

On the Tightrope: Multivocality Use by Extremist Ideological Groups on Digital Platforms

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ABSTRACT

Extremist ideological groups strategically communicate across platforms and face the decision of whether to diversify their focus to appeal to a broader audience or narrow it down to achieve specific objectives. One approach involves adopting multivocality: communicating about diverse issues but emphasizing a limited set of issues on each platform. Using qualitative and computational analyses of social media communications (203,730 tweets) of extremist ideological groups ($N = 44$), Study 1 found that most extremist ideological groups engage in multivocality by emphasizing different issues on their X feed compared to their website. Study 2, a controlled, randomized laboratory experiment of individual reactions to a simulated ideological group's online messaging ($N = 196$) indicated that when these groups adopt a multivocal strategy, viewers perceived the messages and the group as less credible but recalled and disseminated the messages more.

KEYWORDS

Extremist Ideological Groups, Social Media, Online Platforms, Multivocality, Recall, Mention, Credibility

INTRODUCTION

Ideological groups utilize digital platforms to promote their values and beliefs. While some ideological groups use digital platforms to build a sense of community and belonging, others exploit them to spread hate and incite violence. These groups ostracize others, heighten social tensions, and even endorse or celebrate violent actions aligned with their worldview (Angie et al., 2011; Schafer, 2002; Scrivens et al., 2023). Their messaging has the power to influence viewers to adopt more extreme attitudes and to act on ideological beliefs (Corner et al., 2023; Lee & Leets, 2002). This influence not only extends to active group followers and radicalized individuals, but it can be pervasive among

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the public, particularly affecting young people, who tend to be more susceptible to radicalization via interacting with extreme content online (Bene, 2017; Sugihartati et al., 2020).

The frequency with which young individuals view such rhetoric highlights the importance of understanding how extremist ideological groups utilize digital platforms to influence them. Prior research has examined rhetoric of these groups on different digital platforms and has found that they craft digital messages to recruit followers and that these messages have varying degrees of credibility and traction (Dunbar et al., 2014; Freelon et al., 2020; Sharma et al., 2017). Extremist groups have been increasingly active across multiple platforms, such as websites and social media sites, to reach a larger audience (Lawrence & Robertson, 2023). However, little work has examined how such groups communicate across different platforms (e.g., group websites versus social media), although some preliminary evidence has suggested that some groups adapt each platform's messaging to serve different purposes and audiences (Phadke & Mitra, 2020). To date, the pervasiveness and effectiveness of such messaging strategies in this context remain unknown. If researchers in the field of countering targeted violence do not address this gap, there is the risk of overlooking how extremist groups tailor their messaging across platforms to recruit and influence different audiences. Studying these platforms in isolation ignores their interconnected nature, making it harder to detect broader communication strategies and to counter their spread.

The present two studies investigate the prevalence of multivocality among extremist ideological groups and its effects on young users' information processing and perceptions of the extreme content. Consistent with previous literature, we conceptualize *multivocality* as variation in the adoption, promotion, discussion, and defense of issues across platforms (Nekmat & Ismail, 2019). Thus, groups that emphasize different issues on different platforms use a multivocal strategy (Baptista et al., 2017; Malik et al., 2018). To investigate the prevalence of multivocality, we used a combination of qualitative and computational analytic techniques to analyze the messaging of extremist ideological groups on their websites and on X (formerly known as Twitter). To discover the causal effects of multivocality on young individuals, the second study involved a controlled, randomized experiment that exposed undergraduate students to a mock website and X feed from a fictional extremist ideological group whose core messaging revolved around the right to bear arms with no governmental control. We manipulated multivocality, number of likes and retweets (i.e., virality metrics), and user verification to evaluate their effects on recall and mention of information and on perceptions of message and group credibility.

Thus, the purpose of our studies is twofold. First, we aim to extend prior research and to address gaps in our understanding of messaging strategies extremist ideological groups adopt across platforms. Second, we seek to understand the effects of this strategy on the processing and perceptions of young digital platform users, particularly in conjunction with platform features that could moderate the effects of multivocality. We contribute to the literature on extremist online messaging by investigating a phenomenon that does not assume that each platform's rhetoric occurs in isolation. Rather, we recognize that these platforms operate as interconnected entities and that groups and individuals tend to have a presence on multiple digital platforms (Auxier & Anderson, 2021). In practice, our findings contribute to greater awareness about messaging strategies that affect recall and perceptions of credibility, outcomes that are positively related to developing favorable attitudes and behaviors toward the messenger (Belanche et al., 2021; Kelly et al., 2015; Murphy et al., 2020).

PRIOR LITERATURE AND CONCEPTUAL LENS

Ideological groups, such as political, religious, and social activist organizations, hold strong beliefs about how society functions and how members should perceive the world (Mumford et al., 2008). Extremist ideological groups promote hate speech and violent activities to achieve their goals, attacking entire classes of people based on their characteristics. The number of these groups has been growing in the United States along with the number of hate crimes committed (Federal Bureau of

Investigation & Department of Homeland Security, 2021; Southern Poverty Law Center, 2021). They leverage digital platforms to frame their messages, recruit adherents, and mobilize collective action (e.g., Bliuc et al., 2018; Winter et al., 2020). They are increasingly using multiple digital platforms, such as websites and social media platforms (Boira-Lopez et al., 2025; Lawrence & Robertson, 2023). Extremist ideological groups appear to recognize that based on visible and imagined audiences, they can benefit from engaging in strategic self-representation, framing messages differently from platform to platform (Phadke & Mitra, 2020; Zhao & Lindley, 2014).

Although there has been little work done on extremist communication practices across platforms, preliminary evidence has suggested that extremist ideological groups adapt messaging from platform to platform to serve different purposes and reach different audiences. Certain hate speech and opinions that garner pushback in certain online platforms may receive support and praise in a different online venue (Walther & Whitty, 2021). Thus, with the potential opportunity for segmentation in messaging, extremist ideological groups may engage differentially with issues on each digital platform. Employing multivocality—emphasizing different issues on different platforms—increases the likelihood that users will encounter content that resonates with their belief system. This in turn will result in greater attention to the content and the group's ideology (Connelly & Zweig, 2015; Halberstam & Knight, 2016). Multivocality would appear to be an attractive strategy, but a caveat is that nowadays, viewers are also present on multiple digital platforms, and exposure to varying content across platforms may make the group's central message too complex and ambiguous, reducing its influence and credibility (Van Swol et al., 2016). In any event, the expected application of multivocality is unclear, motivating our first research question, RQ1: To what extent do extreme ideological groups engage in multivocality across platforms?

Besides investigating the frequency of multivocality among extremist ideological groups, we are interested in evaluating its effects on users. Since these groups advocate for the adoption of their ideology on digital platforms, we delve into the impact of multivocality on receivers from an Elaboration Likelihood Model (ELM) lens: a dual-process theory that elucidates attitude change in response to persuasion attempts (Petty & Cacioppo, 1984). The model posits two distinct routes for information processing: the central route, which results from careful and thoughtful consideration of the merits of the persuasion attempt and leads to enduring, resistant, and predictive attitude changes; and the peripheral route, which relies on the association with positive or negative cues in the stimulus, resulting in temporary attitude changes, if any (Kruglanski et al., 2012; Petty & Briñol, 2011; Teeny et al., 2016). Given the current context, where the goal is to persuade receivers to adopt an extreme, potentially violent ideology and to act accordingly, persuasion necessitates a certain level of deep processing via the central route (McCauley & Moskaleiko, 2014; Windsor, 2020). Supporting this notion, multiple studies have found that attitudes become more aligned with those of an extreme ideology when people can recall persuasive messages, particularly when these contain high quality arguments (Bobrow & Norman, 1975; Cacioppo & Petty, 1989; Mackie et al., 1990).

Multivocality and Information Processing

Thus, our first set of hypotheses focuses on the relationship between multivocality, information recall, and salience, given its role in triggering central route processing of messages. Attitude shifts towards extreme beliefs depend on motivational mechanisms that influence whether messages are persuasive and memorable (Jost et al., 2022; SanJosé-Cabezudo et al., 2009). For instance, Kruglanski et al. (2012) found that users engage in deeper processing when content aligns with their interests. Similarly, research suggests that relevant information, regardless of whether it supports or challenges existing beliefs, attracts greater attention and leads to deeper cognitive processing than neutral or irrelevant content (Judd & Kulik, 1980; McGuire, 1968). When groups employ a multivocal messaging strategy, discussing diverse issues across platforms, users are more likely to encounter relevant content, sparking curiosity about the group's ideology. As a result, users will engage in more central route processing, dedicating greater cognitive effort to interpreting the

messages. In contrast, a univocal strategy, where a group consistently focuses on a single issue, limits the likelihood that users will find content personally relevant. In this case, only those already interested in that issue will engage deeply, while others may process the content more peripherally.

Additionally, processing new information that contradicts existing mental schemas requires greater cognitive effort (top-down processing) compared to processing familiar, schema-consistent information, which requires less effort (bottom-up processing; García-Carrion et al., 2024). By shifting focal issues across platforms, a group obscures its central ideological focus and violates audience expectations, demanding greater cognitive engagement and encouraging central processing. Furthermore, expectation violation not only increases cognitive effort but also enhances attention and memory encoding, further reinforcing central processing (Chen L. et al., 2023).

Directly assessing central and peripheral processing as delineated by ELM is challenging, which is why past studies have used indirect approaches such as eye tracking and memory tests (Hyönä & Niemi, 1990; Yeari et al., 2015). Prior work has shown that carefully processing messages requires strong encoding, enhancing recall of information—the extent to which individuals remember the content they just read (Bobrow & Norman, 1975; Landman & Manis, 1983). Empirical evidence supports this indication of greater immediate recall for messages processed under the central route (Loaiza et al., 2011; Yeari et al., 2015). Messages that are centrally processed and stored in memory are more likely to change attitudes and behaviors (Kelly et al., 2015; Murphy et al., 2020).

Another indicator of central processing is salience: the extent to which information individuals consume is on top of one's mind immediately after exposure (Higgins, 1996; Krech & Crutchfield, 1948). To assess salience, researchers can measure information mention: the extent to which individuals highlight message information when prompted to respond with a message of their own. Not only is information mention a sign of information salience, but it also promotes the propagation of extreme messaging. Thus, in arguing that multivocality elicits greater central processing than univocality, we expect the former to produce greater recall and mention of the group's central issue than the latter. We formulate the following hypotheses:

- H1: Individuals exposed to multivocal content will exhibit greater recall of the group's central issue than individuals exposed to univocal content.
- H2: Individuals exposed to multivocal content will exhibit greater mention of the group's central issue than individuals exposed to univocal content.

Multivocality and Perceptions of Credibility

Because multivocal content is processed via the central route, it is likely to be more memorable and salient but also more critically evaluated (Fogg, 2003; Metzger, 2007; Rice & Atkin, 2001). In contrast, univocal content processed peripherally may be judged with less scrutiny, and receivers may rely more on surface-level credibility cues and cognitive heuristics (Metzger et al., 2010). Cognitive heuristics—mental shortcuts that help people to make quick judgements—reduce cognitive effort when processing information (Metzger & Flanagin, 2013; Yin et al., 2018). In credibility assessments of online content, individuals often employ consistency and expectancy violation heuristics (Metzger & Flanagin, 2015). Individuals typically have preexisting expectations, and messages reflecting deviations from these expectations are often perceived as less credible (Ault et al., 2017). In contrast, information appearing that is consistent with those expectations increases perceptions of expertise and legitimacy, resulting in positive credibility evaluations (Eastin, 2001; Metzger et al., 2010; Thon & Jucks, 2017). Unlike multivocal content, univocal messaging appears more consistent and does not violate expectations. This consistency is likely to contribute to higher perceptions of credibility, especially when individuals assess credibility via the peripheral route. We formulate the following hypotheses:

- H3: Individuals exposed to multivocal content will perceive greater group credibility than individuals exposed to univocal content.
- H4: Individuals exposed to multivocal content will perceive greater message credibility than individuals exposed to univocal content.

Virality Metrics and User Verification

Under a peripheral route, individuals also rely on social influence in evaluating credibility, such that they may look for information about other users' reactions (Tal-Or et al., 2009). Social media virality metrics (i.e., likes and shares) signal other users' endorsements of an online message, triggering bandwagon heuristics (i.e., if others think that this is important, then I should too; Lee-Won et al., 2016; Sundar, 2008). In the health care context, researchers have found that high virality metrics result in greater intentions to follow health recommendations, and that a high number of shares increases not only perceptions of health message influence on self and others but also intentions to take action to prevent skin cancer (Kim, 2018; Stavrositu & Kim, 2014). S. Lee et al. (2022) provided empirical evidence of online bandwagon effects that changed people's opinions in the same direction as perceived public opinion, manipulated through qualitative and quantitative cues. These findings suggest the importance of peer pressure in the context of evaluation and decision-making (Go et al., 2014). High virality metrics confer credibility, as users interpret them as explicit or implicit recommendations from trusted sources (Flanagin & Metzger, 2008). Thus, we expect the following interaction effects:

- H5a: Multivocality and virality metrics will interact such that those exposed to univocal content with high virality metrics will have higher perceptions of group credibility than those exposed to univocal content with low virality metrics and to multivocal content.
- H5b: Multivocality and virality metrics will interact such that those exposed to univocal content with high virality metrics will have higher perceptions of message credibility than those exposed to univocal content with low virality metrics and to multivocal content.

Individuals may also be influenced by other cues signaling endorsement of the source of the message (Barsaiyan & Sijoria, 2021). For example, on X, user accounts can be verified by the platform, indicating that the account is associated with a person and that they are who they claim to be.¹ Verification serves as a signal of endorsement by the platform, and people associate verification with accounts that report news (Edgerly & Varga, 2019). This sort of endorsement confers credibility and expertise and when absent can signal that a source or message is not credible (Edgerly & Varga, 2019). Like cues associated with the message, cues associated with the messenger are likely to be more operant when receivers process messages peripherally, as is the case when processing content from univocal groups. We expect the following effects:

- H6a: Multivocality and verification will interact such that those exposed to univocal content from a verified group account will have higher perceptions of group credibility than those exposed to univocal content from a non-verified group account and to multivocal content.
- H6b: Multivocality and verification will interact such that those exposed to univocal content from a verified group account will have higher perceptions of message credibility than those exposed to univocal content from a non-verified group account and to multivocal content.

We used a multimethod approach to follow a full-cycle research design, beginning with the observation of naturally occurring phenomena in Study 1 and proceeding to an experimental research setting establishing power, generality, and conceptual underpinnings of the phenomenon in Study 2.

STUDY 1 METHOD

Sample of Groups and Corpus Development

Our initial sample comprised 75 groups; 68 were identified by the Southern Poverty Law Center (SPLC) and seven by the Armed Conflict Location and Event Data (ACLED) Project. These groups champion a variety of issues and come from across the ideological spectrum. Law enforcement assessments of the threats posed by these groups have increasingly converged with those of the SPLC and ACLED, with these organizations tracking many of the same groups (e.g., Levy & Frosch, 2020). We note that most groups included in the sample are right leaning. Although we made efforts to include left leaning groups, their prevalence is lower than right leaning groups in the current domestic terrorism context (Chermak et al., 2024).

Upon finalizing our list of groups, we searched for their websites and looked for their About and Issues pages. We found and downloaded the texts of 48 groups, for a corpus of 373 webpages. From the SPLC and ACLED sites and by searching the news media, we identified leaders of these groups. We searched for X accounts for each group and leader and found accounts for 44 of the 75 groups (some groups had multiple group or leader accounts). For each account, we downloaded their most recent 3,200 tweets (X's application programming interface limit) between November 2020 and January 2021 using NodeXL's X application programming interface (Smith et al., 2010). The resulting corpus comprised 203,730 tweets from accounts of the 44 groups.

Measuring Multivocality

We started by identifying key issues that were important to the groups in our sample. Using R (a statistical programming tool), we extracted bigrams, trigrams, and quad-grams from all tweets. These terms refer to sets of two, three, or four words that frequently appear together. We then manually reviewed the top 100 phrases from each set and grouped them into distinct issue categories. Through this process, we developed a list of 13 key issues, including environment; immigration; border security; lesbian, gay, bisexual, transgender, and queer/questioning (LGBTQ) rights; family; religion; race; culture; economy; education; healthcare; government; and nationalism. Next, we created a custom issues lexicon, which is a collection of keywords associated with each issue. We implemented this lexicon as a custom Linguistic Inquiry and Word Count (LIWC) dictionary (Tausczik & Pennebaker, 2010). LIWC is a text analysis tool that counts words related to specific topics, allowing us to measure how frequently each issue appeared in websites and X texts. To assess multivocality across platforms (how much a group discusses different topics on different platforms), we used two key measures, following Miranda et al. (2015):

- *Issue diversity* is measured with the Herfindahl-Hirschman Index (HHI), which measures how concentrated a group's messaging is—whether they focus on one issue or discuss multiple topics. We used $1 - \text{HHI}$, meaning higher values indicate greater topic diversity.
- *Cross-platform specialization* is measured by the Euclidean distance (ED) between website and X texts. ED measures how much a group's messaging differs between platforms. Higher values indicate greater variation, while lower values suggest consistency. To make this metric easier to interpret, we applied Seagram's (2007) formula $\{1 - [1 / (1 + \text{ED})]\}$, which converts ED into a scale from 0 to 1, where higher values indicate more similarity across platforms.

STUDY 1 RESULTS

Our findings confirm that ideological groups engage in multivocality both by diversifying issues and tailoring messages across platforms. Specifically, the average diversity of issues communicated by

groups (HHI) was .79 ($z = 41.78$) and the average cross-platform specialization (ED) was .73 ($z = 43.92$). Thus, we conclude that multivocality was extensive across the ideological groups studied.

However, we observed variation in groups' pursuit of multivocality. At the high end were groups like the League of the South, which was founded in 1994 and is located in Killen, Alabama. On its 23-year-old website, leagueofthesouth.com, the group highlights its purpose: "We seek to advance the cultural, social, economic, and political well-being and independence of the Southern people, by all honorable means." The site has a page titled "Position Papers" disclosing official stances on issues relevant to the group. The top website issues are government, nationalism, religion, and faith. The top X issue is nationalism, distantly followed by religion, faith, and race. Prominent imagery across both sites is the black cross, combined with the Confederate flag on X. At the low end were groups like the Westboro Baptist Church, which was founded in 1955 and is located in Topeka, Kansas. Its website domain is godhatesfags.com and its X account handle expresses the same sentiment. Unsurprisingly, the group's dominant issues on its website and X are religion, faith, family, and anti-LGBTQ messages, promoted through Bible quotes and sermons.

STUDY 2 METHOD

Sample

The sample size consisted of 196 college students recruited from a human participant pool in the department of psychology at a large, south-central university, who received course credit for voluntary participation. Most participants identified as women (61.7%) and European/Caucasian (61.2%), followed by Hispanic/Latino (12.2%) and Black/African American (7.7%). The mean age was 19.30 with a standard deviation of 1.46.

Design and Procedure

This randomized controlled study consisted of online data collection using the Qualtrics survey platform. We randomly assigned consenting participants to study conditions. They completed covariate measures and viewed a simulated website and an X feed using dialogue that mimics real life social media exchanges regarding the topic of gun rights in the United States (see Table 1 for examples). After reading the exchange, participants were asked to write a reply to the exchange with a tweet of their own. After replying, without access to the website and X feed, they recalled as much information as possible. Next, participants rated their perceptions of message and group credibility. Finally, they completed a post-task questionnaire containing manipulation checks, additional covariate scales, and demographics questions.

Prior to content coding, the three assistants underwent a frame of reference training over two weeks, which consisted of familiarization with the gun rights issue, the operational definition of the measures and the examples in support and opposition, extended discussions, detailed practice coding, debriefing, and review of common errors to avoid. Inter-rater reliability ($r * wg$) was assessed for coding completed on 30 participants' responses to ensure adequate reliability. These calculations ranged from .80 to .95 across variables. Afterwards, the coders worked independently.

Manipulations

The study employed a 2x2x2 design with eight conditions in total and approximately 25 participants per condition. The manipulations were as follows: multivocality (absent/present), number of likes and retweets (low/high), and user verification (absent/present). All participants saw the fabricated website from the group Fight to Carry that focused on a pro-gun rights stance. In the univocal conditions, the fictitious group discussed one issue consistently across platforms; thus, participants were exposed to 12 fabricated pro-gun rights tweets. In the multivocal conditions, Fight to Carry discussed a diversity of issues, with a different emphasis across platforms; thus,

participants were exposed to four fabricated pro-gun rights tweets and eight tweets about other controversial issues (i.e., climate change, the death penalty). All conditions shared four common tweets expressing a pro-gun rights stance, and the first and last tweets in all conditions were pro-gun rights. In the high virality condition, tweets had 10K–15K likes and 1K–5K retweets, while in the low virality condition, they had 15–250 likes and 1–25 retweets. In the verification conditions, the messenger was a verified group account, indicated by a blue check mark next to the user's name.

Dependent Variables

Mention of Gun Rights Tweets

To gauge the salience of the gun rights tweets, the extent to which participants mentioned information from these tweets in their reply was assessed. Trained raters coded on a three-point Likert scale (1 = *not at all* to 3 = *to a large extent*) the extent to which each of the four pro-gun rights tweets was present in the participants' replies. Inter-rater reliability was .98 ($r * wg$; LeBreton & Senter, 2008).

Recall of Gun Rights Tweets

To appraise recall of gun rights tweets, the extent to which participants remembered information from these tweets was gathered. Trained raters coded on a three-point Likert scale (1 = *not at all* to 3 = *to a large extent*) the extent to which each of the four pro-gun rights tweets were present in the participants' responses. Inter-rater reliability was .93 ($r * wg$).

Perceptions of Message and Group Credibility

Message and group credibility were assessed with five items measuring participants' perceptions of the believability, accuracy, trustworthiness, bias, and completeness of the information provided in the fictitious website and tweets, as well as of the messengers (Flanagin & Metzger, 2000; 2007). Items were measured on a seven-point Likert scale (1 = *strongly disagree* to 7 = *strongly agree*). Example items included "The messages are trustworthy" and "The group is trustworthy." The reliability of the message and group credibility measures was $\alpha = .93$ and $.96$, respectively.

Covariates

Additional control variables and demographics were measured. Political orientation was assessed with a 3-item adapted version of White-Ajmani and Bursik's (2011) Basic Facts Questionnaire using a nine-point Likert scale (1 = *very liberal*; 5 = *neutral*; 9 = *very conservative*; $\alpha = .90$). Agreeableness was measured with the Big Five Inventory consisting of nine items rated on a five-point Likert scale (1 = *disagree a lot* to 5 = *agree a lot*; John et al., 2008; $\alpha = .73$). Digital activism was assessed with an adapted version of the measure used by the Centre for Sociological Research comprising six items rated on a five-point Likert scale (1 = *never* to 5 = *very often*; De Marco et al., 2017; $\alpha = .84$). Given that identity threat is often manipulated rather than measured in prior work, we developed a three-item theory-based measure of identity threat rated on a five-point Likert scale (1 = *not at all* to 5 = *a great deal*; Burke & Stets, 2009; Stets & Serpe, 2013; $\alpha = .75$).

STUDY 2 RESULTS

Table 2 summarizes the hypotheses and findings from Study 2. Table 3 presents means, standard deviations, and correlations. Table 4 presents the results of the analysis of covariance on the effects of multivocality, virality metrics, user verification and their interactions on the various outcomes.

Supporting hypothesis 1, multivocality had a main effect on recall of pro-gun rights information ($F(1,186) = 7.41, p < .01, \eta_p^2 = .04$), such that individuals exposed to multivocal content ($M = 5.94, SE = .14$) recalled more information from the four common gun rights tweets than those exposed to

univocal content ($M = 5.37, SE = .15$). The covariate digital activism was significantly and negatively related to recall of gun-rights related information ($F(1,186) = 6.24, p < .05, \eta_p^2 = .03$).

In support of hypothesis 2, multivocality had a main effect on mention ($F(1,183) = 7.91, p < .01, \eta_p^2 = .04$) such that individuals exposed to multivocal content ($M = 4.30, SE = .05$) mentioned more information from the four common gun rights tweets than those exposed to univocal content ($M = 4.08, SE = .06$). Although not hypothesized, we also found that virality metrics had a main effect on this outcome ($F(1,183) = 4.66, p < .05, \eta_p^2 = .02$) such that participants exposed to tweets with a low amount of likes and retweets ($M = 4.27, SE = .05$) mentioned more information from the four common gun rights tweets than those exposed to tweets with a high amount of likes and retweets ($M = 4.10, SE = .06$). The covariates agreeableness ($F(1,183) = 13.42, p < .001, \eta_p^2 = .07$) and age ($F(1,183) = 6.78, p < .01, \eta_p^2 = .04$) were significant and positive predictors of mention of pro-gun rights information.

In support of hypothesis 3, multivocality had a main effect on group credibility ($F(1,186) = 16.31, p < .001, \eta_p^2 = .08$) such that individuals exposed to univocal content ($M = 3.89, SE = .13$) perceived the group as more credible than those exposed to multivocal content ($M = 3.19, SE = .12$). Failing to support hypotheses 5a and 6a, no interactions significantly affected group credibility. The covariate political orientation ($F(1,186) = 103.10, p < .001, \eta_p^2 = .40$) was significantly related to perceptions of group credibility, such that the more conservative the participants were, the higher their perceptions of group credibility.

In support of hypothesis 4, multivocality had a main effect on message credibility ($F(1,185) = 17.79, p < .001, \eta_p^2 = .09$) such that individuals exposed to univocal content ($M = 3.78, SE = .12$) perceived the tweets as more credible than those exposed to multivocal content ($M = 3.08, SE = .11$). No interactions significantly related to perceptions of message credibility, failing to support hypotheses 5b and 6b. The covariates political orientation ($F(1,185) = 67.48, p < .001, \eta_p^2 = .27$) and identity threat ($F(1,185) = 5.72, p < .05, \eta_p^2 = .03$) were significantly related to perceptions of message credibility, such that the more conservative the participants were and the less their identities were threatened, the higher their perceptions of message credibility.

DISCUSSION

Before discussing our findings, several limitations must be noted. Firstly, we relied solely on publicly available data. Comparisons between public and non-public data from extremist ideological groups could reveal more pronounced instances of multivocality and differential messaging across platforms. Moreover, a limitation of using a custom LIWC dictionary is that it relies on predefined word lists, which may not fully capture evolving language, context, or nuance. Future research could enhance accuracy by incorporating natural language processing techniques to better detect meaning and sentiment. Third, a key limitation of Study 2 is its reliance on an undergraduate student sample, which may limit generalizability. While young people are highly active on social media and can be susceptible to radicalization through exposure to extremist content (Bene, 2017; Sugihartati et al., 2020), this sample may not fully capture other vulnerable demographic groups, such as older individuals, politically polarized communities, or those already embedded in ideological networks. Future research should address this limitation by employing more diverse recruitment methods, such as general population surveys or field experiments in naturalistic digital environments. Additionally, the experimental stimuli revolved around one issue (gun rights) and a single stance (pro-gun rights), necessitating additional work to confidently assert that the findings would generalize to other controversial issues and messages. Lastly, the content in the fictitious website and feed reflected extreme opinions on gun rights but were mild in terms of aggravating words compared to extreme messaging seen in the wild. This approach was aimed at preserving the well-being of our participants.

Despite these limitations, our work produced notable insights. Our initial study suggests that extremist ideological groups commonly engage in multivocality, emphasizing different issues on various

platforms. This result aligns with recent findings by Phadke and Mitra (2020), which indicated that these groups adapt their messaging on each platform to serve distinct purposes and audiences. Moreover, our qualitative exploration of groups practicing multivocality versus those that do not do so revealed that the former tended to be more modern and digitally savvy, suggesting that this is rather a recent trend.

Our study suggests that multivocal messaging, addressing a range of issues rather than focusing on a single message, enhances content recall and discussion, indicating deeper central processing. While increased recall and mention of extreme views alone may not directly lead to their adoption, it represents a critical first step. According to the ELM, attitudes formed through central processing are more durable and resistant to change, making this pathway particularly important for understanding the persistence of extreme beliefs (Petty & Briñol, 2011). The finding supports our line of thinking that when groups present diverse topics across platforms, users are more likely to stumble upon relevant content and become curious about the group's ideology. This finding aligns with prior research showing that people are more likely to engage with and think critically about information that resonates with their interests (Kruglanski et al., 2012).

Additionally, Petty et al. (1976) suggested that when messaging presents multiple issues rather than focusing on a single core idea, people may work harder to process and organize key information. Another possible explanation comes from expectation violation theory. Audiences typically expect extremist groups to focus on the same set of issues across platforms. When these groups unexpectedly discuss a variety of topics across platforms, they disrupt expectations, capture attention, and encourage deeper engagement (Chen L. et al., 2023). Such expectation violation may lead to better memory retention and deeper processing, making multivocal messaging a potentially powerful persuasion tool. Future research should explore these possible explanations further to better understand how multivocal messaging influences engagement and processing.

However, the increased attention and expectation violation triggered by a multivocal messaging strategy may come at a cost to perceptions of group and message credibility. Our findings indicate that credibility decreases when this approach is used compared to a univocal strategy. This result aligns with research on credibility assessment in online content, which has suggested that when information deviates from preexisting expectations, individuals are more likely to perceive it as less credible (Ault et al., 2017). Additionally, heightened attention often leads to a more critical evaluation of credibility, as individuals process information through the central route (Metzger, 2007). When a group emphasizes various issues across platforms, it may be perceived as inconsistent or lacking focus, potentially signaling a lack of expertise or commitment to a core issue. In turn, perceived lack of expertise and commitment can weaken the perceived trustworthiness and strength of both the group and its arguments (Eastin, 2001; Metzger et al., 2010; Thon & Jucks, 2017). Interestingly, these findings combined reveal a cognitive-behavioral inconsistency: although receivers perceive multivocal messaging as less credible, they tend to remember and mention it more frequently in response to the extremist X feed. Ideally, individuals would recall and disseminate information they trust; however, the results suggest that a multivocal strategy may enhance the recall and spread of extremist information, even when it is mistrusted. This outcome could be a strategic goal for extremist ideological groups seeking to maximize their reach and impact.

Contrary to our hypotheses, neither virality metrics nor user verification interacted with multivocality to impact perceptions of credibility. These findings suggest that multivocality is a stronger and more consistent influencer of behavior and cognition than virality metrics when concurrently manipulated. The lack of influence from virality metrics and user verification could be explained by the fact that the extreme messages did not come from participants' personal networks and thus did not originate from trusted sources. Another potential explanation was provided by Calabrese and Zhang (2019) who found that, challenging previous literature (Kim, 2018; Lee-Won et al., 2016), the presence of virality metrics in an ideological context can decrease receivers' perceived approval by others. They proposed a contrast effect in which receivers contrast the amount of likes and

retweets with what they hear from their partners and peers, and discrepancies lead to lower trust. This effect could be particularly relevant in this context, in which extreme beliefs are not generally popular. The complexity of these relationships emphasizes the need for further exploration.

CONCLUSION

Our findings contribute to the ELM by demonstrating how multivocal messaging influences central versus peripheral processing of extremist content. Specifically, multivocality enhances recall and mention, suggesting that diverse issue framing increases cognitive engagement and central route processing (Petty & Briñol, 2011). When a group unexpectedly shifts its messaging across platforms, it disrupts audience expectations, increasing attention and cognitive effort (Chen L. et al., 2023). This study extends the ELM by showing how message complexity and unpredictability can deepen processing, even in ideological contexts. However, the study also reveals a key paradox: while multivocal messaging increases recall, it simultaneously reduces perceived credibility. This finding highlights an important boundary condition for the ELM, suggesting that enhanced cognitive processing does not always lead to persuasion or attitude change but may still increase message exposure and dissemination. Future research should examine whether prolonged exposure to multivocal content leads to belief shifts over time or simply reinforces skepticism toward the source.

More broadly, our findings expand on existing theoretical implications for extremist communication strategies. While prior research has examined ideological group messaging on individual platforms, our study highlights the cross-platform nature of these strategies. The idea that digital platforms function as interconnected ecosystems suggests that understanding message reception requires a broader, multi-platform perspective. Additionally, our study challenges Metzger et al.'s (2010) framework on social influence and credibility heuristics, showing that in ideological contexts, traditional credibility cues such as virality metrics and user verification may have a weaker influence. Given that ideological debates are often morally and emotionally charged (Swan & McCarthy, 2003), individuals may evaluate credibility through alignment with personal beliefs rather than social validation. This finding aligns with Ault et al.'s (2017) call to establish boundary conditions for Metzger's (2010) credibility theory, as our findings suggest that the impact of credibility cues depends on preexisting attitudes, message congruence, and ideological alignment. These insights are essential for future research on persuasion, radicalization, and the spread of extremist ideologies online.

Our work also has significant implications for policymakers and law enforcement. Extremist attacks such as Timothy McVeigh's bombing, which was influenced by extremist literature, highlight the urgency of monitoring digital platforms where such narratives spread (Anti-Defamation League, 2021). Multivocality allows extremist groups to broaden their appeal by discussing diverse issues across platforms, making detection and counter-messaging more challenging. To respond, law enforcement and counter-extremism efforts must adapt by using advanced analytics (e.g., natural language processing and network analysis) to track shifting narratives, tailoring counter-messaging to address multiple grievances, and engaging trusted community voices to disrupt recruitment. Updating risk assessment models to reflect ideological shifts and strengthening platform cooperation can help counter multivocal strategies.

COMPETING INTERESTS

The authors of this publication declare there are no competing interests.

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APPENDIX

Table 1. Simulated Twitter Feeds from the Fictional Extremist Ideological Group Fight to Carry (@F2C)

Condition 3: univocal, low virality, non-verified	Condition 6: multivocal, high virality, verified
1. In America we are very unlikely to have to fight a foreign threat. Much more likely to face domestic tyranny. But we still need to be ready to fight ALL enemies – foreign and domestic (216 likes, 1 retweet)	1. The Second Amendment right to bear arms is an insurance policy. Not a limited right reserved for legitimate militias that the government - the same government that could be the enemy - has approved and sanctioned (11,733 likes, 2,576 retweets)
2. The 2nd Amendment is the last line of defense against a failure of the government to uphold other rights. Militia member or not – it's a natural right to be able to bear arms! (101 likes, 3 retweets)	2. Scientists can't even predict the weather next week, so why should we believe what they tell us about 100 years from now? Policies enforced by our government to prevent climate change are unjustified and a threat to our individual freedom (14,723 likes, 1,910 retweets)
3. Never let anyone make you feel bad for owning a gun. Be the bigger person and lead by example - show exemplary responsible gun ownership by your actions. That includes volunteering time at gun clubs in your area (238 likes, 19 retweets)	3. Punishments should fit the crime. Some crimes are so egregious they are worthy of capital punishment (14,861 likes, 3,593 retweets)
4. The most heavily armed protests have been the most peaceful. Being visibly armed is a guarantee that speech will be free (216 likes, 14 retweets)	4. We stand for regulated immigration. What is wrong with a secure border and a strict immigration policy? We have enough unemployed and welfare collecting people in the United States already (11,395 likes, 2,727 retweets)
5. The second amendment is an insurance policy. Not a limited right reserved for legitimate militias that the government - the same government that could be the enemy - has approved and sanctioned (226 likes, 18 retweets)	5. Imagine how scary it would be if only the government had the right to own guns. When democracy is weak, the government can only deliver so much protection for its citizens. We need to be able to protect ourselves (14,240 likes, 1,111 retweets)

Note. Only 5 example tweets out of the 12 total tweets are included per condition. These were formatted to look like actual tweets for ecological validity purposes.

Table 2. Summary of Study 2 Hypotheses and Results

Hypotheses	Results
H1. Individuals exposed to multivocal content will exhibit greater recall of the group's central issue than individuals exposed to univocal content.	Supported
H2. Individuals exposed to multivocal content will exhibit greater mention of the group's central issue than individuals exposed to univocal content.	Supported
H3. Individuals exposed to multivocal content will perceive greater group credibility than individuals exposed to univocal content.	Supported
H4. Individuals exposed to multivocal content will perceive greater message credibility than individuals exposed to univocal content.	Supported
H5a. Multivocality and virality metrics will interact such that those exposed to univocal content with high virality metrics will have higher perceptions of group credibility than those exposed to univocal content with low virality metrics and to multivocal content.	Not supported
H5b. Multivocality and virality metrics will interact such that those exposed to univocal content with high virality metrics will have higher perceptions of message credibility than those exposed to univocal content with low virality metrics and to multivocal content.	Not supported

continued on following page

Table 2. Continued

Hypotheses	Results
H6a. Multivocality and verification will interact such that those exposed to univocal content from a verified group account will have higher perceptions of group credibility than those exposed to univocal content from a non-verified group account and to multivocal content.	Not supported
H6b. Multivocality and verification will interact such that those exposed to univocal content from a verified group account will have higher perceptions of message credibility than those exposed to univocal content from a non-verified group account and to multivocal content.	Not supported

Table 3. Means, Standard Deviations, and Intercorrelations Among Study Variables

	<i>M</i>	<i>SD</i>	α	1	2	3	4	5	6	7	8	9
Covariates												
1. Age	19.30	1.46	-									
2. Political orientation	4.80	1.92	.90	.02								
3. Agreeableness	3.84	.56	.73	.04	.01							
4. Digital activism	1.80	.76	.84	.01	-.22**	-.02						
5. Identity threat	2.84	1.04	.75	.04	-.39**	.10	.28**					
Dependent Variables												
6. Gun rights tweets recall	5.66	1.46	.93	.14*	.07	-.02	-.20**	-.10				
7. Gun rights tweets mention	4.20	.54	.98	.15*	-.03	.19**	-.03	.08	.12			
8. Perceptions of group credibility	3.49	1.50	.93	-.03	.56**	.04	-.03	-.36**	.00	.10		
9. Perceptions of message credibility	3.39	1.43	.96	-.06	.56**	.03	.02	-.36**	.01	.08	.91**	-

Note. *N* = 196.

* $p < .05$. ** $p < .01$.

Table 4. Analysis of Covariance Results for Study Outcomes

	Gun rights tweets recall			Gun rights tweets mention			Perceptions of group credibility			Perceptions of message credibility		
	<i>F</i>	<i>p</i>	η_p^2	<i>F</i>	<i>p</i>	η_p^2	<i>F</i>	<i>p</i>	η_p^2	<i>F</i>	<i>p</i>	η_p^2
Corrected model	3.26*	.019	.09	3.10**	.002	.13	14.86**	.001	.39	13.97**	.001	.40
Intercept	530.94**	.001	.74	19.90**	.001	.08	32.81**	.001	.15	27.88**	.001	.13
Covariates												
Age	--	--	--	4.37*	.038	.02	--	--	--	--	--	--
Political orientation	--	--	--	--	--	--	103.10**	.001	.36	67.48**	.001	.27
Agreeableness	--	--	--	2.91**	.001	.06	--	--	--	--	--	--
Digital activism	6.24*	.013	.03	--	--	--	--	--	--	--	--	--
Identity threat	--	--	--	--	--	--	--	--	--	5.72*	.018	.03
Main and interaction effects												
Multivocality	7.41**	.007	.04	7.91**	.005	.04	16.31**	.001	.08	17.79**	.001	.09
Virality metrics	0.15	.698	.00	4.66*	.032	.02	0.72	.397	.00	0.88	.350	.00
User verification	0.44	.510	.00	0.16	.695	.00	0.01	.909	.00	0.02	.895	.00
Multivocality x virality metrics	0.01	.929	.00	0.02	.890	.00	3.44	.065	.02	1.29	.258	.01
Multivocality x user verification	2.61	.108	.01	0.84	.360	.00	0.03	.856	.00	0.65	.420	.00
Multivocality x virality metrics x user verification	0.11	.743	.00	0.18	.669	.00	0.05	.817	.00	0.05	.828	.00

Note. *N* = 196.
* *p* < .05. ** *p* < .01.