

NEWS RELEASE

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Social media fatigue is linked to believing and sharing misinformation, finds NTU Singapore study

Narcissistic individuals are more likely to do so, findings from eight countries show

A study by **Nanyang Technological University, Singapore (NTU Singapore)** found that those who say they are tired or overwhelmed by social media are likelier to believe in misinformation and share it online.

Using COVID-19 fake news as an example of misinformation, the NTU Singapore study also found that narcissistic individuals experiencing social media fatigue are more likely to share misinformation.

The study is based on over 8,000 survey responses from participants in Singapore, the United States, Malaysia, China, Thailand, Vietnam, Indonesia, and the Philippines.

With millions of users relying on social media as a source of news and entertainment and as a mode of communication, addressing social media fatigue and its consequences is imperative, said the researchers.

While many societies underscore the importance of reduced social media usage for improved physical and mental health, relatively little attention has been paid to the detrimental impact of social media usage on the information ecosystem.

NTU Wee Kim Wee School of Communication and Information's Assistant Professor Saifuddin Ahmed, who led the study, said: "Social media fatigue creates an information overload that hampers the cognitive judgment of social media users. In such circumstances, individuals become overwhelmed and struggle to critically evaluate the misinformation they encounter, whether it pertains to COVID-19 or other topics. Another explanation for this effect of social media fatigue is how social media algorithms function – prioritising controversial, sensational, and emotionally charged content. Being exposed repeatedly to such content may cause individuals to perceive it as accurate.

“Through our study, we have shown that individuals can unintentionally contribute to disseminating misinformation due to their cognitive ability and ‘dark’ personality traits such as narcissism. Such insights could be leveraged to shape preventive measures, emphasising the importance of social media literacy and initiatives to mitigate social media fatigue.”

The study, published in the journal *Scientific Reports*, was done in collaboration with **Muhammad Ehab Rasul**, a PhD student at the University of California, Davis.

How the study was conducted

The survey participants were first assessed for their social media fatigue by rating their level of agreement to five statements concerning their social media use, such as whether they feel mentally exhausted or too tired to perform other tasks due to social media use.

Participants were then asked to rate the accuracy of a series of false claims about COVID-19, presented in a mock social media post style, and their likelihood of sharing these claims. One such post read: “Coconut is effective in reducing COVID-19 symptoms.” Another read: “COVID-19 vaccinations are dangerous and ineffective against Omicron variants.”

Participants were assessed for cognitive ability through a 10-item vocabulary test that is strongly associated with general measures of intelligence and is used frequently in scientific research as a proxy to examine intelligence. They were also evaluated for behavioural traits that suggest narcissism through a personality inventory test.

Cognitive skills determine an individual’s ability to analyse information critically. Narcissism is characterised by an increased desire for attention, admiration, and feelings of uniqueness, which may increase an individual’s propensity to share misinformation.

Role of social media fatigue, cognitive ability, and narcissism

Through statistical analyses, the researchers found that survey participants from all eight countries who experience social media fatigue are more likely to fall for misinformation. However, the results for sharing misinformation are more nuanced.

In Singapore, whether an individual with social media fatigue shares misinformation depends on whether they think the misinformation is accurate. In the remaining seven countries, those who experience higher levels of social media fatigue can share misinformation regardless of accuracy.

The researchers then investigated how cognitive and narcissistic traits affected this relationship.

They found that individuals with higher narcissistic tendencies are more likely to perceive the misinformation as accurate and share it on social media when fatigued.

Across all eight countries, individuals scoring high on narcissism and low on cognitive ability were the most likely to share misinformation due to social media fatigue.

These findings highlight the need to focus on the importance of narcissism in misinformation sharing, said the researchers.

Asst Prof Saifuddin explained: “With high levels of fatigue, these individuals could be sharing misinformation as they may be trying to seek attention and gain social influence without applying critical thinking. This tendency to share misinformation is particularly relevant for misinformation that is often characterised by sensational and controversial content eliciting strong emotional reactions from the audience.”

He added that excessive fatigue may also amplify impulsivity among low cognitive narcissists: “Narcissists prefer immediate rewards and satisfaction rather than delayed gratification. Thus, it is likely that when accompanied by high fatigue and limited cognitive ability, narcissists do not make sound judgements about misinformation and share them due to their impulsive nature.”

Multi-pronged approach needed to combat misinformation

These findings suggest that policy makers and social media companies who aim to combat misinformation should adopt a multi-pronged approach that involves regulations to restrict the spread of misinformation and raise digital literacy, but also interventions aimed at reducing social media fatigue. This will not only directly address the issue of fatigue but may also limit misinformation propagation because of the fatigue, said the researchers.

The finding that individuals with particular personality and cognitive traits are more susceptible to misinformation propagation than others suggests the need for interventions tailored to specific groups rather than one-size-fits-all approaches, they added.

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Notes to Editor:

The paper “Examining the association between social media fatigue, cognitive ability, narcissism and misinformation sharing: cross-national evidence from eight countries” was published in *Scientific Reports* 13, 15416 (2023).

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Media contact:

Foo Jie Ying
Assistant Director, Corporate Communications Office
Nanyang Technological University
Email: jiying@ntu.edu.sg

About Nanyang Technological University, Singapore

A research-intensive public university, Nanyang Technological University, Singapore (NTU Singapore) has 33,000 undergraduate and postgraduate students in the Engineering, Business, Science, Medicine, Humanities, Arts, & Social Sciences, and Graduate colleges.

NTU is also home to world-renowned autonomous institutes – the National Institute of Education, S Rajaratnam School of International Studies and Singapore Centre for Environmental Life Sciences Engineering – and various leading research centres such as the Earth Observatory of Singapore, Nanyang Environment & Water Research Institute and Energy Research Institute @ NTU (ERI@N).

Under the NTU Smart Campus vision, the University harnesses the power of digital technology and tech-enabled solutions to support better learning and living experiences, the discovery of new knowledge, and the sustainability of resources.

Ranked amongst the world’s top universities, the University’s main campus is also frequently listed among the world’s most beautiful. Known for its sustainability, NTU has achieved 100% Green Mark Platinum certification for all its eligible building projects. Apart from its main campus, NTU also has a medical campus in Novena, Singapore’s healthcare district.

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