Can Honest Headlines Engage? Correcting Misleading Headlines to Improve Credibility, Comprehension, and Engagement

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Abstract. Misleading headlines can distort interpretation and erode trust. This study shows how corrections to misleading news headlines, such as adding context, removing emotional language, and signaling uncertainty, affect audience engagement, credibility perception, and interpretation accuracy. Using a between-subjects experiment (N = 399), we find that these strategies do not reduce engagement and, in some cases, enhance it. Emotion corrections improve credibility, while uncertainty cues aid factual understanding. The findings challenge the trade-off between accuracy and virality, offering design guidance for ethical headline practices in digital media environments.

Keywords: misleading headlines, news framing, engagement, credibility, interpretation, computational journalism, social media analysis

1 Introduction

In today's algorithm-driven media landscape, headlines often serve as the sole exposure point for audiences [14]. While misinformation research has primarily examined false content, it has largely overlooked misleading headlines and those that distort, exaggerate, or omit critical context without being factually incorrect. For instance, a headline such as *Amazon Workers Left In Tears After Boss Lays Everyone Off Because He's Moving To A New State*[1] suggests Amazon is responsible, though the article clarifies the layoffs occurred at a third-party contractor.

Such subtle manipulations are common even in reputable outlets and hard to detect algorithmically. Minor rhetorical shifts, like omitting qualifiers or using emotional language, can significantly affect interpretation [10]. Yet, their influence on credibility and behavior remains underexplored.

This study addresses a critical dilemma: Can corrections improve accuracy without harming engagement? Prior work shows sensationalism boosts clicks [4], raising concern that editorial corrections may reduce reader interest [3]. Drawing on earlier qualitative findings [22], we empirically test three lightweight correction strategies: adding context, removing emotional cues, and signaling uncertainty.

[1] https://www.comicsands.com/amazon-delivery-drivers-laid-off

In a between-subjects experiment (N = 399), participants viewed either misleading or corrected headlines. We assessed perceived credibility, interpretation accuracy, and engagement, both self-reported and behavioral. Results show that corrections can enhance trust and comprehension without reducing engagement, offering actionable guidance for ethical, effective headline design.

2 Literature Review

Headlines serve as the main access point to digital news content [14, 9], often designed to maximize engagement by employing curiosity gaps, emotional language, or sensational phrasing [4]. While such tactics can increase clicks, they also risk misleading readers by exaggerating, omitting, or distorting key information [28, 6]. Even when the accompanying article is factually accurate, misleading headlines can create lasting false impressions [10, 7], exacerbated by cognitive biases like the truth effect and the continued influence effect [12, 27]. Despite their ubiquity, headlines have received limited attention in misinformation research, particularly regarding how correction strategies influence audience interpretation, trust, and behavior.

Various linguistic strategies contribute to the misleading nature of headlines. The use of emotionally charged or stress-inducing terms can heighten attention but often undermines perceived credibility [5, 28]. Omitting contextual qualifiers, such as causal details, source attribution, or scope, can lead to misinterpretations about the significance or accuracy of a claim [6, 8]. Additionally, headlines sometimes present speculative information with unwarranted certainty. Research suggests that hedging language, especially when attributed to credible sources, can improve perceived transparency and honesty [3, 17], though overly vague hedging may reduce clarity or confuse readers [18, 15].

In broader misinformation scholarship, correction strategies have focused on debunking false claims via rebuttals, fact-checking, or logical refutation [21, 11]. While these efforts are typically aimed at article content or social media posts, few studies examine how subtle editorial corrections to headlines influence reader perceptions [16]. Recent evidence suggests that refining headlines to align with article tone and content, without sensational distortion, can improve trust and comprehension [24, 2]. However, experimental evaluations of such corrections remain scarce.

This study addresses that gap by systematically testing how targeted correction strategies such as adding uncertainty cues, providing contextual qualifiers, and removing emotionally charged language jointly affect reader engagement, perceived credibility, and interpretation accuracy. Unlike prior work that isolates outcome variables, our experiment evaluates these factors in tandem to better understand the impact of headline corrections in real-time news consumption.

3 Research Questions and Hypotheses

This study examines how different correction strategies for misleading news headlines influence engagement, perceived credibility, and interpretation accuracy. Building on prior work in computational journalism and information behavior [14, 10, 28], we evaluate three editorial approaches: (1) adding uncertainty

cues, (2) providing critical context, and (3) removing emotionally charged language. Each strategy aims to enhance clarity, but may influence reader response differently.

RQ1: How do correction strategies affect reader engagement? Reader engagement often depends on emotional arousal, ambiguity, or curiosity [4, 20]. While emotional language tends to boost attention [28, 5], hedging and context can also sustain engagement without sensationalism [3, 17, 8].

- **H1a:** Uncertainty-based corrections will not significantly reduce engagement.
- **H1b:** Context-based corrections will not significantly reduce engagement.
- **H1c:** Emotion-based corrections will significantly reduce engagement.

RQ2: How do correction strategies affect perceived credibility? Sensationalism and omission undermine credibility [6], whereas hedging and context generally enhance perceived transparency [17, 10]. Emotionally biased language tends to reduce trust [25, 15].

- **H2a:** Uncertainty-based corrections will increase perceived credibility.
- **H2b:** Context-based corrections will increase perceived credibility.
- **H2c:** Emotion-based corrections will increase perceived credibility.

RQ3: How do correction strategies affect interpretation accuracy? Headlines guide comprehension and memory [9, 10]. Clarifying uncertainty, adding missing context, or removing emotional distortions can improve interpretation [3, 24, 26].

- **H3a:** Uncertainty-based corrections will improve interpretation accuracy.
- **H3b:** Context-based corrections will improve interpretation accuracy.
- **H3c:** Emotion-based corrections will improve interpretation accuracy.

In contrast to prior work focused on headline style or misinformation in isolation, this study directly tests correction strategies in a controlled experiment to evaluate real-time audience response.

4 Methods: Online Experiment

We conducted a 3 (Correction Strategy: Critical Context, Stress-Word Removal, Uncertainty Cues) × 2 (Headline Version: Misleading vs. Corrected) between-subjects online experiment to assess how different correction strategies affect engagement, perceived credibility, and interpretation accuracy of misleading news headlines.

4.1 Design and Stimuli

Participants were randomly assigned to one of six conditions, each featuring three headlines that were either left misleading or corrected using a targeted strategy. The correction strategies involved (1) adding missing context to clarify vague or incomplete claims (e.g., specifying source, scope, or causality), (2) removing emotionally charged language (e.g., omitting terms like “shocking” or “warning”

that may provoke undue arousal), and (3) introducing uncertainty cues to reflect scientific caution (e.g., using modal verbs like "may" or "could").

Headline pairs were sourced from a previously annotated dataset [22] and a blog tracking misleading headlines.[2] Each condition included three headlines matched by topic and complexity. A pretest ($N = 20$) confirmed manipulation effectiveness using comprehension questions; low-discrimination items were revised prior to deployment.

4.2 Participants and Procedure

A priori power analysis [13] suggested a minimum of 64 participants per condition (N = 384). We recruited 420 U.S.-based adults via MTurk using eligibility filters (age $\geq$18, English fluency, $\geq$90% approval). Participants completed the 15-minute study for $2.15. After excluding responses under 10 minutes or failing attention checks, the final sample included 399 participants. The study received IRB approval.

4.3 Measures

Behavioral Engagement. Participants selected one headline (from a set of four) to read, with the target headline randomly placed. This binary choice served as a behavioral engagement proxy [16].

Perceived Credibility. Participants rated three headlines on credibility using a validated three-item scale [1]. Responses were modeled using a graded response model (GRM) [23] to derive a latent credibility score.

Engagement Intentions. Participants indicated their likelihood of reading, sharing, or ignoring each headline on a 5-point Likert scale [16]. A latent engagement index was constructed using GRM.

Interpretation Accuracy. Participants answered multiple-choice comprehension questions for each headline. Responses were scored (0–3) based on accuracy.

4.4 Individual Differences

Demographic and cognitive variables were collected to examine moderation effects. The sample skewed male (79.2%), with most holding at least a college degree. Political ideology averaged slightly conservative ($M = 4.03$, 1–5 scale), and news consumption was moderate to high.

A brief media literacy scale adapted from Maksl et al. [19] assessed fact-checking and source evaluation habits. A GRM-derived index was used to test whether media literacy moderated the effects of headline version or strategy on the outcome variables. Political affiliation and news consumption were included as covariates in statistical models.

[2] https://www.tomliberman.com/category/misleading-headlines

5 Result

5.1 Reader Engagement (RQ1)

We assessed engagement using two methods: a self-reported engagement index derived from Likert-scale responses (e.g., intent to read, share), modeled via Item Response Theory (IRT), and a behavioral proxy in which participants selected one headline to read from a set of four. Participants were randomly assigned to view either corrected or misleading headlines under one of three editorial strategies: adding context, removing emotional language, or signaling uncertainty. We analyzed the data using ANCOVA for self-reported scores and logistic regression for behavioral responses, with relevant covariates.

The ANCOVA revealed no significant main effect of headline version ($F = 1.59$, $p = .209$), strategy ($F = 1.42$, $p = .243$), or their interaction ($F = 1.37$, $p = .256$) on self-reported engagement. Similarly, logistic regression predicting headline selection showed no significant effects of version ($b = 0.156$, $p = .682$) or interaction terms, although the emotion strategy exhibited a marginally positive effect on selection likelihood compared to context ($b = 0.793$, $p = .056$).

In interpreting the hypotheses, the results support both *H1a* and *H1b*: corrections using uncertainty cues and additional context did not significantly reduce engagement, either behaviorally or through self-reports. Interestingly, *H1c* was not supported. Contrary to expectations, removing emotionally charged language did not reduce engagement and in fact showed a slight, marginal increase in behavioral selection. These findings suggest that clear and accurate headlines can maintain, if not enhance, reader attention without relying on sensationalism.

5.2 Perceived Credibility (RQ2)

To assess how headline corrections affect perceived credibility, participants rated three headlines using Likert-scale items related to accuracy, authenticity, and believability. These responses were aggregated using a graded response model (IRT), producing standardized credibility scores. We analyzed the effects of headline version (corrected vs. misleading) and correction strategy (context, emotion, uncertainty) using ANCOVA and linear regression, controlling for media literacy, political affiliation, news consumption, education, and gender.

The ANCOVA revealed significant main effects of headline version ($F = 50.48$, $p < .001$), strategy ($F = 56.19$, $p < .001$), and their interaction ($F = 49.43$, $p < .001$) on perceived credibility. Media literacy was a strong positive predictor ($F = 133.62$, $p < .001$), while other covariates had no significant effects.

Consistent with these results, linear regression showed a large and significant interaction between version and emotion strategy ($b = -1.444$, $p < .001$), indicating a substantial credibility penalty for emotionally misleading headlines. However, interaction terms for uncertainty ($b = -0.097$, $p = .548$) and context (*reference category*) were not significant, suggesting that these strategies offered only modest credibility improvements.

Taken together, these findings provide strong support for *H2c*—emotion-based corrections significantly increase perceived credibility by mitigating the

negative impact of emotionally manipulative language. In contrast, *H2a* and *H2b* were not supported: although uncertainty- and context-based corrections slightly improved credibility scores, these gains were not statistically significant relative to their misleading counterparts. Overall, the results highlight the importance of tailoring corrections to the type of misleadingness, with emotional framing exerting the most pronounced effect on perceived trustworthiness.

5.3 Interpretation Accuracy (RQ3)

To evaluate how headline corrections affect interpretation accuracy, participants answered one factual multiple-choice question for each of three headlines. Each question was scored as correct (1) or incorrect (0), yielding a total score from 0 to 3. We analyzed differences by headline version (corrected vs. misleading) and correction strategy (context, emotion, uncertainty) using ANCOVA and linear regression, controlling for relevant covariates.

The ANCOVA revealed significant effects for version ($F = 251.51$, $p < .001$), strategy ($F = 52.00$, $p < .001$), and their interaction ($F = 71.22$, $p < .001$), indicating that headline corrections meaningfully impacted comprehension. Linear regression confirmed these effects. The strongest result was a significant interaction for the uncertainty strategy ($b = -1.211$, $p < .001$), followed by a significant interaction for emotion-based corrections ($b = 0.947$, $p < .001$). Context-based corrections also produced significant gains, though they served as the baseline category in the regression model.

All three hypotheses under RQ3 were supported. Uncertainty corrections significantly increased interpretation accuracy, with corrected headlines yielding the highest comprehension scores ($M = 2.03$, $SD = 0.62$) compared to misleading versions ($M = 0.78$, $SD = 0.55$). Context-based corrections also enhanced accuracy ($M = 1.97$ vs. $M = 0.88$), as did emotion-based corrections ($M = 1.82$ vs. $M = 0.81$). These findings suggest that subtle linguistic interventions can substantially improve readers' understanding of news content and that uncertainty cues may be especially effective in mitigating misleading effects.

6 Discussion

This study examined how three headline correction strategies, adding context, removing emotional language, and introducing uncertainty, shape reader responses to misleading news headlines. Results showed that corrections did not diminish engagement, and emotionally corrected headlines even slightly increased interest. Each strategy influenced reader outcomes differently: removing emotional language significantly improved perceived credibility, while uncertainty cues most enhanced interpretation accuracy. These findings challenge the assumption that sensational headlines are necessary to maintain attention, suggesting instead that carefully crafted corrections can promote both trust and comprehension without sacrificing user interest. This has practical implications for newsrooms and platforms aiming to balance ethical reporting with audience engagement. Correction strategies may be tailored to editorial goals, whether prioritizing clarity, credibility, or interaction, without incurring engagement loss.

Still, the study has limitations. It focused on soft news domains to avoid ideological confounds, which limits generalizability to political or hard news contexts. Interpretation was measured with multiple-choice items, which may not fully capture deeper comprehension, and participants assessed headlines without access to full articles, potentially constraining ecological validity. Additionally, while the study was sufficiently powered to detect main effects, it may have overlooked nuanced subgroup differences. Future research should explore these strategies in more diverse and realistic news settings to further assess their impact.

7 Conclusion

This study examines how three correction strategies, adding uncertainty cues, providing context, and removing emotional language, shape reader responses to misleading headlines. We find that corrections improve interpretation and credibility without reducing engagement. Emotion-based corrections most effectively restored trust, uncertainty cues enhanced understanding, and all strategies maintained interest. These results challenge the belief that clarity reduces attention, suggesting that transparency and engagement can coexist. The findings inform editorial and platform design and offer a foundation for human-AI collaboration in responsible headline revision.

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