgust doesn't even begin to describe what I'm feeling… doubt there will ever be a word in the English dictionary to describe the callous disregard of black lives #BlackLivesMatter #WhyWeKneel	BLM
Disgust	That #BlueLivesMatter and #AllLivesMatter shit DISGUST ME!!! How yall gonna make some shit in response to BLM that's just foul. If you can't see that you FU	ALM
Disgust	"Raise your hand if you'd like to see a statue of #CK kneeling to replace any and I mean any of the disgusting statues being torn down … Would be Soo fitting current and important to … #TakeAKnee"	TAK
Fear	"Fear, panic, and trauma… This #BlackLivesMatter battle cry isn't new, it's just a different generation and a different mode of death. #60Minutes #Oprah #lynching #trauma"	BLM
Fear	The bigotry and white fear of anyone of color is palpable. It's also shameful and unnecessary. #AllLivesMatter #bigotry #WhitePeople	ALM
Fear	"England players will take a knee at the European Championship despite fearing an adverse reaction after the anti-racism gesture was booed by their own fans #England #TakeAKnee #Racism	TAK
Joy	He's the LK of the West, and I am ecstatic! #philly #progressivism #grassroots #democraticsocialism #BlackLivesMatter	BLM
Joy	Delighted by her highly perceptive observation! #AllLivesMatter #GenderInequality #womenpower	ALM
Joy	Today at the #MiddleChurch worship celebration we #TakeAKnee for prayer, a sacred act in our tradition. Join us and #TakeAKnee for peace, love, and justice wherever you are!	TAK
Sadness	Its been a while but it really breaks my heart to remember GF #BlackLivesMatter	BLM
Sadness	Just a tragedy for all. Such a majestic animal that lost his life due to human error #alllivesmatter #zoos do better	ALM
Sadness	My deepest condolences…#TakeAKnee	TAK
Surprise	CR's Explanation on Why She Doesn't Support Gun Registration May Surprise You:#BLM #blacklivesmatter #BLM	BLM
Surprise	"Wait, don't #AllLivesMatter? Curious."	ALM
Surprise	Out of curiosity, what do you think I would find if I looked for conservative opinion on #TakeAKnee and Black Lives Matter?	TAK

score of −0.271, leans negative. The compound score ranges from −1 (extremely negative) to +1 (extremely positive), with 0 being neutral.

Descriptive Statistics of Dataset

The detailed overview of the dataset encapsulates the multi-faceted dimensions of digital activism as seen through the lens of social media engagement metrics and the emotional undertones embedded within specific conversations using hash tags (#). The dataset captures a snapshot of public interaction with five prominent hashtags: #AllLivesMatter (ALM), #BlackLivesMatter (BLM), #AfricanAmerican (AA), #TakeAKnee (TAK), and #Nike, aggregating to a significant corpus of 3,538,693 tweets. Table 1 shows tweet samples expressing specific emotions analyzed by the TTL method. Note that names have been abbreviated and profanity has been removed.

Table 2 presents descriptive statistics of tweets analyzed by the TTL and VADER methods. In the realm of digital interaction, retweets are often considered a robust indicator of the resonance of a message. The data indicates that #TakeAKnee campaigns dominated this metric with an average of 3.4 retweets per post, suggesting a high level of virality and engagement compared to the other topics. #BlackLivesMatter follows, with an average of 2.8 retweets, reflecting its potent impact and conversation-stimulating power within the digital landscape. The lowest engagement, in terms of retweets, was associated with the #AfricanAmerican hashtag, suggesting either less controversy or lower levels of engagement with this tag compared to the others.

Replies can signify a deeper level of engagement, possibly representing dialogue or debate. The #TakeAKnee hashtag once again stands out, garnering 0.73 replies on average, perhaps indicative of the polarizing discourse it elicits. #BlackLivesMatter and #AllLivesMatter maintain moderate engagement, with replies indicating ongoing conversations related to these movements. The #Nike hashtag, while having fewer replies than #TakeAKnee, also seems to foster interaction, likely reflecting the brand's high-profile involvement in social issues.

Likes serve as a measure of approval or support. Here, #TakeAKnee leads with an overwhelming average of 9.2 likes per tweet, signaling strong solidarity or approval of the issues encapsulated by the campaign. #Nike also enjoys a relatively high approval rating with 2.9 likes on average, suggesting that the brand's alignment with social causes resonates positively with the audience. In

Table 2. Descriptive statistics of tweets, emotions and sentiment analysis.

Hashtag	ALM	BLM	AA	TAK	Nike	Total
Retweet	1.572	2.787	0.504	3.421	0.593	1.776
Reply	0.344	0.434	0.077	0.730	0.142	0.345
Like	3.751	5.889	0.796	9.198	2.881	4.503
N of words	17.732	18.353	16.195	21.706	17.270	18.251
Anger	0.431	0.488	0.222	0.537	0.074	0.350
Disgust	0.010	0.009	0.003	0.012	0.001	0.007
Fear	0.189	0.203	0.232	0.137	0.267	0.206
Joy	0.237	0.201	0.415	0.231	0.579	0.333
Sadness	0.100	0.073	0.084	0.055	0.028	0.068
Surprise	0.033	0.026	0.044	0.029	0.051	0.036
Sentiment	−0.018	−0.038	0.137	−0.018	0.252	0.063
N of tweets	578,986	1,283,595	352,331	231,977	1,091,804	3,538,693

contrast, the #AfricanAmerican hashtag seems to engage a niche audience, receiving fewer likes, which may reflect specific or targeted community interactions.

Analyzing the length of tweets (number of words) provides insight into the depth of discourse. Tweets under #TakeAKnee are significantly longer, with an average of 21.7 words, suggesting a propensity for more detailed discussion or expression of complex sentiments. #Nike-related posts also feature comparatively lengthy discourse, potentially pointing to narrative-driven engagement or comprehensive storytelling aligned with branding efforts. The number of words used in posts associated with #BlackLivesMatter and #AllLivesMatter are close, implying a similar level of complexity in the discussions they prompt.

Emotion analysis uncovers the underlying sentiment in the discourse. Anger is most prevalent in the #TakeAKnee and #BlackLivesMatter conversations, potentially reflecting the contentious and passionate nature of debates surrounding racial justice and civil protest. Joy is significantly present in posts tagged with #Nike and #AfricanAmerican, with the former likely reflecting positive brand engagement and the latter perhaps representing a celebration of cultural identity. The sentiment analysis reveals that #Nike has the most positive sentiment score, indicating successful engagement with its audience in the context of digital activism. On the other hand, #BlackLivesMatter and #AllLivesMatter exhibit negative sentiment scores, potentially highlighting the divisive and conflict-driven nature of these conversations.

In summary, the dataset reveals a complex tableau of digital activism. Hashtags associated with movements like #TakeAKnee and #BlackLivesMatter not only activate extensive engagement but also bring forth a spectrum of emotions, particularly anger and fear, reflecting the intense and often controversial discussions they generate. In contrast, #Nike, aligning itself with these conversations through branding initiatives, manages to strike a balance between engagement and emotional response, earning a predominantly positive sentiment. However, these dominant emotions may not significantly influence the dependent variable. The emotional intensity and context of the interactions might vary, leading to differing impacts on the overall sentiment, and the diverse nature of the dataset could dilute the influence of these specific emotions on the dependent variable.

Results

#BLM versus #ALM on African American sentiment

This section presents the results of the regression analyses conducted to assess the impact of sentiments related to the BLM and ALM movements on the perceptions of African Americans. The analyses were structured to capture the effects of specific emotions, such as fear, anger, sadness, joy, surprise, and disgust, within these movements. Our investigation relied on analyzing a comprehensive body of tweets featuring the hashtags #BLM, #ALM, and #AA. We applied a stepwise regression analysis to explore the role of emotions elicited by the #BLM and #ALM movements in the perception of African Americans. Stepwise regression is a method of fitting regression models in which the choice of predictive variables is carried out by an automatic procedure. This helps in identifying the most significant variables from a larger set and is used to analyze the impact of multiple variables by removing or adding predictors based on their statistical significance (Johnsson, 1992), ensuring that non-significant emotions are automatically excluded from the analysis.

The TTL method was used to identify specific emotion scores: fear, anger, sadness, joy, surprise, and disgust. These specific emotions, derived from the tweets, were averaged monthly from August 2014 to August 2021, covering a total of 85 months, in linear regression analyses. The VADER

Table 3. Regression analysis of BLM on sentiment toward African americans.

Analysis	DV	IV	B	S.E.	β	t	*p*	VIF
BLM	Sentiment	(Constant)	.684	.09		7.602	<.001	
	African	Anger_BLM	−1.046	.184	−.529	−5.676	<.001	1.000
	Americans	F = 32.217 (p < .001), R^2 = .280, adjR^2 = .271, D-W = 1.229						
ALM	Sentiment	(Constant)	.379	.064		5.936	<.001	
	African	Anger_ALM	−.488	.151	−.334	−3.224	.002	1.000
	Americans	Disgust_ALM	6.539	2.864	.232	2.283	.025	1.011
	F = 8.068 (p < .001), R^2 = .164, adj R^2 = .144, D-W = .992							

method was used to determine the overall sentiment score, derived from the tweets and averaged monthly for the same period from August 2014 to August 2021, also totaling 85 months. The monthly average of the six emotions as determined by the TTL method were then used as independent variables, and the monthly average overall sentiment scores determined by the VADER method were used as the dependent variable in stepwise regression analyses. Table 3 presents the detailed results of the regression analysis focusing on the influence of the BLM movement on sentiments towards African Americans.

Impact of #BLM on African American Sentiment: The first stepwise regression model for the BLM sentiment includes a significant statistical fit, explaining 28.0% of the variance in the perceptions of African Americans with an adjusted R square of 0.271. The model's adequacy is confirmed by an F-statistic of 32.217, which is significant at $p < .001$. The Durbin-Watson statistic of 1.229 suggests that there is no autocorrelation in the residuals, indicating that the model's assumptions were adequately met. Specifically, the regression coefficient for Anger BLM is significantly negative ($\beta = -0.529$, $p < .001$), indicating that as anger in #BLM tweets increases, the overall sentiment toward African Americans becomes more negative. In other words, increasing anger expressions within the movement correlates with a general decline in the broader public's positive perceptions of African Americans. This outcome suggests that despite the movement's intentions to advocate for racial justice, the prevalent anger may counteractively foster sentiments towards African Americans.

Impact of #ALM on African American Sentiment: Similarly, the second stepwise regression model for the ALM sentiment also indicated a significant effect, explaining 16.4% of the variance in negative perceptions of African Americans with an adjusted R square of 0.144. The model achieved an F-statistic of 8.068, significant at $p < .001$. The Durbin-Watson statistic of 0.992 suggests minimal autocorrelation among residuals. Specifically, anger as an emotional response significantly predicts perceptions ($\beta = -0.334$, $p = .002$), reinforcing the notion that the negative undertone of the ALM discourse influences public perception adversely. Interestingly, disgust in #AllLivesMatter tweets is positively associated with sentiment toward African Americans ($\beta = .232$, $p = .025$). One plausible explanation is that users might be expressing moral disgust at perceived injustices rather than disgust at African Americans themselves, which fosters sympathy for the group and thus elevates overall sentiment.

In summary, the results indicate that both the BLM and ALM movements, through the emotions of anger versus disgust, are associated with decreased versus increased perceptions of African Americans. This paradoxical outcome highlights the complex interplay between social media activism and public sentiment, underscoring the need for strategies that better align the emotional undertones of activism with its advocacy goals.

#TakeAKnee on Nike brand and African American sentiment

This section presents a comprehensive evaluation of the data collected over the course of the research study. The study sought to understand the influence of emotions in the social activism campaign #TakeAKnee on the overall sentiment towards Nike in the wake of their advertising campaign featuring Colin Kaepernick, and their effect on the sentiment towards the brand and the perception of African Americans. Our findings are based on a series of linear regression models, exploring how monthly aggregates of six emotions within tweets related to #TakeAKnee and #TakeTheKnee (independent variables) influenced the monthly aggregate overall sentiment within tweets pertaining to #Nike (dependent variable). Again, the monthly average emotions were used as independent variables, and the monthly average sentiment scores were used as the dependent variable in stepwise regression analyses. Table 4 provides the detailed results of the regression analysis examining the impact of the TAK campaign on sentiments toward Nike and African Americans.

Impact of #TakeAKnee on Nike's Brand Perception: We first used a stepwise regression analysis to examine the impact of the emotional climate surrounding #TakeAKnee and #TakeTheKnee on the perception of the Nike brand. Our model ran from September 2018 to August 2021, data after Nike's 30th-anniversary advertising campaign started on September 2018, comprising a total of 36 months of Twitter data. The first regression model assessing the impact of sadness on sentiment towards Nike was statistically significant, with an F-statistic of 6.780 ($p = .014$). The model explains 16.6% of the variance in sentiment ($R^2 = .166$), adjusted for predictors at 14.2%. The Durbin-Watson statistic of 0.960 indicates a low risk of residual correlation, affirming the independence of observations. Specifically, the positive coefficient for Sadness Tak ($\beta = .408$, $p = .014$) suggests that increased expressions of sadness associated with the #TakeAKnee movement correlate with a more positive sentiment toward Nike. This might indicate that the community's empathetic response to the emotional depth of the movement positively affects their perception of Nike, possibly due to the brand's existing long-term association with social justice issues.

Impact of #TakeAKnee on African American Sentiment: Another stepwise regression analysis was used to evaluate how the expression of disgust in #TakeAKnee tweets impacted the perception of African Americans. This study ran from August 2015 to August 2021, after the #TakeAKnee movement started, comprising a total of 73 months of Twitter data. This model is significant, with an F-statistic of 7.800 ($p = .007$), explaining 9.9% of the variance in perceptions ($R^2 = .099$) and an adjusted R^2 of 0.086. The Durbin-Watson statistic of 0.918 suggests minimal autocorrelation. Specifically, the significant positive coefficient for Disgust Tak ($\beta = .315$, $p = .007$) indicates that increased expressions of disgust within the context of the #TakeAKnee movement are associated

Table 4. Regression analysis of TAK on sentiment toward Nike and African americans.

Analysis	DV	IV	B	S.E.	β	t	p	VIF
TAK	Sentiment Nike	(Constant)	.281	.025		11.357	<.001	
		Sadness_TAK	.962	.369	.408	2.604	.014	1.000
	F = 6.780 ($p = .014$), $R^2 = .166$, adj$R^2 = .142$, D-W = .960							
TAK	Sentiment African Americans	(Constant)	.149	.013		11.246	<.001	
		Disgust_TAK	3.421	1.225	.315	2.793	.007	1.000
	F = 7.800 ($p = .007$), $R^2 = .099$, adj$R^2 = .086$, D-W = .918							

with more positive perceptions of African Americans. This outcome suggests that the negative emotional content of social media discussions can positively affect public sentiment.

These stepwise regression models provide a nuanced understanding of the role that emotions play in shaping public sentiment toward brands and social groups in the context of social activism campaigns. Our findings indicate that emotions such as sadness and disgust, expressed in the #TakeAKnee movement, have a significant impact on sentiment toward Nike and African Americans, respectively. The positive correlation between sadness and favorable sentiment toward Nike suggests that the empathetic response to the movement enhances the brand's image, possibly due to its alignment with social justice causes. Similarly, the positive association between disgust and perceptions of African Americans indicates that even negative emotions in social discourse can lead to positive shifts in public sentiment.

Discussion

For racial justice (#BLM *vs.* #ALM on African American Sentiment)

Our analyses, driven by the central research questions, explored the implications of negativity bias within digital activism, particularly through the #BlackLivesMatter and #AllLivesMatter movements. This study aimed to understand how emotional biases influence public perception and potentially undermine the objectives of campaigns promoting racial justice.

RQ1 explored the broad social consequences of negative emotions in digital activism. The regression analysis outcomes for the BLM and ALM movements revealed a significant correlation between negative emotions, especially anger, and the public's perception of African Americans. Anger within the BLM discourse was strongly linked to negative perceptions of racial justice, highlighting how the predominant focus on negative emotions can amplify adverse views, contrary to the movement's intentions of advocacy and equality. This result indicates that the prevalent focus on negative emotions in social media dialogues amplifies the negativity bias effect, leading to adverse public perceptions of African Americans. Consequently, it can be inferred that heavily relying on negative emotions in social media conversations may not be advisable if the aim is to foster positive public perceptions. Research supports this by showing that negative emotions such as anger in social media can enhance the negativity bias effect, leading to adverse public perceptions (Park, 2015). For example, tweets under the hashtag #BlackLivesMatter expressing anger, as analyzed by the TTL method, often focused on injustices and grievances related to racism and police brutality. Tweets ranged from personal outbursts to critiques of public figures, and reactions to specific incidents involving racial tensions. For example, one tweet reads, "The Vice President. Pretends to be offended. Knew what was coming. #haiku #idiot #NFLBoycott #BlackLivesMatter" highlighting anger at political responses, while another states, "I'm livid about police killing Black people," reflecting widespread outrage over police violence.

Our findings suggest that negative emotions can be transformed into positive influence. This is evident in the case of the ALM movement, where expressions of anger versus disgust were shown to increase negative versus positive perceptions. Anger within the ALM discourse was strongly linked to negative perceptions of racial justice and its hypocrisy, leading to adverse public perceptions of African Americans. For example, the tweets under the hashtag #AllLivesMatter predominantly expressed anger, often directed at perceived hypocrisy, racism, and political issues. The sentiments reveal frustration towards the counter-narrative to #BlackLivesMatter, with many users criticizing the lack of genuine support for equality and justice. For example, one tweet reads, "They're against deficits when they're out of power, explode them when they're in power. They're part of the

#AllLivesMatter crowd when it comes to controlling women's bodies." highlighting political hypocrisy, while another states, "I am reaching Hulk-levels of annoyance at white people declaring that it should be #AllLivesMatter instead of #BlackLivesMatter," emphasizing frustration with the phrase's usage.

Disgust, a basic emotion signaling aversive social interactions, can sometimes be perceived as a moral emotion that highlights injustice and wrongdoing. This perception can have a more complex impact on public views. While disgust can indicate repulsion and negativity, it may also moralize purity, thereby amplifying the moral significance of protecting the purity of body and soul (Horberg et al., 2009). Disgust can thus lead to stronger moral condemnation of behaviors violating purity, as well as increased approval of behaviors upholding it. For example, some tweets including the hashtag #AllLivesMatter expressed a strong emotion of disgust, often directed towards perceived injustices, hypocrisy, and moral failings. These tweets criticize a range of issues including the mistreatment of individuals, insensitivity towards movements, and societal behaviors deemed offensive. For example, one tweet states, "WARNING:::This is so vile that it should make you recoil! I seriously feel sorry for your soul if you do not find this disturbing!" while another expresses, "That #BlueLivesMatter and #AllLivesMatter shit DISGUST ME!!! How you all gonna make some shit in response to BLM that's just foul." Therefore, the presence of disgust in tweets not only signals a strong emotional reaction to perceived injustices and moral failings but also serves to amplify the moral discourse around these issues, potentially leading to greater public condemnation and a call for upholding moral and social standards.

Further addressing RQ1, our study points to the need for strategic approaches that can effectively manage the focus on negative versus positive content. Campaigns might benefit from incorporating strategies that not only raise awareness but also foster a balanced emotional dialogue. This could involve emphasizing stories of empowerment, success, and unity, which might counterbalance the prevalent negative narratives and align more closely with the movements' goals of fostering positive social change. The significant role of specific emotions such as disgust in potentially creating positive perceptions towards African Americans, as seen in some aspects of the #AllLivesMatter discourse, suggests a nuanced emotional landscape. This unexpected finding indicates that even traditionally negative emotions can sometimes contribute positively, depending on the context and narrative framing within digital discourse. The interplay between digital activism and public sentiment is complex and influenced heavily by social media's inherent negativity bias. This study highlights the need for more nuanced strategies in digital activism that consider both the potential and pitfalls of emotional contagion. By strategically managing the emotional content of social media campaigns, activists and organizations can better harness the power of digital platforms to support racial justice effectively.

For brand polarization (#TakeAKnee on Nike Brand and African American Sentiment)

In exploring the complexities of brand polarization within digital activism, our study addressed RQ2a and RQ2b, which focus on the impact of negative emotions on brand engagement and the broader social repercussions of these emotions in digital activism campaigns. Specifically, we examined Nike's involvement with the #TakeAKnee campaign to explore how negative emotions affect both brand perception and societal discourse.

In addressing RQ2a, our findings suggest that emotions such as sadness and disgust, despite their negative connotations, can have a surprisingly positive impact on brand perception. The linear regression analysis revealed that sadness expressed in the context of #TakeAKnee is positively

correlated with a more favorable sentiment toward Nike. This implies that the public may interpret Nike's association with the movement as a reflection of the brand's empathy and commitment to social justice. The underlying mechanism here could be emotional contagion, where the public's empathetic response to the sadness associated with the movement enhances their perception of Nike's role in advocating for important social issues (Gensler et al., 2013; Triantafillidou & Yannas, 2020); for example, the tweets under the hashtag #TakeAKnee expressing sadness, focusing on themes of grief, mourning, and a sense of loss. These tweets often highlight the symbolic nature of taking a knee as a respectful gesture to honor victims of injustice and express collective sorrow. For example, one tweet states, "Noticed the flag on our town square at half-staff this morning. Our flag itself 'kneels' to symbolize the collective sadness and grief of a nation," while another reflects, "We the people are in mourning for our democracy, liberty and justice so we should #TakeAKnee instead of standing." Therefore, our findings suggest that sadness can positively influence brand perception, as it aligns the brand with empathetic values and social justice, thereby enhancing its image even in a negative context.

In addressing RQ2b, on the other hand, disgust—a traditionally negative emotion—also had a notable effect, but in a different context. The expression of disgust in relation to #TakeAKnee was found to positively influence perceptions of African Americans. This counterintuitive finding suggests that negative emotions in social media discourse can sometimes lead to positive shifts in societal attitudes, perhaps by galvanizing support or triggering critical reflection among audiences: for example, tweets with the hashtag #TakeAKnee expressing strong emotions of disgust, primarily toward the perceived disrespect of the national anthem and flag by those participating in the movement. These reactions often extend to criticisms of public figures, events, or actions that are seen as undermining patriotic values. For example, one tweet states, "Disgust at the un-American choice of white NFL players to stand for the national anthem," reflecting the disgust towards perceived hypocrisy, while another mentions, "If 45 is so disgusted by the San Francisco verdict, maybe he should #takeaknee," highlighting disgust at political actions and decisions. Therefore, our study suggests that disgust can shift broader societal perceptions by highlighting moral injustices and reinforcing or challenging societal values, thereby influencing public sentiment towards African Americans.

In summary, our study reveals that while negative emotions like sadness and disgust may appear detrimental, they can serve to elevate brand perception and influence societal discourse in nuanced ways. Sadness can evoke empathy and solidarity, improving brand image by aligning it with social justice. Disgust, meanwhile, can draw attention to moral failings and injustices, potentially fostering a deeper connection with audiences who value integrity and ethical behavior.

Conclusion

This comprehensive study explored the complexities of digital activism, scrutinizing how negativity bias and emotional contagion shape public perceptions and brand sentiments within movements such as #BlackLivesMatter, #AllLivesMatter, and Nike's #TakeAKnee campaign. Through an analysis of over 3.5 million tweets, we investigated the dual-edged nature of digital platforms in activism, particularly how negative emotions are amplified, thereby impacting the effectiveness of campaigns and influencing brand alignment with social causes. Notably, our results showed that, unlike negative emotions that exhibited both negative and positive effects, positive emotions such as joy and neutral ones like surprise did not exhibit significant statistical effects. This emphasizes the powerful sway of negativity bias in digital activism and its implications for managing social campaigns and brand strategies effectively. Contrary to the

assumption that negative sentiment always signals opposition, our findings reveal that negative language can also reflect moral indignation or 'righteous outrage' against perceived injustices. In other words, some seemingly negative expressions may, in fact, support rather than oppose a cause.

In addressing RQ1, which sought to understand how negative emotions affect the general social outcomes of digital activism, the study found that emotions like anger and disgust significantly shape public perceptions, particularly in movements like #BlackLivesMatter and #AllLivesMatter. The analysis revealed that anger within the #BlackLivesMatter discourse is strongly associated with negative perceptions of African Americans, suggesting that while the movement aims to advocate for racial justice, the dominant expression of anger may inadvertently reinforce negative stereotypes or perceptions. Conversely, disgust within the #AllLivesMatter movement, despite being a negative emotion, was linked to more positive perceptions, indicating that the moral indignation associated with disgust can sometimes lead to a stronger condemnation of perceived injustices and thus improve public sentiment towards African Americans. These findings underscore the complex role of negativity bias in digital activism. The amplification of negative emotions on social media platforms can have both intended and unintended consequences, shaping public discourse in ways that may not always align with the original goals of the movement (Li et al., 2023). This highlights the importance of strategic emotional management in digital activism, where campaigns should consider balancing negative emotional appeals with more positive or neutral narratives to avoid potential backlashes or misinterpretations.

In relation to RQ2a, which examined the impact of negative emotions on specific brands involved in digital activism, the study found that emotions such as sadness within the #TakeAKnee campaign positively influenced public sentiment towards Nike. This suggests that the empathetic response elicited by sadness can enhance brand perception, particularly when the brand is seen as aligning with socially just causes. Nike's involvement in the #TakeAKnee movement, despite the controversy, ultimately benefited from the emotional resonance of the campaign, reinforcing the brand's image as a supporter of social justice. Further, RQ2b explored how negative emotions alter broader social perceptions and behaviors in the context of digital activism, particularly beyond direct brand impact. The study revealed that disgust associated with the #TakeAKnee movement positively influenced perceptions of African Americans, indicating that negative emotions can, in some contexts, foster a more favorable public sentiment. This finding challenges the conventional understanding of negative emotions as purely detrimental, showing that they can also play a constructive role in shaping social narratives when aligned with moral or ethical considerations.

Theoretical implications

First, negativity bias in digital activism underscores how negative emotions such as anger and disgust can amplify both messages and behaviors. While commonly seen as harmful, these emotions can also be morally driven and support social justice aims, as demonstrated by their varying effects on perceptions within #BlackLivesMatter and #AllLivesMatter.

Second, the dual nature of negative emotions highlights their context-dependent impacts: anger in #BlackLivesMatter may unintentionally reinforce negative stereotypes, whereas disgust in #AllLivesMatter and #TakeAKnee can foster positive views and sympathy for marginalized groups.

Third, emotional contagion and brand alignment illustrate how sadness in movements like #TakeAKnee can actually boost a brand's image (e.g., Nike). This finding stresses the importance of

not only managing brand messages but also considering how shared emotional responses can shape public sentiment toward corporate activism.

Fourth, moral indignation and righteous outrage reveal that negative language does not always signal opposition; it can also convey a principled stance against injustice. By channeling moral convictions through seemingly negative expressions, digital activism can strengthen collective resolve and stimulate more impactful engagement.

Practical implications and strategies

First, a key takeaway from this study is the profound influence of negativity bias in digital activism, particularly regarding anger and its potential to harm both social causes and brand perception (Li et al., 2023; Park, 2015). While anger can amplify adverse views, minimizing its use in public-facing communications is advisable for fostering positive sentiment (Rim & Song, 2016). This aligns with existing research indicating that negative emotions are more readily shared and can escalate quickly on social media (Frau et al., 2023). Consequently, practitioners should manage emotional contagion by proactively directing discussions toward constructive narratives or solutions, such as petitions or donations, before anger dominates the discourse.

Second, sadness and disgust may yield surprisingly positive outcomes when strategically employed, whether to strengthen brand image or to underscore moral and ethical failures (Gensler et al., 2013; Horberg et al., 2009; Triantafillidou & Yannas, 2020). Sadness can evoke empathy and highlight a brand's commitment to social justice, aligning it with consumers who value ethical behavior and inclusivity (Fournier, 1998; Keller, 1993). Disgust, despite being a negatively valenced emotion, can spotlight moral violations and provoke stronger condemnation of injustice, thereby rallying support for the affected group. As shown in this study, both sadness and disgust can positively influence perceptions of brands or marginalized communities by heightening empathy and moral awareness.

Third, to protect and enhance brand trust amid potential controversies, transparent communication is vital (Lee & Chung, 2023; Tong & Chan, 2022). Companies should clearly articulate their stance on social issues, offer actionable solutions, and maintain a consistent tone that conveys hope and accountability—even when addressing charged topics such as racial justice or political protest. These efforts help sustain credibility and positive brand associations throughout a crisis, building upon established frameworks for mitigating reputational damage (Ahluwalia et al., 2000; Fennis & Stroebe, 2014). Moreover, real-time emotion analysis tools (e.g., VADER, TTL) allow marketers to track public reactions and swiftly adjust messaging to steer sentiment in a more favorable direction (Rim & Song, 2016).

Lastly, a proactive approach to countering negativity can be bolstered by the mere measurement effect, wherein measuring individuals' intentions influences their subsequent behavior (Morwitz et al., 1993; Morwitz & Fitzsimons, 2004). By asking how consumers might respond to future negative information, brands can build resistance to unfavorable narratives without priming audiences with explicit negative scenarios (Ein-Gar et al., 2012; Mikolon et al., 2015; Wagner et al., 2009). Such preemptive strategies address the research gap in fortifying brand strength before crises arise, complementing more extensive work on post-crisis management (Ahluwalia et al., 2000; Fennis & Stroebe, 2014; Fournier, 1998; Keller, 1993). Taken together, these tactics—balancing negative emotions, leveraging empathy, maintaining transparent communication, and anticipating audience responses—can help organizations navigate the intricacies of digital activism, safeguard brand equity, and advance broader social objectives.

Limitations and future research

This research, while extensive, has limitations that suggest caution in generalizing the findings. *First,* one primary limitation is the inherent bias in the data source, Twitter. As a platform, Twitter may not comprehensively represent the wider demographic and opinions found in the general population (Murthy et al., 2016). Its users tend to be younger, which might skew perceptions and emotional expressions in ways that are not fully representative of all age groups or cultural backgrounds. Second, while our dataset captures English-language tweets tagged with movement or brand hashtags, user demographics (such as U.S. residence or racial identity) cannot be conclusively verified. Hence, generalizability beyond social media discourse remains limited. Third, our sentiment and emotion measures do not fully distinguish negative stances (hostility) from negative expressions indicating support (e.g., anger over injustices). Topic modeling or qualitative content analysis could supplement these measurements, clarifying the intent behind negative language and clarifying how effectively the campaign "worked." Fourth, although the longitudinal design spanned multiple years, we did not formally remove or test for seasonal patterns in monthly tweeting. Future research could employ time-series techniques (e.g., deseasonalization) to further isolate potential cyclical or event-driven spikes in sentiment and emotions. Lastly, we acknowledge that negative words, such as 'anger' or 'hate injustice,' could reflect either opposition to the movement or morally driven outrage in its favor. Accordingly, future research might use topic modeling or content analysis to distinguish these contexts, clarifying whether negative sentiment indicates disapproval or a passionate call for justice.

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Ethical statement

Ethical approval

This article does not contain any studies with human participants or animals performed by any of the authors.

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The original data pertinent to this study can be made available upon formal request.

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