Disentangling the Effect of Confirmation Bias and Media Literacy on Social Media Users' Susceptibility to Fake News

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ABSTRACT

This study explores the effects of confirmation bias, media literacy, and cognitive abilities on social media users' fake news susceptibility. The objective is to disentangle the complex relationships among these factors to understand the underlying mechanisms contributing to the spread of misinformation. Data collection involved an online questionnaire distributed on diverse social media platforms using a combination of convenience and snowball sampling. A total of 500 participants from urban cities in India completed the survey, providing a robust sample for subsequent data analysis. SEM was employed to test the research hypothesis. Findings reveal a significant negative relationship between confirmation bias and susceptibility to fake news, while media literacy demonstrates a significant positive relationship. Cognitive abilities, however, show no significant relationship with susceptibility to fake news. This research paper contributes to the field of media studies by disentangling the effects of confirmation bias and media literacy on social media users' susceptibility to fake news. The findings provide insights into the underlying mechanisms influencing the spread of misinformation and highlight the significance of promoting media literacy and addressing confirmation bias in combating fake news.

Keywords: Confirmation bias, Media literacy, Fake news, social media, SEM.

1. Introduction

In the era of rapid information exchange, social media platforms are at the forefront, facilitating communication and shaping public opinion at an unprecedented scale. As of 2022, social media users worldwide amount to 4.48 billion, highlighting the sheer reach and influence of these platforms (Statista, 2022). However, the growing prevalence of fake news on these platforms has become a significant cause for concern (Lazer et al., 2018). Fake news, broadly defined as false or misleading information intentionally spread to deceive the public (Vosoughi et al., 2018), poses a threat to public opinion and the democratic process by undermining trust in media institutions, promoting misinformation, and fostering polarization (Allcott &

Gentzkow, 2017). This digital environment has led to fake news emergence, that poses a significant threat to quality and credibility of information shared through communication channels.

One of the key factors influencing susceptibility to fake news is confirmation bias, the cognitive tendency for individuals to remember, interpret, and seek information in a manner which confirms their pre-existing beliefs (Nickerson, 1998). This phenomenon has been exacerbated by the rise of social media, where personalized algorithms and filter bubbles create echo chambers that expose users to predominantly like-minded content, reinforcing their existing beliefs (Pariser, 2011). Indeed, a survey by (Pew Research Centre, 2014) found that 81% of respondents found themselves surrounded by politically agreeable content on social media, affirming the potency of confirmation bias. Several studies have shown that confirmation bias is a crucial factor in propelling the dissemination and consumption of fake news on social communication platforms (Brundidge, 2010; Pennycook et al., 2020).

Media literacy is another crucial aspect to consider, which pertains to an individual's capacity to assess and analyze media content critically, distinguishing factual information from fictional content (Hobbs, 1999). Media literacy has been identified as a crucial skill for navigating the complex media landscape and safeguarding against misinformation (Martens & Hobbs, 2015). However, despite its importance, a report from (Stanford History Education Group, 2016) indicates that students exhibited poor evaluation skills when confronted with digital content, revealing a dire need for improved media literacy.

According to a report by OOSGA, (2023), India witnessed a substantial surge in internet and social media usage, with approximately 470.1 M active social media users in 2022. Additionally, 2020-National Education Policy in India emphasizes the integration of media literacy into the school curriculum, recognizing its importance in equipping students with the necessary skills to analyze and evaluate media content (Ministry of Education, 2020). Having strong media literacy skills can help individuals avoid falling prey to fake news and other forms of misinformation (Damico et al., 2018; Kahne & Bowyer, 2017).

Although confirmation bias and media literacy are well-established factors in understanding fake news susceptibility, there is a conspicuous research gap regarding their combined influence. This gap obscures the comprehensive understanding of the fake news phenomenon and calls for a more nuanced exploration.

The present study, therefore, aims to address the following research questions:

i. To what extent does confirmation bias influence social media users' susceptibility to fake news?
ii. How does media literacy mitigate the impact of confirmation bias on social media users' susceptibility to fake news?

By investigating these dynamics, this study aspires to pave the way for targeted interventions to mitigate the spread of fake news and promote a more reliable digital information ecosystem.

2. Literature Review
2.1 Social Communication Platforms and Fake news

The rapid growth of technology and the widespread adoption of social media platforms have significantly altered the way information is produced, disseminated, and consumed. These platforms have democratized the production and distribution of news, enabling anyone with internet access to share information with a global audience (Hedman, 2016). While this has led to increased access to information and diverse perspectives, it has also facilitated the spread of misinformation and fake news at an unprecedented scale (Vosoughi et al., 2018).

Social communication platforms have been criticized for their role in amplifying fake news due to their algorithms and network structures, which create filter bubbles and echo chambers which expose users to predominantly like-minded content (Bakshy et al., 2015; Pariser, 2011). Additionally, the attention economy of social media, where information competes for user engagement, incentivizes the creation of sensational and emotionally charged content, which often includes fake news (Wu & Liu, 2018).

2.2 Psychological Processes Contributing to the Spread and Consumption of Fake News

Several psychological processes have been identified as contributing to the spread and consumption of fake news. These processes include cognitive biases, heuristics, and emotional responses that influence the way individuals process and evaluate information. Confirmation bias, a prominent cognitive bias in this context, is when individuals actively search for, interpret, and recall info in such a way, which aligns with their preconceived opinions (Nickerson, 1998). Research has demonstrated that confirmation bias significantly contributes to the dissemination and uptake of fake news on social media platforms, as individuals tend to trust and distribute content that corroborates their pre-existing opinions (Del Vicario et al., 2016; Pennycook et al., 2020).

Moreover, the fast-paced and information-rich environment of social media platforms encourage the use of heuristics, or mental shortcuts, in evaluating information (Kahneman, 2011). One such heuristic is the reliance on source cues, like perceived credibility of source or number of likes and shares, to judge the veracity of information (Metzger et al., 2010). This reliance on heuristics can lead to a greater susceptibility to fake news, as individuals may not engage in critical evaluation of the content itself (Lewandowsky et al., 2017). The propagation and consumption of fake news is also greatly influenced by emotional responses. Earlier studies have shown that fake news stories often trigger intense emotional responses, such as anger, fear and astonishment, which increase the likelihood of sharing and engagement with the content (Friggeri et al., 2014; Vosoughi et al., 2018).

3. Theoretical Framework

In structuring a theoretical framework for this study, we adopt an integrative approach, deriving from the cognitive miser theory (Fiske & Taylor, 1991), uses and gratifications theory (Katz et al., 1973), and the media literacy perspective (Brown, 1998; Potter, 2010). The cognitive miser theory serves as a starting point, positing that individuals use cognitive shortcuts and heuristics in processing information to minimize cognitive load. This theory forms the basis for the inclusion of Cognitive Abilities and Confirmation Bias as key variables in our study (Fiske & Taylor, 1991). Cognitive Abilities reflects the cognitive resources individuals have at their disposal, which could influence their capacity to discern false from genuine news. Confirmation Bias is a heuristic that might direct individuals to favor information that affirms their pre-existing beliefs, potentially reinforcing the effects of fake news (Nickerson, 1998). The uses and gratifications theory, in its extension to new media (Quan-Haase & Young, 2010), provides the context for examining the role of Media Literacy in our model. This theory emphasizes that individuals seek out and consume media based on personal needs and motivations. However, the extent to which individuals can critically navigate media content is contingent upon their media literacy (Guess & Munger, 2023; Scharrer & Zhou, 2022). Lastly, our understanding of Susceptibility to Fake News is framed within the broader theoretical discussions on misinformation and its spread in the digital age (Celadin et al., 2023; Lewandowsky et al., 2012; Pennycook & Rand, 2021).

This theoretical framework offers a holistic, integrated lens to explore the complex dynamics of fake news susceptibility, outlining clear pathways from cognitive resources and biases, through media literacy, to susceptibility to fake news. These theories, and the relationships between the variables they motivate, offer a robust platform from which to explore and understand the phenomenon of fake news.

3.1 Hypothesis Development

Individuals who exhibit stronger confirmation bias tendencies are more vulnerable to fake news due to their tendency to selectively interpret, seek & recall info in such a way which aligns with their pre-existing views (Nickerson, 1998). As a result, they are more likely to accept and engage with fake news stories that align with their views, regardless of the content's accuracy or credibility (Del Vicario et al., 2016). Moreover, confirmation bias can foster the development of echo chambers and filter bubbles on social media platforms, where users are predominantly exposed to content that resonates with their views and predispositions, thereby reinforcing their biases and beliefs (Pariser, 2011). Recent studies have provided empirical evidence to

corroborate this assertion. For instance, Zhou & Shen, (2022) found a positive relationship between confirmation bias and the sharing of misinformation on social media platforms. In a similar vein, Beauvais, (2022) noted that higher confirmation bias levels predicted increased acceptance of misinformation, even in the face of explicit fact-checking. These studies underscore the problematic effects of confirmation bias in the context of fake news dissemination.

Therefore, it can be hypothesized that,

H1: Confirmation bias significantly influences susceptibility to fake news.

Persons with greater media literacy are less susceptible to fake news, as they possess the cognitive skills and critical thinking abilities necessary to evaluate the credibility of sources, identify biases in media content, and distinguish between facts and opinions (Potter, 2010). Media literacy is crucial in the communication process, as individuals with higher media literacy levels are better equipped to critically evaluate the information they encounter and communicate more effectively with others (Hobbs, 2010).

Recent research substantiates the protective role of media literacy in the context of fake news. For example, a study by Muhibbin et al., (2022) found that media literacy education can significantly reduce susceptibility to misinformation by enhancing individuals' capacity to discern disinformation in digital environments. Also, Wei et al., (2023) demonstrated a robust inverse correlation between media literacy and acceptance of misinformation, further affirming that media literacy acts as a protective factor against fake news. By cultivating these competencies, individuals with higher media literacy can develop a more discerning and critical approach to consuming information, which can help protect them from the influence of fake news (Damico et al., 2018).

Therefore, it can be hypothesized that:

H2: Media literacy significantly influences susceptibility to fake news.

Persons with greater cognitive abilities are better equipped to engage in analytical and reflective thinking, which can help counteract the influence of heuristics and cognitive biases on information processing (Stanovich et al., 2016). Higher cognitive abilities like working memory, cognitive reflection, and fluid intelligence, are negatively associated with believing in and propagation of fake news (Bronstein et al., 2019; Pennycook et al., 2020). Individuals with higher cognitive abilities are more likely to evaluate the veracity of information, question the reliability of sources, and identify logical inconsistencies in media messages, thus reducing their susceptibility to fake news (Bronstein et al., 2019). A study by de Zúñiga et al., (2023) stated that cognitive abilities could serve as a buffer against misinformation, particularly where the ability to assess the reliability of sources is concerned. Recent studies have also confirmed that people with stronger cognitive abilities are more inclined to identify logical inconsistencies, thus reducing their acceptance of fake news (Ahmed, 2022; Ahmed & Tan, 2022). These findings underline the protective role cognitive abilities can play in the context of misinformation.

Therefore, it can be hypothesized that:

H3: Cognitive ability significantly influences susceptibility to fake news.

Persons with greater media literacy are more inclined to critically evaluate information and be aware of their own cognitive biases, including confirmation bias (Potter, 2010). Media literacy encompasses not only the ability to analyze and interpret media messages but also the capacity to reflect on one's own media consumption habits and cognitive processes (Hobbs, 2010). As a result, individuals with higher media literacy are better equipped to recognize and counteract the influence of confirmation bias on their information processing and decision-making (Austin et al., 2007; Mrah, 2022; Pinkleton et al., 2007). Recent studies have shed further light on this relationship. Several studies mentioned that higher media literacy was associated with lower levels of confirmation bias, indicating a more critical approach to information evaluation (van der Meer & Hameleers, 2022; Velichety & Shrivastava, 2022). Media literacy interventions effectively reduced confirmation bias and enhanced individuals' ability to recognize biased information (Blomberg, 2022). These findings underscore the significant impact of media literacy on confirmation bias and its potential to foster more discerning information processing.

Therefore, it can be hypothesized that:
H4: Media literacy significantly influences confirmation bias.

Persons with higher cognitive abilities are more prone to engage in analytical & reflective thinking, which can help mitigate the influence of confirmation bias on information processing (Stanovich et al., 2016). Cognitive abilities, such as working memory, cognitive reflection, & fluid intelligence, are negatively associated with the tendency to rely on cognitive biases and heuristics in decision-making (Pennycook et al., 2020). By promoting deeper and more systematic processing of information, persons with higher cognitive abilities are more able to recognize & challenge their own biases, including confirmation bias (Liedtka, 2015; Lovallo & Sibony, 2010). Individuals with higher cognitive abilities exhibited lower levels of confirmation bias, suggesting a stronger capacity to critically evaluate information and avoid biased reasoning (Draws et al., 2022).
Therefore, it can be hypothesized that:
H5: Cognitive ability significantly influences confirmation bias.

Persons with greater cognitive abilities are prone to develop & utilize media literacy skills, as these skills involve analytical thinking and critical evaluation of media messages (Potter, 2010). Cognitive abilities are also found to be positively associated with media literacy competencies, including the ability to recognize media manipulation techniques, understand the economic and political contexts in which media messages are produced, and reflect on one's own media consumption habits and biases (Bakshy et al., 2015; Hargittai et al., 2019). Recent studies provide further support for the relationship between cognitive abilities and media literacy. Individuals with higher cognitive abilities were more likely to engage in critical evaluations of online content and identify potential misinformation (Diehl & Lee, 2022; Swart, 2023; Trninić et al., 2022). Additionally, Luo et al., (2022) demonstrated that individuals with higher cognitive abilities were more adept at critically evaluating online information and distinguishing between reliable and unreliable sources.
Therefore, it can be hypothesized that:
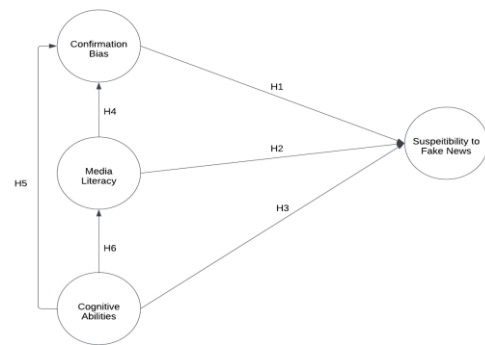H6: Cognitive abilities significantly influences media literacy.

Figure 1: Research Model

4. Methods
Researcher a cross-sectional survey design, aiming to investigate the relationships between Confirmation Bias, Media Literacy, Cognitive Abilities and Susceptibility to Fake News.

4.1 Scale & Items
The questionnaire included demographic information of social media users and several scales to measure the key variables of the study mentioned in Table 1 in Annexture 1.

4.2 Sample and Data Collection
The study's target population consists of social media users aged 18 and above. Participants were recruited through a combination of convenience and snowball sampling methods (Baltar & Brunet, 2012; Goodman, 1961; Kothari, 2004). An online questionnaire was developed and disseminated through various social media platforms to reach a diverse group of respondents. A total of 500 participants across urban cities of India completed the survey, ensuring a sufficient sample size for the subsequent data analysis.

4.3 Analysis of Data
Primary data was analysed using SmartPLS 4 (Ringle et al., 2022) and IBM SPSS 28 software. The data analysis in this study PLS-SEM (Hair Jr et al., 2021), utilizing the SmartPLS 4 software. The analysis followed the guidelines provided by Hair et al., (2019) for the appropriate usage and reporting of PLS-SEM results.

5. Results
For this research two-stage approach proposed by Hair et al., (2019) was adopted to test the

formulated hypothesis. It is often preferred because it allows for an initial exploration of the factor structure in an unsupervised manner, while also providing the opportunity to refine the model based on a priori assumptions and theoretical considerations (Kline, 2023). Two-stage approach is used to identify the underlying factor structure of the observed variables (i.e., measures of cognitive abilities, confirmation bias, media literacy, and susceptibility to fake news). The initial factor loadings have been estimated using EFA or PCA, and then refined in the second stage using CFA to assess model fit and test theoretical hypotheses (Hair et al., 2011).

5.1 Analysis of Measurement Model

The factor loadings indicate shown in following table (Table 2) portray the strength of the relationship between each item and its corresponding factor. A loading of 0.5 or higher is generally considered acceptable (Hair et al., 2010). In this study, all factor loadings are greater than 0.7, indicating strong relationships between items and factors. Cronbach's alpha (α) measures the internal consistency of items in a factor, with a value of 0.7 or higher generally considered acceptable (Nunnally, 1978). In this study, all α values are above 0.8, indicating good internal consistency. Composite reliability (CR) measures the reliability of the factor score, with a value of 0.7 or higher indicating good reliability (Fornell & Larcker, 1981a). In this study, all CR values are above 0.89, indicating good reliability. Average variance extracted (AVE) measures the amount of variance captured by the factor relative to the measurement error (Fornell & Larcker, 1981b). A value of 0.5 or higher suggests good convergent validity (Hair et al., 2010). In this study, all AVE values are above 0.58, indicating good convergent validity. The variance inflation factor (VIF) measures the extent to which a variable is explained by other variables in the same factor. In this study, all VIFs are below 5, indicating no significant issues of multicollinearity (Kock, 2015).

The Fornell-Larcker criteria suggest that discriminant validity (Table 3) is supported when AVE's square root for any factor is higher than correlation amongst that factor and any other factor (Fornell & Larcker, 1981a). In this study, every diagonal values (sq. roots of AVE) are greater than correlations off the diagonal, indicating that the constructs have good discriminant validity. In addition, the diagonal values represent the amount of

Table 2: Reliability & Validity of Factors

Factor	Item	Loading	VIF	Cronbach's α	CR	AVE
Cognitive Abilities (CA)	CA_1	0.872	2.919	0.909	0.915	0.736
	CA_2	0.873	2.863			
	CA_3	0.771	1.868			
	CA_4	0.905	3.779			
	CA_5	0.862	2.784			
Confirmation Bias (CB)	CB_1	0.791	1.999	0.891	0.893	0.697
	CB_2	0.895	3.203			
	CB_3	0.838	2.323			
	CB_4	0.84	2.344			
	CB_5	0.806	2.278			
Media Literacy (ML)	ML_1	0.843	2.613	0.917	0.917	0.75
	ML_2	0.889	3.241			
	ML_3	0.862	2.621			
	ML_4	0.863	2.891			
	ML_5	0.873	3.085			
Susceptibility to Fake News (SFN)	SFN_1	0.819	2.466	0.823	0.831	0.587
	SFN_2	0.831	2.685			
	SFN_3	0.746	1.59			
	SFN_4	0.711	1.884			
	SFN_5	0.715	1.912			

variance captured by each construct, with higher values indicating greater construct validity. In this study, all of the diagonal values are above 0.73, suggesting good construct validity for all constructs.

Another technique for evaluating the discriminant validity of the measurement model is the Heterotrait-Monotrait (HTMT) ratio of correlations. Result also (Table 4) displays the HTMT ratios between each pair of constructs. Henseler et al., (2015) suggested HTMT values should be <0.9 to support discriminant validity between two constructs. In this study, all the HTMT values are below 0.9, indicating good discriminant validity among the constructs.

5.2 Analysis of Structural Model
The results (Table 5) suggest that Hypotheses H1 and H2 are supported, as the path

coefficients between Confirmation Bias and Susceptibility to Fake News (β=-0.552, t=3.603) and between Media Literacy and Susceptibility to Fake News (β=1.245, t=6.217) are statistically significant. However, Hypothesis H3 is not supported, as the path coefficient between Cognitive Abilities and Susceptibility to Fake News (β=0.002, t=0.017) is not statistically significant. Hypotheses H4, H5, and H6 are all supported, as the path coefficients between Media Literacy and Confirmation Bias (β=1.229, t=17.391), between Cognitive Abilities and Confirmation Bias (β=-0.574, t=7.379), and between Cognitive Abilities and Media Literacy (β=0.734, t=14.231) are all statistically significant.

The effect size (f^2) is a measure of the unique contribution of a latent variable to a specific outcome variable. Cognitive Abilities have

Table 3: Discriminant Validity

	Cognitive Abilities (CA)	Confirmation Bias (CB)	Media Literacy (ML)	Susceptibility to Fake News (SFN)
Cognitive Abilities (CA)	**0.858**			
Confirmation Bias (CB)	0.327	**0.835**		
Media Literacy (ML)	0.734	0.808	**0.866**	
Susceptibility to Fake News (SFN)	0.735	0.455	0.801	**0.766**

Table 4: HTMT Matrix

	Cognitive Abilities (CA)	Confirmation Bias (CB)	Media Literacy (ML)	Susceptibility to Fake News (SFN)
Cognitive Abilities (CA)				
Confirmation Bias (CB)	0.360			
Media Literacy (ML)	0.802	0.892		
Susceptibility to Fake News (SFN)	0.835	0.535	0.821	

Table 5: Summary of Hypothesis

Hypothesis	β	CI 2.5%	CI 97.5%	t-stat	P-value	Result of Hypothesis	VIF (Inner)
H1: Confirmation Bias (CB) -> Susceptibility to Fake News (SFN)	-0.552	-0.853	-0.258	3.603	0.000***	Significant	3.117
H2: Media Literacy (ML) -> Susceptibility to Fake News (SFN)	1.245	0.822	1.600	6.217	0.000***	Significant	3.892
H3: Cognitive Abilities (CA) -> Susceptibility to Fake News (SFN)	0.002	-0.229	0.297	0.017	0.987	Insignificant	2.851
H4: Media Literacy (ML) -> Confirmation Bias (CB)	1.229	1.088	1.367	17.391	0.000***	Significant	2.165
H5: Cognitive Abilities (CA) -> Confirmation Bias (CB)	-0.574	-0.73	-0.422	7.379	0.000***	Significant	2.165
H6: Cognitive Abilities (CA) -> Media Literacy (ML)	0.734	0.621	0.821	14.231	0.000***	Significant	1.000

***$p<0.001$

moderate effect upon Confirmation Bias (f^2= 0.779) and large effect upon Media Literacy (f^2 = 1.165) (Table 6). However, the effect of CA on Susceptibility to Fake News is not significant (f^2= 0.000) (Cohen, 1988). It is also evident that R-square value for confirmation bias is 0.805, indicating that 80.5% of the variance in susceptibility to fake news can be explained by the confirmation bias factor. The adjusted R-square value, which considers the degrees of freedom, is 0.801, suggesting that the model's explanatory power is robust when considering the sample size and the number of predictors. In the case of media literacy, the R-square value is 0.538, showing that 53.8% of the variance in susceptibility to fake news is

individuals with higher confirmation bias tend to be more susceptible to fake news (Lewandowsky et al., 2017). This supports the notion that confirmation bias can distort individuals' ability to discern accurate information from misinformation, leading them to be more vulnerable to fake news (Kahne & Bowyer, 2017). In contrast, findings demonstrate a strong relationship amongst media literacy and susceptibility to fake news. This aligns with findings of earlier researches suggesting that persons with greater media literacy are less inclined to fall for fake news, as they possess the necessary skills to critically evaluate information sources (Hameleers et al., 2020). Furthermore, the positive

Table 6: Model fit

IDV	DV	R^2	Q^2	f^2
Cognitive Abilities (CA)	Confirmation Bias (CB)	0.805	0.09	0.779
Media Literacy (ML)				3.569
Cognitive Abilities (CA)	Media Literacy (ML)	0.538	0.535	1.165
Cognitive Abilities (CA)	Susceptibility to Fake News (SFN)	0.748	0.521	0.000
Confirmation Bias (CB)				0.236
Media Literacy (ML)				0.622
SRMR= 0.068				

accounted for by media literacy, while the adjusted R-square is 0.533. Finally, for susceptibility to fake news, R-square value is 0.748, signifying that 74.8% of the variance is explained by model, and the adjusted R-square value stands at 0.74, confirming the model's explanatory power. The SRMR for estimated model is 0.068<0.08, indicating a reasonably good fit (Hu & Bentler, 1999).

relationship between media literacy and confirmation bias highlights the importance of media literacy in reducing confirmation bias, which in turn can decrease susceptibility to fake news (Pennycook et al., 2020).

Interestingly, no association amongst cognitive abilities and susceptibility to fake news was found. This finding contradicts some previous research suggesting that individuals with higher cognitive abilities are less likely to be susceptible to fake news (Bronstein et al., 2019). One possible explanation for this discrepancy could be the influence of other factors, such as individual motivations and the context in which information is consumed, on the relationship between cognitive abilities and susceptibility to fake news (Vosoughi et al., 2018).
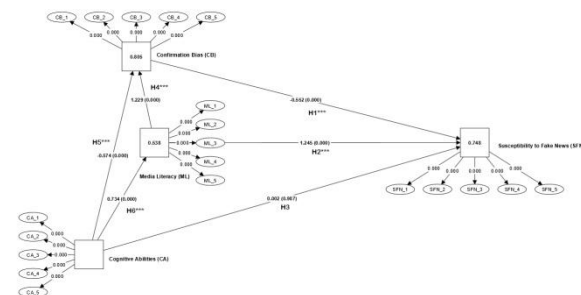

Figure 2: SEM Model

6. Discussion

The study's findings provide valuable insights into the factors influencing susceptibility to fake news and their intricate relationships. The results highlight the significant negative relationship between confirmation bias and susceptibility to fake news, confirming that

The significant relationships between cognitive abilities, media literacy, and confirmation bias found in this study provide further insights into the complex interplay of factors influencing susceptibility to fake news. The results suggest that enhancing cognitive abilities can promote media literacy and reduce confirmation bias, which in turn can decrease susceptibility to fake news (Kahne &

Bowyer, 2017; Pennycook et al., 2020). Aforementioned findings underscore importance of developing comprehensive interventions that address multiple factors in order to successfully fight against fake news & promote a more educated society.

This research helps to gain a greater knowledge of the elements that influence susceptibility to fake news by exploring the intricate relationships between cognitive factors and individual motivations. The findings not only support and extend previous research but also highlight the need for future studies to delve deeper into the complex interplay between these factors and their impact on misinformation and fake news susceptibility. By addressing these issues and continuing to build on this research, it is possible to develop more effective interventions and techniques to counteract the propagation of fake news and develop a more resilient and informed society.

Theoretical Implications

This study's findings provide significant theoretical advancements in the field of misinformation and fake news research. The findings provide insights into the role of individual motivations and cognitive factors in shaping susceptibility to fake news, thus expanding our understanding of the mechanisms underlying the spread of misinformation. Additionally, the study advances the current knowledge on the relationships between media literacy, confirmation bias, and cognitive abilities. The significant relationships found in the study suggest that enhancing cognitive abilities can promote media literacy and reduce confirmation bias, which in turn can decrease susceptibility to fake news. These findings emphasize the importance of considering multiple factors and their interactions when investigating the determinants of fake news susceptibility.

Practical Implications

The results of this study have practical implications that can be advantageous for different stakeholders, including policymakers, educators, and social media platforms. By understanding the aspects which contribute to fake news susceptibility, stakeholders can develop more effective interventions and strategies to combat misinformation. Policymakers can use these insights to design and implement public awareness campaigns that aim to enhance media literacy and encourage critical thinking. This could help reduce susceptibility to fake news and contribute to a more informed and discerning public. Educators can incorporate lessons on media literacy and critical thinking into their curricula. Instilling these abilities and attitudes in students at a young age can equip them with the necessary tools to navigate the intricate media landscape and assess the veracity of the information they come across. Social media communication platforms can use the findings of this study to improve their content moderation and fact-checking processes. By understanding the aspects which contribute to fake news susceptibility, platforms can develop algorithms and tools that prioritize reliable sources, flag questionable content, and promote information-seeking behaviour among users.

Limitations and Future Scope

This study offers valuable insights into the factors influencing susceptibility to fake news; however, some limitations present opportunities for future research. The cross-sectional design limits causal inference, necessitating longitudinal studies for a better understanding of causal relationships. The reliance on self-report measures could introduce biases, so future research should consider incorporating objective measures to improve accuracy. The sampling method may also limit generalizability, highlighting the need for more representative sampling techniques. Future research could investigate causal relationships through longitudinal or experimental designs, explore other potential moderators such as demographic factors, personality traits, or cultural influences, and assess the effectiveness of interventions targeting the identified factors to reduce susceptibility to fake news. Furthermore, examining the role of social media algorithms and their impact on the spread of misinformation could provide critical insights into the digital environment that fosters fake news. By addressing these limitations and broadening the research scope, future studies can significantly contribute to our understanding of the complex interplay between cognitive factors, individual motivations, and contextual influences that

shape susceptibility to misinformation and fake news.

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Appendix 1

Table 1: Research Variables

Factor		Item	Reference
Cognitive Abilities (CA)	CA_1	I am confident in my ability to evaluate the accuracy of information I encounter on social media.	(Ecker et al., 2022; Westerman et al., 2014)
	CA_2	I possess critical thinking skills that help me distinguish between reliable and unreliable sources of information on social media.	(Machete & Turpin, 2020)
	CA_3	I am able to identify logical fallacies or misleading arguments in the news or information shared on social media.	(Cook et al., 2017; Musi & Reed, 2022)
	CA_4	I feel capable of analyzing and interpreting complex information shared on social media platforms.	(Özkent, 2022)
	CA_5	I believe I have the cognitive capacity to detect false or misleading information on social media.	(Roets & others, 2017)
Confirmation Bias (CB)	CB_1	I find it difficult to consider alternative viewpoints that challenge my existing beliefs on social media.	(Modgil et al., 2021)
	CB_2	I tend to selectively interpret information on social media in a way that confirms my pre-existing beliefs.	(Klayman, 1995; Knowledge, 2022)
	CB_3	I am inclined to seek out information on social media that aligns with my existing beliefs.	(Kubin & von Sikorski, 2021; Wollebæk et al., 2019)
	CB_4	I have a tendency to ignore or dismiss information on social media that contradicts my preconceived notions.	(Peters, 2022)
	CB_5	I often engage with social media content that reinforces my existing beliefs rather than seeking diverse perspectives.	(Cinelli et al., 2021)
Media Literacy (ML)	ML_1	I am confident in my ability to assess the credibility and reliability of news sources on social media.	(Shabani & Keshavarz, 2022)
	ML_2	I actively fact-check information before sharing it on social media.	(Li & Chang, 2022; Von Jarelle et al., 2022)
	ML_3	I possess the skills to evaluate the accuracy and bias of information presented on social media platforms.	(Jowore & Turpin, 2022)
	ML_4	I am knowledgeable about the strategies used to manipulate information on social media.	(Caled & Silva, 2022)
	ML_5	I feel equipped to identify misinformation and fake news on social media.	(Celliers & Hattingh, 2020; Preston et al., 2021)
Susceptibility to Fake News (SFN)	SFN_1	I am easily swayed by false or misleading information on social media.	(Gootman, 2017)
	SFN_2	I often share news or information on social media without verifying its accuracy.	(Khan & Idris, 2019; Torres et al., 2018)
	SFN_3	I have been deceived by fake news stories or misinformation on social media in the past.	(Shu et al., 2020)
	SFN_4	I find it challenging to differentiate between genuine news and fake news on social media.	(de Oliveira et al., 2021; Shu et al., 2017)
	SFN_5	I am concerned about the impact of fake news on my understanding of current events and society.	(de Zúñiga et al., 2023; Monsees, 2023)

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