

Article

You're Being Kinda Pushy: Exploring How News Outlets Frame Push Notifications as Credible Clickbait to Engage with Their Audiences

Carl Knauf , Hunter Reeves and Brock Mays 

College of Communication, Media, Design and Information, University of Colorado Boulder, Boulder, CO 80309, USA; hunter.reeves@colorado.edu (H.R.); brock.mays@colorado.edu (B.M.)

* Correspondence: carl.knauf@colorado.edu

Abstract

Push notifications are a digital strategy for outlets to provide news and a convenient way for audiences to absorb information. Past research shows the effectiveness of push notifications and how they are framed, but few studies have explored their relationship with clickbait. However, clickbait often has a negative connotation. Through an exploratory mixed methods study involving textual analysis of push notifications ($n = 639$) sent by three credible mainstream media outlets, namely *The Associated Press*, *The New York Times*, and *The Wall Street Journal*, and a survey of readers' ($n = 368$) perception of push notifications and clickbait, this research explores how credible news outlets directly engage with their respective audiences by framing push notifications in the form of clickbait. This study builds on framing theory by proposing the concept of credible clickbait and illustrating how push notifications shape readers' immediate perceptions of content being shared with them by news outlets they subscribe to. This research also aims to be a resource for journalists to increase audience interaction and foster sustained attention with stories.

Keywords: push notifications; clickbait; digital journalism; credibility; new media; online news



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1. Introduction

Push notifications happen all the time, taking the form of little icons appearing on the status bar of an individual's mobile phone or other device, that grab the eye of the user. Occasionally, these push notifications are complemented by a headline meant to entrap the now-attentive senses of a reader and influence them to indulge in the full content. Such temptation is not a random occurrence.

Push notifications are programmed app alerts displayed on a mobile device's lock screen or notification bar and are designed to provide relevant, engaging information to users (Wiklund, 2020; Wohllebe, 2020). To build traffic toward their apps and websites in the age of competitive digital journalism, news outlets proactively and directly communicate with their users through the strategic use of push notifications to enhance social engagement and readership (Gavilan et al., 2020; Sanfilippo & Lev-Aretz, 2017). Through this strategy, outlets attempt to keep their audience aware of current affairs and pressing issues, but these push notifications have a close resemblance to clickbait.

Clickbait is purposefully designed to make readers want to click on a link that leads to content of dubious value or interest; in the case of journalism, this strategy can be implemented through eye-catching headlines, direct appeal to readers, and superficial

and exaggerated material, which can encourage news snacking and a news-finds-me effect (Barnes et al., 2025; Bazaco et al., 2019; Gil de Zúñiga et al., 2017; Molyneux, 2018; Munger et al., 2018; Park, 2022). Though there is a negative association with clickbait, like the misleading headlines in tabloids, it has also been found in quality sources (Jung et al., 2022). Molyneux and Coddington (2020) explained that source attributes, familiarity with the medium, and the message have been shown to affect perceptions of credibility regarding clickbait. Credibility in journalism is characterized by reporting that is fair, accurate, and verified, and further strengthened by the field's code of ethics, which includes accountability and transparency (Society of Professional Journalists, n.d.). Clickbait can challenge journalistic credibility by showcasing themes of framed messages in order to boost audience engagement.

Frames play a central role in how people use the news to guide decision-making, influence action, and develop sensemaking to current affairs; certain news frames pushed through mobile alerts contribute to greater engagement and heightened curiosity among readers (Barnes et al., 2025; Davis & Kent, 2013). Framing can even be found in the positioning of hyperlinks and the inclusion of relevant information and pictures to increase the probability of users choosing a specific link (Constantiou et al., 2012). Push notifications have the potential to follow this strategy as they are designed to influence the reader to engage with the full content by entering the story through the alerts. Once inside the article, other framing strategies may be applied. Though framing has traditionally been geared toward audience-building within high-choice media, the authors argue that push notifications also serve as a strategy to retain audiences and contribute to the social engagement metric connected to digital journalism. This opens up the possibilities of outlets resorting to clickbait headlines and news framing to keep their audience.

Though there is literature on the use of frames in news outlets' push notifications, there is little exploration of how credible outlets frame push notifications as clickbait to engage with current subscribers and influence them to engage with the full content. In addition, most literature explores the journalist's view of strategic engagement, but there do not appear to be many studies focused on the audience's perception of how outlets communicate with them, especially regarding perceived credibility and clickbait usage. This study provides a scholarly overview of push notifications used by news media, and, through textual analysis and a reader survey, explores how credible mainstream media outlets directly frame push notifications as a strategic form of clickbait to engage with their current audiences in the competitive landscape of high-choice media. This study builds on framing theory by proposing the concept of *credible clickbait* and illustrating how push notifications shape readers' immediate perceptions of content being shared with them by news outlets they subscribe to. This research also aims to be a resource for journalists to increase audience interaction and foster sustained attention with stories.

2. Being Pushy

Iyer and Zhong (2022) stated, "The consumption of information through smartphone apps, tablets, and other digital media is one of the central aspects of the digital consumer economy" (p. 66). News consumption in the competitive era of high-choice media causes outlets to enhance their digital footprint with improved social engagement and other metrics in order to retain their current audience. Considering the seemingly inherent use of mobile technology in everyday life, adopting a news subscription has become routine or habitual for users (Groot Kormelink, 2023). Due to the increased consumption and integration of information by digital consumers in daily routines, credible news outlets can engage with their current audience by framing stories as clickbait through push notifications delivered directly to users' devices.

3. Push Notifications

News push notifications display brief headlines on an individual's lock screen to notify users of breaking news or newsworthy events, allowing news organizations to reach their audience easier and more frequently, furthering the relationship between news dissemination and content (Sanfilippo & Lev-Aretz, 2017; Stroud et al., 2016). Pham et al. (2016) explained that “well-timed and relevant push notifications have the power to reach users and grab their attention” (p. 2). Furthermore, news notifications sent at inopportune moments may not be sufficiently processed by news consumers, whereas news pushed at more opportune moments can cause audiences to adopt deeper, more thorough reading modes (Huang et al., 2021; Lin et al., 2023). Various technological developments of push notifications have made the alerts more significant in communication through machine learning. For example, Morrison et al. (2017) explained that “sensor-driven machine learning algorithms enable the timing and content of notifications to fit with and adapt to the users' current context (e.g., location, physical activity, social interaction, sleep patterns, etc.)” (p. 2). These technological developments have also influenced push notifications effectiveness; for example, push notifications can be a key tool to activate and bind users to the app, especially when frequently employed (Wohllebe, 2020). Push notifications are becoming possibly the most direct connection news organizations have to their respective audiences (P. D. Brown, 2017).

Despite mobile device users' ability to control notification preferences, push notifications face criticism. Push notifications can increase the amount of daily interruptions a person experiences, create stress in some users, become more aggressive and intrusive, are subject to spreading disinformation, can anger users into disabling the alerts, and have been criticized for being subjective and biased—which then affects the perception of the media (P. D. Brown, 2017; Jensen et al., 2005; Pham et al., 2016; Sanfilippo & Lev-Aretz, 2017; Wheatley & Ferrer-Conill, 2021). Despite the issues surrounding push notifications, some studies have shown that users did not feel “flooded” by the alerts (Pielot et al., 2018, p. 8), and instead were seen as user-friendly regarding the satisfaction of app usage (Chua & Chang, 2016). Push notifications also offer a sense of convenience, allowing individuals to be aware of what is happening without opening an app, causing the lock screen on smart devices to become a critical battleground for publishers (Newman, 2016).

Push notifications are considered one of the most commonly implemented communication strategies to engage audiences across a variety of fields and are a consistent part of news distribution channels (Bidargaddi et al., 2018; Wheatley & Ferrer-Conill, 2021). This is significant in regard to metrics, which newsroom managers use to select stories that align with the values of their audience (Tenor, 2024). Though newswriters value the citizen over the consumer, it has been found that metrics are more useful in advancing the consumer role, and its implementation in newsrooms shows progress toward market-orientation journalism (Belair-Gagnon et al., 2020; Kristensen, 2023). However, push notifications are more geared toward an outlet's current subscribers. Instead of fulfilling a need for new consumers in a competitive industry, the strategy is dedicated to engaging with and retaining an audience—or, the outlet's citizen.

Push notifications provide a direct interactive communication channel with readers and publishers are motivated to persuade their audience to click on and view the article pushed (Gavilan et al., 2020; Wheatley & Ferrer-Conill, 2021). Push notifications are strategized to not only provide news to readers but also produce an emotional or behavioral response. This response can lead to greater news knowledge and awareness among news consumers (Balta, 2020; Gavilan et al., 2020; Stroud et al., 2020). Therefore, push notifications are promising tools for news organizations that battle for user attention in the competitive world of both credible and unreliable high-choice media, serving as a strategy to promote

greater civic engagement by pulling and pushing content directly to their current audience wherever and whenever (Barnes et al., 2025; Wheatley & Ferrer-Conill, 2021).

4. Clickbait

There has been a shift in how push notifications are presented the more effective they become, and this could be a concerning trend. P. D. Brown (2017) found that breaking news alerts are becoming less frequent compared to non-breaking news alerts, and that teasers and “clickbait” are increasingly more common. Outlets have been shown to use clickbaiting practices to tweak online headlines to attract more attention, web views, and shares, opening the possibility of misleading audiences and spreading fake news and misinformation (Moyo et al., 2020). Clickbait headlines can present distorted versions of the truth that limit one’s ability to contextualize news by exploiting readers’ knowledge gaps and enticing the audience to engage in the full article (Carcioppolo et al., 2021; Chen et al., 2015). Through a systematic review, Jacobo-Morales and Marino-Jiménez (2024) found that clickbait has a plethora of properties. Because the content is created to entice the reader to click, it arouses curiosity in the audience. This content leads to low quality, is deceptive in nature, includes exaggerated headlines or text, includes malicious content, increases the income generated to digital portals, uses sensationalism, uses informal language, uses keywords, and uses algorithms. Clickbait is complex and hard to distinguish, and research has found that audiences differ in their perception of clickbait as well as their preference to engage with non-clickbait notifications (Molina et al., 2021). Also, clickbait does not necessarily need to include all the aforementioned properties. Clickbait strategies can have a direct influence on the perceptions and attitudes of an outlet’s readership as well. Certain types of people could be more likely to select an emotionally charged clickbait headline; the type and source of a headline can affect whether a person reacts positively or negatively and intends to continue to engage with the source. Thus, phrasing such headlines—or snippets of an article through a push notification—as clickbait is an editorial technique to direct users to an outlet’s website, but could affect how many news stories audiences actually consume (Jung et al., 2022; Munger et al., 2018; Scacco & Muddiman, 2016), potentially leading to sensationalism, which “is a type of journalistic coverage that triggers recipients’ reactions, such as attention and emotions, using specific production features (Khawar & Boukes, 2024, p. 1; Otto et al., 2016). This has been considered undesirable and is linked to clickbait and viral journalism, which engages audiences in ways that traditional and credible outlets can sometimes find difficult to navigate. This can also be found in editorial bias in mass media, or in posing trivial matters as newsworthy topics (D. K. Brown et al., 2018; Kostarella & Palla, 2024; Uzuegbunam & Udeze, 2013). Kaushal and Vemuri (2021) argued that clickbait headlines are becoming normalized in most digital news media, and “they significantly reduce the credibility of news items” (p. 153). Munger (2020) further explained that the iteration of clickbait has shifted within the news ecosystem, and though legacy media has attempted to develop its reputation through high-quality journalistic practice, its audience tends to be the only consumers appreciative of that differentiation (p. 389).

If a credible source uses clickbait to engage with its current audience, the perceived negative connection with the strategy can be challenged. Past research has found that media credibility is influenced by how much a person relies on and uses the outlets they frequent for news consumption (Johnson & Kaye, 2002, 2003; Molyneux & Coddington, 2020). In addition, credibility is measured by perception and confidence in the source as well as trustworthiness, which can all serve as a form of persuasion (Pornpitakpan, 2004; Whitehead, 1968). News consumers have different reference points while evaluating various forms of media, and an audience’s wide-ranging judgements can influence their

selection of media content (Hanimann et al., 2022; Wölker & Powell, 2021). Credibility is an important characteristic of journalism because audiences cannot verify information themselves due to limited resources and a lack of access to specific sources and events (Wölker & Powell, 2021). Credibility can include media trust, separating facts from opinions, fairness, ethics, providing an accurate and unbiased account of a story, respect for people's privacy, and concern for the public's interest and well-being (Meyer, 1988). Ultimately, news outlets regularly provide and directly appeal to their subscribers with current content through push notifications, which not only increase exposure and metrics for an outlet, but can also bring an existing audience back to the app by reminding users they have a familiar, accessible news source already installed on their device (Groot Kormelink, 2023; Wohllebe et al., 2021). Additionally, though the credible outlets selected for this study may not be deceptive, informal, or produce low-quality or malicious content, the push notifications are meant to entice the readers to click into the story through curious and sometimes exaggerated headlines and keywords in order to generate income. This takes advantage of algorithms to keep readers engaged with content specific to their interests (Jácono-Morales & Marino-Jiménez, 2024). Therefore, through the strategic normalization of clickbait by familiar and trusted news sources to engage with their current audience, the concept of *credible clickbait* can be formed.

5. Framing

A frame is a reflective element between the participant's responses to the world they are responding to (Goffman, 1974). News media plays a significant role in the framing process, serving as an active mediator of messages from sources to recipients, and in journalism, specifically, by selecting some aspects of a particular issue to make salient while ignoring other information (Pan & Kosicki, 1993; von Sikorski & Matthes, 2020). Through a variety of perspectives in practice, frames are implemented through how journalists, editors, and outlets filter and select aspects of perceived reality, connection to the story, and meaning while constructing a frame. Moreover, frame-building is a process consisting of competition, selection, and modification (Baden, 2019; De Vreese, 2014; Ninan et al., 2022). These descriptions resonate with the same classifications of clickbait mentioned earlier. The execution of this process is especially relevant in the competitive nature of digital journalism. D'Angelo (2019) explained that informed citizens enable democratic processes, and technologically mediated mechanisms by which audiences select news and interpret frames through their own knowledge and views have an impact. In competitive news environments, story frames battle against each other, engendering deeper processing of the topic by the audience, which could also lead to news outlets having an effect on audience values (D'Angelo, 2019; Sniderman & Theriault, 2004). Journalists can use push notifications to guide their language and framing techniques to promote more informed thinking and increased engagement among their current audience (Barnes et al., 2025). Not only are push notifications valuable to news outlets, but they also result in audience learning, as well as meeting audience expectations (Mäkelä et al., 2020; Stroud et al., 2020; Westlund, 2023). Editors attempt to understand the impact of audience measurement on the newsroom and incorporate the audience's voice through analysis and interpretation (Ferrer-Conill & Toc, 2018).

Media supply has significantly grown, as has the opportunity for audiences to select media based on preferences, all while challenging the foundations of traditional media and changing the strategies of outlets to survive (Djerf-Pierre & Shehata, 2017; Pavlik, 2001). Information inconsistent with people's beliefs is likely to be met with resistance, depending on how a specific frame threatens or supports their view (Strömbäck et al., 2022). Organizations reaching out broadly to groups that differ in their worldviews may limit the positive

effect of tailoring messages that fit the current audience of an outlet (Strömbäck et al., 2022). In addition, Constantiou et al. (2012) found that, from a heuristic standpoint, previous experience with a source enhances the user's perception of credibility and reputation, and also that short texts have a high importance in choice due to the low cognitive effort. Therefore, framing push notifications to engage with an outlet's current audience appears to be significantly beneficial to an outlet in the competitive world of high-choice media, even if closely related to clickbait.

To explore the use of push notifications as credible clickbait and the use of framing in newsrooms, the following research questions and hypotheses are proposed:

RQ1. *In what ways do credible mainstream news outlets frame push notifications as a form of clickbait?*

RQ2. *How is the use of clickbait similar or different between push notifications sent by news outlets to their respective audiences?*

H1. *Push notifications sent by news outlets are likely to be perceived as clickbait.*

H2. *Users who have a news outlet's app downloaded on their mobile phone will perceive that outlet to be credible.*

H3. *Users who have a news outlet's app downloaded on their phone will likely have a low perception of clickbait in regard to the push notifications sent by the app they subscribe to.*

6. Method

To examine the use of framing in push notifications and whether the alerts are a form of *credible clickbait*, textual analysis was implemented by examining push notifications ($n = 639$) offered by three mainstream media outlets, *The Associated Press*, *The New York Times*, and *The Wall Street Journal*. Data were collected from 3 to 30 June 2024. This time frame was selected because there were no major holidays in the United States to influence the content pushed. Furthermore, each day of the week was analyzed an even amount of times and through saturation, which occurs when gathering fresh data no longer offers news insights and an adequate sample is already achieved (Charmaz, 2006; Cresswell & Cresswell, 2018). The outlets used certain phrasing and structure of the text in push notifications, and due to the consistent strategy, no new patterns or styles emerged throughout the time frame. Additionally, an exploratory mixed methods approach was instituted by the inclusion of a conducted survey of news consumers ($n = 368$) to measure reader perceptions of clickbait in push notifications. Mixed methods research integrates two forms of data, first exploring a phenomenon and then acquiring the views of others, which yields additional insight beyond the information collected by a sole quantitative or qualitative study (Cresswell & Cresswell, 2018).

7. Textual Analysis

Textual analysis is used to examine content to learn something about what is being produced, including patterns, assumptions, and omissions of text (Berger, 1998; Fürisch, 2009). A criterion sample was used to select push notifications from the three specific outlets. The volume of online visitors and news circulation was the primary factor in the news outlet selection. Additionally, the outlets were based in the United States, had a global reach and frequent international coverage, English-language publications, and covered the same general news topics. Statista (2024) was further used to narrow the news outlet population by identifying leading global English-language news websites through monthly online visitors and daily newspaper print circulation numbers in the United States for 2023. *The New York Times* ranked first in monthly online visitors with 464.4 million and

second in daily newspaper circulation with 267.6 thousand; *The Wall Street Journal* ranked 18th with 71.6 million and first in daily newspaper circulation with 555.2 thousand; and *The Associated Press* ranked 19th in monthly visitors with 71.2 million and does not have a print circulation. *The Associated Press* does not have a print circulation; its articles are acquired through the wire and used in daily print newspapers. Though there is a significant gap in monthly visit numbers between *The New York Times*, *The Wall Street Journal*, and *The Associated Press*, many of the outlets ranked from 2nd to 17th did not meet the general qualification criteria. For example, these publications were often specific to online platforms, focused on a certain topic, primarily involved in broadcast journalism, preferred localized state or general U.S. content, or were not U.S.-based. In addition, U.S. outlets were specifically considered to measure credibility due to similar journalistic habits, attitudes, and traditions, which can vary from each country through their respective priorities, values, and training (Meyer, 1988).

To analyze push notifications sent by these three outlets, the primary researcher downloaded each outlet's app on their mobile device. The researcher's institution provided subscriptions to *The New York Times* and *The Wall Street Journal*. Push notifications were enabled through the apps' settings and preferences, and no filters were set except for declining notifications from individual opinion writers. To further avoid manipulation, the primary researcher did not click on any of the headlines in case the algorithms learned their preferences and started providing news catered to the primary researcher's interests. The primary researcher took screenshots of each push notification and uploaded the images to a shared folder on Microsoft OneDrive. Two additional researchers assisted in the coding process. The use of multiple coders was meant to help balance subjectivity and combat overexposure to one story, which could be considered unintentionally as clickbait. The researchers alternated days coding the data. See Appendix B for a breakdown of clickbait style codes, including questions or teasing phrases, a nameless person or entity, and sensationalistic or exaggerated content. The textual analysis was conducted to help answer RQ1 and RQ2 and help examine H1.

8. Survey

Surveys are useful tools for making refined descriptive assertions about large populations and defining concepts related to specific research (Babbie, 2020). A probability sample was used to recruit U.S. news consumers over the age of 18. The researchers used Amazon's MTurk for recruitment, a crowdsourcing site that recruits and screens survey participants. Each participant was offered USD 0.75 to participate in the study, and recruitment was capped at 400 participants based on a representative sample size calculation of the U.S. population. This was rounded up to 346 million, with a 95% confidence rate and 5% margin of error.

The questionnaire was designed in Qualtrics. Participants were given a series of 30 push notifications to analyze. The push notifications were extracted verbatim from *The Associated Press*, *The New York Times*, and *The Wall Street Journal*, but the outlet's name was not included in the push notification text. Please see Appendix C for the specific push notifications used in the survey. The sample included 10 push notifications from each outlet, as well as at least four from each day of the week, three from each department, a combination of breaking and non-breaking news, and six of each clickbait style. These styles were created and categorized by the researchers after being identified during the textual analysis. Please see Appendices A and B for a list of departments, styles, and definitions.

Participants were asked if they considered each statement as clickbait or not. After the statements, participants were then provided with 10 outlets to select which they found credible and which they had downloaded on their mobile device, including the three

outlets analyzed for this study with the addition of seven dummy outlets: *CNN*, *DailyWire*, *Fox News*, *NewsBreak*, *The New York Post*, *USA Today*, and *The Washington Post*. Additional demographic information was also asked, including gender, age, income, and political ideology. The survey was designed to help answer H1, H2, and H3.

Intercoder Reliability

Intercoder reliability was performed on the textual analysis. Considering that the codebook was not complex and that three researchers were involved in the initial coding, a representative sample of 14% ($n = 90$) of the data was used, including the 30 units used for the survey. The units were selected at random—30 from each researcher—and a Cohen's Kappa was run, resulting in substantial agreement ($k = 0.70$). An additional Cohen's Kappa was run on the specific 30 units used for the survey, resulting in almost perfect agreement ($k = 0.90$).

9. Results

The textual analysis helped to answer RQ1, which explored how credible mainstream news outlets frame push notifications as a form of clickbait, using multiple strategy styles. Below is an example of Style 1 from *The Associated Press* on Tuesday, 4 June 2024 at 12 p.m.:

“India Elections: Prime Minister Narendra Modi claimed victory for his alliance despite a lackluster performance from his party. Here’s what comes next.”

The use of “here’s what comes next” is implying that the reader must enter the article to find out the answer to a question and fill their knowledge gaps (Carcioppolo et al., 2021; Chen et al., 2015; Jacobo-Morales & Marino-Jiménez, 2024).

Below is an example of Style 2 from *The New York Times* on Monday 10 June 2024 at 3:28 p.m.:

“Menendez Corruption Trial: A businessman testified that he had asked Robert Menendez directly for his help at a meeting on the senator’s backyard patio.”

This strategy gives a sense of mystery of who the businessman is, and that person’s identity and what the help entailed would only be shared by entering the article to fill a knowledge gap (Carcioppolo et al., 2021; Chen et al., 2015; Jacobo-Morales & Marino-Jiménez, 2024).

Below is an example of Style 3 from *The Associated Press* on Thursday 19 June 2024 at 8:01 a.m.:

“Watch the moment: A 97-year-old woman who pushed to make Juneteenth a holiday celebrates by moving back to her family’s land that was taken by a racist mob 85 years ago.”

Using “watch the moment,” the notification is not only enticing readers to enter the article but setting up an emotional experience by then referencing the woman’s age and the phrase “taken by a racist mob 85 years ago,” which is sensationalistic. Using D. K. Brown et al. (2018) work as a guide, sensationalistic push notifications were used to intentionally evoke emotion or exploit extreme circumstances to grab attention for this study.

Below is an example of Style 4 from *The Wall Street Journal* on Sunday 9 June 2024 at 7:11 p.m.:

“The Wall Street Journal.: He ended the affair with a text. So began the downfall of one of Big Tech’s most powerful allies.”

There is a lot to be answered in this notification: who is “he”, who did he have an affair with, and who was “Big Tech’s most powerful allies”? In addition, the sensationalistic

language implies a sexual relationship, as well as whether the entire tech industry itself is in a dangerous position, ultimately using multiple styles of clickbait in one push notification (D. K. Brown et al., 2018; Jacobo-Morales & Marino-Jiménez, 2024).

The data showed that clickbait was perceived to be in 62.44% of the push notifications analyzed. The survey responses showed that all push notifications were perceived as clickbait by participants, with the results ranging from 62.9 to 90.6%. With this combination of findings, the researchers established a new base for measuring clickbait, ultimately categorizing perceptions of clickbait into quantiles: low (<65–69.99%), moderate (70–84.99%), and high (85% to >90%). The textual analysis showed that *The Associated Press* (59.93%), *The New York Times* (65.25%), and *The Wall Street Journal* (64.36%) had low perceptions of clickbait based on how the researchers perceived each outlet's collective push notifications. The survey, however, showed that *The Associated Press* (72.17%), *The New York Times* (74.10%), and *The Wall Street Journal* (71.19%) had moderate perceptions of clickbait based on how participants perceived each outlet's collective push notifications. These percentages were averaged together, and all three outlets (AP—66.05%; NYT—69.68%; WSJ—67.78%) contained a low perception of clickbait, answering RQ1 and RQ2. Please see Tables 1 and 2 for more information about perceived clickbait by outlet and frequency of push notifications by outlet.

Table 1. Perceived clickbait level by outlet.

Outlet	Textual Analysis %	Survey %	Perception % (Level)
The Associated Press	59.93%	72.17%	66.05% (low)
The New York Times	65.25%	74.10%	69.68% (low)
The Wall Street Journal	64.36%	71.19%	67.78% (low)
Averages	63.17%	72.49%	67.84%

Note: Data are sorted alphabetically. The table highlights the mean percentage of perceived clickbait by the three main outlets.

Table 2. Push notifications by outlet.

Outlet	Pushes Sent	Daily Volume	Breaking News	Opinion	Clickbait
The Associated Press	302	10.79	122	1	181
The New York Times	236	8.43	94	19	154
The Wall Street Journal	101	3.61	48	1	65
Total	639	22.82	264	21	399

Note: Data are sorted alphabetically by outlet. The table highlights each outlet's total push notifications sent, daily volume of push notifications, push notifications labeled as breaking news, push notifications labeled as opinion, and push notifications perceived by the researchers as clickbait.

From the data survey data collected, a descriptive analysis on Qualtrics showed that all 30 statements were perceived as clickbait, ranging from 62.9% to 90.6%. Considering that all statements were perceived as clickbait by over half of the participants, H1 was supported. Please see Appendices C and D for a breakdown of each push notification as well as each perception level.

Fisher's exact test was conducted on Qualtrics to evaluate whether the relationship between participants who selected a certain app installed on their mobile device would coincide with their selection of the same app to be perceived as credible. All 10 outlet options showed a statistically significant relationship between downloaded apps and the credibility of the same app. Furthermore, *The Associated Press* ($p < 0.00001$; Cramér's $V = 0.668$) and *The New York Times* ($p < 0.00001$; Cramér's $V = 0.526$) both showed strong statistical significance with a high confidence rate, and *The Wall Street Journal* ($p < 0.00001$; Cramér's

V = 0.484) was close to being strong as well with a high confidence rate. Each of the three outlets studied ranked in the top four for app usage and perceived credibility, supporting H2. Please see Table 3.

Table 3. Relationship between perceived credibility and app downloads.

Outlet	$p =$	Cramér's V	Credibility	Rank	Downloaded	Rank
The Associated Press	<0.00001 *	0.668	26.8%	8	26.1%	8
USA Today	<0.00001 *	0.534	38.0%	4	32.7%	7
The Washington Post	<0.00001 *	0.530	18.0%	10	19.7%	9
The New York Times	<0.00001 *	0.526	36.2%	T6	35.2%	6
The Wall Street Journal	0.00001	0.484	19.5%	9	19.5%	10
Fox News	0.00001	0.446	49.6%	2	43.0%	3
Daily Wire	0.00001	0.445	39.7%	3	43.5%	2
CNN	0.00001	0.439	55.7%	1	50.9%	1
New York Post	0.00001	0.411	37.5%	5	35.4%	5
NewsBreak	0.00001	0.351	36.2%	T6	35.7%	4

* Shows strong statistical significance. Note: Data sorted by Cramér's V (highest confidence rate) due to all p values showing statistical significance. The table also shows the survey participants' percentage of perceived credibility and app downloads, as well as each outlet's ranking for both categories.

A ranked t -test was conducted on Qualtrics to test the values of a specific outlet's perceived credibility and whether those outlet's relative push notifications were perceived as clickbait by users who consider the outlet to be credible. It appeared that, generally, specific outlet readers considered the push notifications sent by that outlet not to be clickbait. Three of the ten statements sent by *The Associated Press* (#28, $p = 0.0078$, Cohen's $d = 0.287$; #27, $p = 0.0287$, Cohen's $d = 0.238$; #4, $p = 0.0395$, Cohen's $d = 0.226$), two of the ten statements sent by *The New York Times* (#24, $p = 0.0103$, Cohen's $d = 0.263$; #29, $p = 0.0245$, Cohen's $d = 0.231$), and six of the ten statements sent by *The Wall Street Journal* (#13, $p \leq 0.00001$, Cohen's $d = 0.506$; #14, $p = 0.000157$, Cohen's $d = 0.426$; #12, $p = 0.000184$, Cohen's $d = 0.422$; #18, $p = 0.000605$, Cohen's $d = 0.370$; #6, $p = 0.000168$, Cohen's $d = 0.344$; #17, $p = 0.0036$, Cohen's $d = 0.338$) held a high value of clickbait as perceived by news consumers of the outlets. Due to the content, there was no commonality between the push notifications, such as topic or style, which lacks indication of why specific alerts held a higher value than others but also could highlight these users' high confidence and trust in the outlets they subscribe to. Please refer to Appendices C and D for push notification specifics.

10. Discussion

This study aimed to explore the use of framing and clickbait in push notifications sent by credible outlets. Textual analysis of push notifications sent by *The Associated Press*, *The New York Times*, and *The Wall Street Journal* was performed to uncover patterns, styles, and usage of clickbait. In addition, an online survey of news consumers was conducted to measure the reader's perception of clickbait and news credibility.

The researchers found that clickbait was used consistently across the three outlets analyzed. This was complemented by a higher level of perceived clickbait by survey participants, successfully addressing RQ1 and RQ2 and supporting H1. This finding of high clickbait usage by the researchers compounded by the audience perceiving all statements as clickbait indicates that popular mainstream credible outlets use clickbait as a strategy to engage with their current audiences (P. D. Brown, 2017). This suggests that if credible outlets are using clickbait, the negative connotation of the strategy can be challenged, especially if newsrooms are pushing social engagement as a key metric to staying relevant and financially stable in the era of high-choice media. If website editors and social media managers phrase a headline accurately while piquing relevant curiosity from readers (Jácono-Morales & Marino-Jiménez, 2024), then it could be argued clickbait is

a warranted strategy for news outlets if implemented ethically, especially considering that they could be attempting to appeal directly to their audience or the outlet's in-group or social following.

All three outlets used a variety of styles, which emerged during the analysis, and the push notifications included posing questions, nameless sources and subjects, and sensationalistic or exaggerated phrases, all of which could only be answered, discovered, or emotionally resolved by entering the article (Jácomo-Morales & Marino-Jiménez, 2024). There did not appear to be a correlation between the topic and department when it came to push notification frequency or clickbait usage, but the weekends, primarily Saturday, appeared to contain less breaking news and more clickbait than any other day of the week. From the textual analysis, it was found that clickbait was perceived in 82.64% of the push notifications sent across all three outlets on Saturdays. Considering that breaking news does not have a schedule, this could be connected to how newsrooms are staffed and operate on the weekends. Considering the consistency of this trend among the three outlets, perhaps, from a general industry standpoint, it is more common to push, or even re-push, certain stories just to keep readers engaged on the weekend and only cover the most significant and pressing breaking news.

The New York Times sent significantly more push notifications labeled as “opinion.” However, this could explain how the outlet caters to its audience, and perhaps readers gravitate toward the publication's opinion section. The weight of *The New York Times* opinion section can be seen just in the app's filters, as users can subscribe to specific opinion writers, which is not an option for the other two outlets. Continuing on audience preferences, *The Wall Street Journal* appeared to generally send more notifications involving business and finance, which is a focus of the publication. Lastly, *The Associated Press* had no obvious trends in what was pushed, which could also relate to their mission based on the outlet's presence as a news source in various global publications.

One interesting trend was that push notifications labeled as breaking news appeared to use less clickbait compared to non-breaking news alerts (P. D. Brown, 2017). However, “breaking news” as a label could be considered clickbait alone as readers could perceive that as need-to-know information. Outlets must focus on notifying their subscribers of breaking news because most often breaking news topics are shared across multiple outlets. By notifying their users, outlets achieve the main goal of keeping their audience informed and preventing them from switching to a competitor. However, though the researchers' analysis showed that clickbait was used less in “breaking news” pushes, little separation was found in regard to how survey participants perceived breaking news (70.94%) and non-breaking news (72.96%) as clickbait. For example, all seven “breaking news” push notifications included in the survey were not considered clickbait by the researchers during the textual analysis, but were all selected as clickbait by survey participants, varying in level of perception (Molina et al., 2021): one notification was seen as low, five notifications as moderate, and one notification as high. Please refer to Appendix C.

Additionally, a significant finding was how low the three outlets ranked when it came to credibility. *The Associated Press* (8th, 26.8%), *The New York Times* (T-6th, 36.2%), and *The Wall Street Journal* (9th, 19.5%) only ranked above *The Washington Post*. Please refer to Table 3. However, there is a possible explanation for this finding. *The Associated Press* could be considered a general news outlet that news consumers do not actively seek out as their primary source for news. In addition, *The New York Times* and *The Wall Street Journal*, though they are free to subscribe to online, are behind paywalls for full access to their content. If news consumers can acquire their news for free, it could mean they are gravitating toward those sources to access verified information (Wölker & Powell, 2021). In addition, *The Associated Press* (8th, 26.1%), *The New York Times* (6th, 35.2%), and *The Wall Street Journal*

(10th, 19.5%) also ranked low regarding the apps that participants had installed on their devices. Please refer to Table 3.

The strong statistical relationship between downloaded apps and the perceived credibility of the same downloaded apps of these three outlets shows the confidence level and trustworthiness of their respective audiences. Credibility, in this sense, was presented as fair, accurate, and verified in the phrasing of the survey question (Meyer, 1988). This notion is also apparent in the low reader perception of clickbait in push notifications sent by the outlets they subscribe to and find credible (Hanimann et al., 2022; Johnson & Kaye, 2002, 2003; Molyneux & Coddington, 2020; Wölker & Powell, 2021), at least regarding *The Associated Press* and *The New York Times*. These findings support both H2 and H3.

Findings from this study suggest that credible mainstream outlets frame push notifications as clickbait to strategically engage with their current audience, supporting the concept of *credible clickbait*.

11. Limitations

The primary researcher did their best to make sure that push notifications were not influenced by algorithms and were received at a consistent frequency from each outlet. However, *The Wall Street Journal*, specifically, had a low number of push notifications sent compared to the other outlets. The settings within the app require users to be more active with their phones because the researcher found that opening *The Wall Street Journal* app would then activate more push notifications if they were seemingly drifting into dormancy. In addition, two outlets being behind paywalls may play a factor, as they could be utilizing their push notifications differently compared to more accessible apps such as *CNN* or *Fox News*. Also, as addressed earlier, being behind a paywall may affect the audience's perception of outlet credibility based on being unfamiliar to the content. It has also been found that credibility does not necessarily predict whether a reader will select or avoid certain articles for news consumption (Wölker & Powell, 2021). Lastly, the analysis could be extended to multiple months, as situations could be different based on what is happening worldwide, which would change the call for strategy and frequency of pushing news; however, that is out of the researchers' control, and saturation proved otherwise for the time frame analyzed. Overall, the method and analysis provided an exploratory measure to understand how outlets frame push notifications as *credible clickbait*.

12. Conclusions and Future Research

The goal of this study was to analyze how news outlets frame push notifications to appeal to and retain their audience directly. This study furthers the research of push notifications by providing textual analysis examining how mainstream media frames push notifications, promoting clickbait as a credible strategy for news outlets. It also added to the wider literature by considering the audience's perception of credibility and strategic communication rather than focusing on just the newsroom strategies for engagement. However, for future research of push notifications, the researcher suggests conducting updated in-depth interviews with social media editors of newsrooms to better understand the use of push notifications, similar to P. D. Brown (2017). Lastly, a possible experiment built on dual-process theories, such as heuristic-systematic processing or the elaboration likelihood model, is proposed to continue the examination of audience perception of clickbait and possible media bias based on secondary data collected by the researchers regarding political ideology and perceived credibility. In the context of news outlets, retaining an audience does not necessarily mean that an outlet must cater to their audience, but also to interested visitors who perhaps do not share a similar viewpoint but are drawn to dispute the counter ideology's frames.

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Appendix A

Table A1. Breakdown of department categories.

Code	Department Topics
1	General/Crime
2	War/Conflict
3	Politics/Law/Policy/International Relations
4	Sports
5	Arts/Entertainment/Lifestyle
6	Business/Financial/Technology
7	Education/Environment/Health/Special Interest

Note: This appendix shows the breakdown and codes for each department category used during the textual analysis of the push notifications.

Appendix B

Table A2. Breakdown of clickbait styles.

Code	Clickbait Style	Style Attributes
1	Question/Teasing Phrase	Who/What/Where/When/Why/Here/How; specific answers can only be found by opening the article.
2	Nameless Person or Entity/Quote	Mentioning a person or entity in the alert, or a direct quote, but a name or context can only be found by opening the article.
3	Sensationalism/Dramatic/Exaggerated	Including phrasing or topics that appeared to lean on readers' emotions, and resolution could be achieved by opening the article.
4	Multiple	Using two or more styles of clickbait in the same alert.

Note: This appendix shows the breakdown and codes for each style of clickbait examined in the textual analysis of the push notifications.

Appendix C

Table A3. Breakdown of survey push notifications.

Code	Outlet	Day	Department	Breaking	CB Style	Perception
14	AP	Monday	3	Yes	3	85%
36	WSJ	Tuesday	1	No	2	68.7%
49	NYT	Tuesday	7	No	3	73.9%
468	AP	Sunday	7	No	4	67.9%
490	WSJ	Monday	4	Yes	0	68.9%
378	WSJ	Wednesday	5	No	3	87%
102	AP	Thursday	3	No	1	76%

Table A3. *Cont.*

Code	Outlet	Day	Department	Breaking	CB Style	Perception
103	NYT	Thursday	7	No	4	72%
115	AP	Friday	2	No	4	68.8%
373	AP	Tuesday	4	Yes	0	62.9%
117	NYT	Friday	2	No	3	82.4%
152	WSJ	Saturday	7	No	2	67.8%
179	WSJ	Sunday	6	No	4	73.3%
250	WSJ	Wednesday	4	No	3	66.6%
184	WSJ	Monday	6	Yes	0	70.9%
614	AP	Saturday	1	No	3	85%
80	WSJ	Wednesday	4	No	1	67.3%
454	WSJ	Saturday	1	No	4	75.7%
69	NYT	Wednesday	2	No	4	69.8%
534	NYT	Wednesday	2	Yes	0	66.7%
470	NYT	Sunday	5	No	2	80.4%
488	WSJ	Monday	7	No	1	67.7%
503	AP	Tuesday	1	No	1	68.1%
557	NYT	Thursday	3	No	1	66.5%
261	NYT	Thursday	6	Yes	0	70.2%
580	NYT	Friday	3	No	2	90.6%
300	AP	Saturday	7	No	2	68.4%
616	AP	Saturday	5	No	2	67.6%
617	NYT	Saturday	5	No	1	68.5%
352	AP	Tuesday	5	Yes	0	72%

Note: This appendix shows the push notifications used for the survey, identified by the number assigned to each during the textual analysis. The table includes the outlet, the day, the department, if the alert was breaking news or not, what style of clickbait was used, and the perceived credibility of participants for each push notification.

Appendix D

Table A4. Survey push notifications text.

Code	Text (Source Not Included)
14	Louisiana Lawmakers give final approval to a bill allowing judges to order child molesters to undergo surgical castration.
36	The U.S. is seeking extradition of a private investigator in London over an alleged hacking-for-hire operation that targeted the Rockefeller family and Argentina
49	Sleepless in Seattle: A modified Dodge Charger roaming the city at night has angered residents. But it seems no one can stop it.
468	Cicadas invasion: Scientists are collecting cicadas that are exhibiting some strange symptoms due to a fungus that hijacks the bugs, turning them into sex-crazed zombies.
490	Breaking News: The Florida Panthers won their first Stanley Cup, defeating the Edmonton Oilers in Game 7 to avoid a historic collapse.
378	The most fashionable men's shirt right now is something you probably already own.
102	Election 2024: The U.S. presidential election isn't for months, but people have lots of questions. Here's what they're wondering.
103	Men fear me, society shames me, and I love my life.
115	'All Eyes on Rafah': The image shows tents in a camp and has been shared more than 50 million times.
373	Breaking News: Willie Mays, baseball's exuberant and electrifying "Say Hey Kid," has died. He was 93.
117	A Capital in Ruins: Once a jewel on the Nile, Khartoum has been reduced to a charred battlefield. Millions have fled. And a famine is looming.
152	A powerful professor seduced students for years. The complaints went nowhere -- until one couldn't be ignored
179	He ended the affair with a text. So began the downfall of one of Big Tech's most powerful allies

Table A4. Cont.

Code	Text (Source Not Included)
250	RIP ‘The Logo’: Jerry West was among the best ever to play basketball. But his signature victory might just be confronting his inner torment
184	Apple debuted a personalized version of generative AI called Apple Intelligence. The new system can retrieve information from across apps
614	An expensive gesture: He flipped off a trooper and got charged. Now, Vermont is on the hook for \$175,000
80	The \$21 billion lawsuit that could break the NFL
454	The quiet suburban couple drove a Kia and paid their taxes on time. A morning raid uncovered their role in a deep-cover spy machine
69	What Ukraine Has Lost: This is the first comprehensive picture of the destruction—every block, every building, every school
534	Breaking News: Members of Bolivia’s military rammed the presidential palace entrance in what appeared to be an attempted coup by a general.
470	How to Party: “Never show up early.” We asked dozens of socially adept people how to be stellar guest and a gracious host.
488	How much is too much to drink? A fight is brewing over the answer
503	Shot in 1.6 s: New investigative details and never-before-seen dashcam video raise questions about how a Georgia trooper avoided charges in a Black man’s death.
557	We watched past debates between Donald Trump and President Biden for insight into tonight’s matchup. Here’s what to expect.
261	The Supreme Court sided with Starbucks in a case over whether regulators can intervene when a company is accused of suppressing labor organizing.
580	“This was a disaster for America.” 12 Opinion writers ranked the debate performances of President Biden and Donald Trump.
300	Cicada emergence: Meet the cicada superfans who eat the bugs, photograph them and use them in art.
616	Books Not Bans’: A store in one of the oldest gay neighborhoods in the U.S. is shipping LGBTQ+ books to states where they are banned.
617	The Best Slices: Pizza in America has never been better. From small-town New England to Alaska, here are 22 of the best pizzerias in the U.S.
352	Breaking News: Justin Timberlake has been arrested and is accused of driving while intoxicated on New York’s Long Island.

Note: This appendix shows the full text of the push notifications used for the survey, identified by the number assigned during the textual analysis.

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