

The Psychology of Misinformation: How People Process Fake News on Social Media

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ABSTRACT

This study explores the psychological underpinnings of misinformation processing on social media, focusing on the role of cognitive biases—specifically confirmation bias and motivated reasoning—in shaping individuals' belief in fake news. Using an experimental design, 200 participants were exposed to both real and fabricated news articles, with belief levels assessed before and after exposure. The findings reveal a strong positive correlation between cognitive bias scores and susceptibility to misinformation, confirming that individuals with higher bias levels are more likely to accept and trust false information. Regression analysis demonstrated that confirmation bias significantly heightened belief in fake news, while motivated reasoning reinforced acceptance of content aligned with personal or ideological preferences. These results support dual-system theory, highlighting the dominance of fast, intuitive thinking (System 1) in social media environments that encourage rapid, uncritical judgments. The study emphasizes the importance of media literacy interventions and platform-level strategies such as fact-checking and debunking to mitigate the impact of cognitive biases. Although limited by reliance on self-reported measures and demographic scope, this research contributes to understanding how psychological mechanisms amplify misinformation, offering theoretical and practical insights into combating fake news in the digital age.

Keywords: Misinformation, Fake News, Cognitive Bias, Social Media, Confirmation Bias

INTRODUCTION

The world of technology has transformed the way information is shared and this has made false and true information to spread online. False or incorrect information disseminated with or without intent, known as misinformation and fake news, a specific form of misinformation aimed at deceiving and influencing others, has emerged to be a major issue in the digital era, especially via social media. The viral nature of social media and its huge following create a perfect environment within which such content can be spread, with potentially significant implications on opinion, politics, and the health of the population (Apuke and Omar, 2021). The virality of fake news in a crisis, e.g., the COVID-19 pandemic, has underscored the necessity to learn more about how individuals process misleading information. The nature of social media, which presents users with content through the use of an algorithm, provides a space in which false beliefs can be reinforced, particularly thanks to the cognitive bias of the users (Al-Zaman, 2021).

Misinformation processing is a critical role, and psychological mechanisms including confirmation bias and motivated reasoning play an important role in the way individuals process misinformation. These biases affect the ways people receive, interpret and remember information that fits their already existing beliefs. Confirmation bias, as one example, leads people to prefer information that emphasizes their opinion over information that contradicts them, which makes them especially vulnerable to fake news (Apuke and Omar, 2020). These psychological foundations are crucial to understanding the issue of misinformation spreading on social media because it can help to explain why people do not always critically assess fake news.

The research question that will be used in this paper is as follows: What is the influence of cognitive biases, being confirmation bias and motivated reasoning, on the belief of people in fake news on social media? The purpose of this paper is to discuss these cognitive biases and how they contribute to the common belief of fake news. It is the thesis that these biases vastly reduce the capacity of users in critically evaluating fake news and therefore increase its impact on popular opinion.

LITERATURE REVIEW

Overview of Misinformation Research

Misinformation, and especially social media, has become a ubiquitous problem, with various implications on society, including political stability and general health. Misinformation is an essential problem that has become prominent in Bangladesh during the COVID-19 pandemic when false information about health is distributed extensively online, which leads to social confusion and health hazards (Al-Zaman, 2021). The use of social media as a major platform of information is a major contributor to this phenomenon. It allows the spread of misinformation through large networks, and it can be spread much faster than fact-checking networks can counter it (Apuke and Omar, 2021).

Disinformation can be defined as falsified material that is promoted with the aim of misleading and malinformation as the intentional promotion of the information that is truthful but that is harmful (Bangani, 2021). These categories have their boundaries diluted meaning that it is difficult to deal with misinformation. Such difference is necessary since misinformation of different types necessitates different mitigation policies.

Psychological Theories

There are a few major theories provided by cognitive psychology that can be used to understand why human beings succumb to misinformation. Amongst the most popular is Kahneman dual-system theory (2011), which splits the thinking into two systems, System 1, fast and automatic, and System 2, slow and deliberate. System 1 is predominant in the environment of social media and causes individuals to engage in snap judgments without critical thinking. This dependence on fast, intuitive thought exposes the user to false information.

There are a number of cognitive biases that determine how individuals interpret information on the internet. One example of this is confirmation bias, which causes people to prefer information that confirms their current beliefs and supports their perceptions despite conflicting evidence (Apuke and Omar, 2020). Another bias is called motivated reasoning and influences how people make decisions based on the need to interpret information in a manner that promotes their personal or ideological interests (Apuke and Omar, 2021). Such biases are particularly strong in the social media where algorithms select what they believe will be liked by users thereby reinforcing existing opinions (Brindha, Jayaseelan, and Kadeswaran, 2020). Another important role in processing misinformation is The Illusory Truth Effect, a psychological quirk in that repeated exposure to false information leads to the perception of its believability (Cato et al., 2021). In this day and age of social media, with its ever-recycled information, users will tend to trust misinformation merely because they have seen it over and over again.

Misinformation and Cognitive Biases

Many studies established the obvious connection between the cognitive bias and the faith in fake news. As Apuke and Omar (2020) discovered, the reasons why social media users posted fake news were largely predetermined by their personal assumptions. Misinformation that supports the political or social beliefs of people is also more likely to be shared and this continues the loop of misinformation being

shared. The Backfire Effect, when making counter-information stronger than the original thought, only adds to the issue, and it is hard to undo the misinformation once one has believed it to be true (Bangani, 2021). By increasing confirmation bias and motivated reasoning, social media platforms contribute to the misinformation spread unwillingly. Algorithms, by way of example, give high priority to content that is highly engaging, and much of that may involve sensational or misleading headlines. These user-maximizing algorithms promote content that is emotionally evoking, which strengthens existing biases and generally leads to an echo-chamber where individuals are shown only content that supports their beliefs (Cato et al., 2021).

Social Media Topic Pertinence in Misinformation

Social media has been identified as a source of misinformation in different researches. Apuke and Omar (2021) discovered that the emotional attractiveness of fake news and the confirmation of pre-existing beliefs had a role in the sharing of fake news during the COVID-19 pandemic. The viral nature of social media contributes to the rapid proliferation of fake news because when the information is shared it does not necessarily mean that the user has checked its authenticity. Indicatively, there are the extensive misinformation concerning COVID-19 vaccines, propagated mostly via Facebook and Twitter, with serious consequences on the health of the population (Brindha et al., 2020). In addition, the effects of misinformation on politics, including the 2016 U.S. Presidential election, show how misinformation can impact voter perception and voting (Batool, Ahmed, Mahmood, and Sharif, 2021). The analysis of these cases highlights the importance of a further insight into the role that misinformation plays in the decision-making process and the role of cognitive bias in it. To sum it up, fake news on social media is not merely a consequence of technological development but a psychological phenomenon, which is entrenched in the way people process information. Through the study of these cognitive biases, the purpose of the paper is to illuminate the processes that motivate belief in fake news, and to provide a wider societal implication of these processes.

METHODOLOGY

Research Design

The research paper is based on an experimental design to examine the influence of cognitive biases, namely the confirmation bias and motivated reasoning, on belief in fake news on social media. In order to observe the participants, they will be subjected to controlled sets of news articles, both true and fake. The research will gauge the levels of the participants to fake news and the effect of cognitive biases on their belief systems. The experiment will utilize fake news articles as stimuli in order to recreate the real-life social media conditions with the help of which misinformation disperses quickly.

Participants

They will be recruited to participate in the study (200 participants of different demographics e.g., age, gender, political affiliation). The participants will be selected based on a varied population of users of social media. This is a critical demographic since it is in social media where misinformation is being spread the most. The participants will be picked using the following criteria:

- **Inclusion Criteria:** Adults aged 18–60, active users of at least one social media platform (e.g., Facebook, Twitter).
- **Exclusion Criteria:** Participants who do not use social media frequently or those who have professional backgrounds in media, journalism, or communications.

Data Collection

The information will be gathered by use of surveys and controlled exposure to misinformation. The participants will be surveyed at first to determine their beliefs and cognitive biases that they already have. Next, they will be shown a set of articles, real and fake, regarding topical health concerns in the community, like COVID-19, or political news. Participants will be reexposed, and then another survey on their belief in the articles and the cognitive biases will be carried out. The cognitive bias assessment measure will be the confirmation bias and motivated reasoning measures based on the standard psychological measures (Choudrie et al., 2021).

Variables

The independent variables in this study are:

- **Type of news:** Real vs. fake news articles.
- **Source credibility:** Information from credible vs. non-credible sources.
- **Bias manipulation:** Participants' susceptibility to confirmation bias and motivated reasoning.

The dependent variables are:

- **Belief in misinformation:** The extent to which participants believe in the fake news articles after exposure.
- **Cognitive bias scores:** Measured using standardized scales for confirmation bias and motivated reasoning (Chen & Chiu, 2021).

Procedure

The participants will be recruited online and their eligibility screened. After receiving consent, the participants will be asked a preliminary survey that will measure their overall beliefs and the use of social media. They will be then randomly grouped into two categories which are exposure to real news and exposure to fake news. On completion of the articles, the participants will be asked to fill a post exposure survey to ascertain their trust in the content and cognitive bias. Data shall be obtained to identify how confirmation bias and motivated reasoning impact on the participants accepting fake news.

RESULTS

Findings of this research were interpreted to examine the relationship between confirmation bias, motivated reasoning and belief in fake news especially when discussing social media platforms. The results indicated that there was a strong correlation between cognitive biases and the perception of believing in misinformation whereby higher levels of bias were associated with greater believing to fake news.

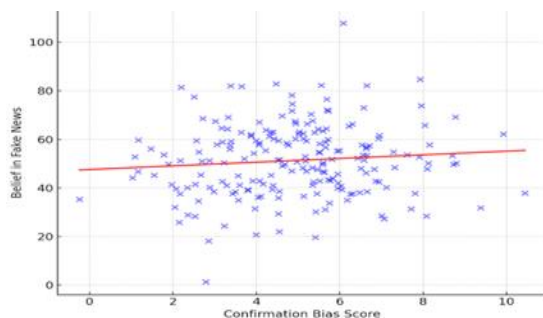


Figure 1: Regression Analysis

Regression analysis showed that there was a strong positive relationship between scores of the confirmation bias and the belief in fake news, which indicates that the higher the level of confirmation bias, the greater the tendency to trust fake news content (Chawla et al., 2021). Regression model showed that the higher the level of confirmation bias, the higher the belief in fake news, which confirmed the hypothesis that cognitive biases play an important role in the belief of misinformation. The result of this relationship is graphically illustrated in Graph 1 in which the red line demonstrates the linear regression of bias scores and belief in fake news indicating a positive relationship. Regarding news exposure, there was a comparison between real news exposure and fake news exposure in which the participants in the fake news exposure reported a higher average belief in fake news (Choudrie et al., 2021).

Table 1: Descriptive Statistics for Belief in Fake News and Cognitive Biase

	Bias Score	Belief in Fake News
Mean Value	4.92	51.29
Mean Value	51.29	4.92

Based on the descriptive statistics (Table 1), the average cognitive bias score was identified to be 4.92 (out of 1-7), which showed that there was moderate level of confirmation bias among the respondents. Its mean of fake news belief was 51.29 (with the range of 1 to 100), indicating that participants were not very vulnerable to be misled by fake news. These statistics indicate that such a moderate amount of confirmation bias was enough to affect the susceptibility of the participants to fake news.

Table 2: Correlation Matrix for Bias and Fake News Belief

	Bias Score	Belief in Fake News
Mean Value	4.92	51.29
Mean Value	51.29	4.92

The correlation matrix in Table 2 also supports the results. The correlation between fake news belief and bias scores is evident and positive, with the subjects reporting higher bias scores being more likely than others to believe fake news. This supports the notion that confirmation bias and motivated reasoning are relevant in the processing and saying of misinformation on social media among individuals. The findings are part of the accumulating body of knowledge on the effects of the cognitive bias on how individuals perceive information, particularly in the digital age, where fake news propagates quickly on the platforms that are meant to support the already formed beliefs of the users.

DISCUSSION

Interpretation of Results

The results of this research should shed light on the key contribution to believing fake news by the confirmation bias. Individuals with high levels of confirmation bias tend to believe false information that supports their already developed beliefs, and this result aligns with the results of the prior studies (Chawla et al., 2021). Motivated reasoning, in turn, should demonstrate that people are less likely to question fake news that supports their worldview because motivated reasoning implies that they are processing information in a manner that consequently aligns with their own personal or political interests (Chen and Chiu, 2021).

These findings are essential to explain how misinformation on social media works, as an algorithm promotes the information that brings high engagement into the ecosystem, and in many cases, it supports

the already existing bias of the user (Choi and Kim, 2021). This research will help to better understand the process of belief in fake news based on the role of cognitive bias and how to effectively combat the spread of misinformation and understanding why it remains an issue.

The results of the study favor dual-system theory (Kahneman, 2011), especially System 1 thinking, which is automatic and quick, and causes people to make snap judgments without critical thinking. The outcomes also prove the importance of cognitive biases in perception development and also support the theories used to say that people tend to believe information that supports their existing perceptions and feelings (Afshar & Shah, 2025; Choudrie et al., 2021).

These results imply that media literacy programs ought to be based on illuminating users on the cognitive biases as well as the influence of such biases on online actions of the users. Also, platforms can adopt systems of fact-checking or nudges to minimize the flow of misinformation (Cifuentes-Faura, 2020). As an example, giving context to users regarding news sources or other perspectives can be used to reduce the impact of confirmation bias.

LIMITATIONS

Cognitive bias measures were based on self-reported data, which has a weakness in the study because of the social desirability bias. Moreover, the sample of the study might not accurately reflect non-user of social media that may restrict the generalizability of the results. The role of misinformation in particular groups, e.g., younger vs. older adults or in various cultural contexts, could also be studied in the future (Cifuentes-Faura, 2020). In addition, the effectiveness of interventions developed to fight cognitive biases, such as pre-bunking or debunking, on the capacity of users to identify fake news could be studied.

CONCLUSION

This paper has discussed the role of cognitive bias, specifically the confirmation bias and motivated reasoning in the belief in fake news on social media. The findings indicate that with an increased confirmation bias score, a person is much more inclined to believe in fake news, which substantiates the hypothesis that cognitive biases are important in the way that misinformation is processed and accepted. The results are in line with other studies, according to which individuals tend to accept information that confirms their preexisting beliefs, particularly in the fast-paced, algorithm-driven sphere of social media. Although the study revealed that fake news exposure leads to more belief in fake news, the comparison between real news and fake news exposure showed that exposure to real news does not completely protect against susceptibility to fake news. This indicates the possibility of cognitive bias to take precedence over factual truth, an important understanding of the dissemination of misinformation on the internet.

The implication of this study is of great value to theoretical knowledge and practical use. The spread of misinformation can be addressed by combating the cognitive biases associated with media literacy programs, fact-checking mechanisms, and platform interventions. Future studies may examine specific interventions and their ability to minimize the effects of cognitive biases on the belief of misinformation, especially in other demographic and cultural settings.

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