



## RESEARCH ARTICLE

## COVID-19 Sensitization and the Media in the World of Information Overload

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### ABSTRACT

The end of November 2019 saw the initial discovery of COVID-19 in Wuhan City, Hubei Province, China. The rapidly changing facts on COVID-19 are delivered through minute-by-minute updates, daily government briefings, and expert commentary. The COVID-19 pandemic has profoundly impacted individuals' mental health worldwide. This study investigated the relationship between COVID-19 sensitization and stress, anxiety, and depression, extensively using social media as a potential mediator and information overload as a moderator. Additionally, the study examined the application of technological determinism theory to understanding these associations. The research involved 146 undergraduate students at Redeemer's University, Nigeria, who completed a self-administered questionnaire. A quantitative research design with a cross-sectional approach was employed, and SmartPLS was used for data analysis. The results revealed a significant positive association between COVID-19 sensitization and stress, anxiety, and depression. Social media use acted as a partial mediator, suggesting that individuals experiencing higher stress, anxiety, and depression levels were more likely to engage extensively with social media platforms, potentially reinforcing their COVID-19 sensitization. Furthermore, information overload significantly moderated the relationship between social media use and COVID-19 sensitization. Individuals with higher information overload experienced heightened COVID-19 sensitization when using social media extensively. Additionally, people are exposed to more information the more often they use media, which increases the possibility that they will experience information overload. .

## INTRODUCTION

In the Wuhan City, Hubei Province, China, COVID-19 was found at the end of November 2019. Moreover, during the last five years, no topic has drawn more attention worldwide than the coronavirus. COVID-19 has harmed and continues to impact many people worldwide since its initial breakout (Zhang et al., 2020). Although COVID-19 seems to be less virulent (and hence less lethal) than certain other coronaviruses, it is challenging to stop the spread of the sickness due to a high transmission rate and the lack of a vaccine or therapy, similar to SARS-CoV and MERS-CoV (Mohan and Nambiar, 2020). It has rapidly spread worldwide, therefore becoming a significant public health crisis. The coronavirus infection (COVID-19) outbreak reportedly spread in Nigeria and many other nations worldwide in 2020. A respiratory infection known as the "2019 novel coronavirus" or "2019-CoV" quickly became one of the world's most pressing public health issues (Ruan et al., 2020).

Sensitization to COVID-19 is increasing public knowledge of the pandemic and distributing that knowledge. It entails informing the populace about the infection, precautions, and the value of immunization (Lau et al., 2020). Due to its widespread use as one of the key sources of information, the media is essential to the COVID-19 sensitization process. With the onset of the epidemic, the media, particularly social and digital media, gained importance as a means of informing the public in real-time (Tandoc Jr and Goh, 2023).

The global spread of COVID-19 is accelerating, and its fatality rate is rising daily. While on the high prevalence of pandemics exposes several population segments, particularly pregnant women as a susceptible group, to significant psychological harm (Shi et al., 2022). The virus's unknowable characteristics, along with the paucity of understanding on its transmission, development, factors associated with death rates, and infectious effects on pregnancies and the fetus (Huang et al., 2022), can put people's bodily and mental health in danger. It may result in psychological problems like stress, anxiety, and depression. People's capacity for concentration and information processing may be hampered by ongoing stress, worry, or sadness

(Deguchi et al., 2022). As a result, individuals might find it challenging to comprehend information about COVID-19, making it more difficult for them to comprehend the virus and how to prevent it. Additionally, people struggling with their mental health may feel helpless or overwhelmed, making them less likely to adopt the behaviors suggested for halting the pandemic (Sharifi et al., 2022).

Social media channels have been crucial in spreading knowledge about COVID-19 but also have potential drawbacks. Regular social media usage can positively and negatively mediate the effects of stress, anxiety, and depression on COVID-19 sensitization (Shi et al., 2022). Social media can offer a channel for community connection and mental health help during isolation, making it simpler for campaigns to increase public awareness of issues. Excessive exposure to COVID-19 news and false information on social media may hinder the effectiveness of sensitization initiatives by escalating stress, worry, and despair (Ganggi, 2020). The media has covered the latest developments regarding the virus and its impact on society, with updates on its spread, including its social and economic impacts and its effect on emotional and mental health.

Additionally, the media has been crucial in educating the public about the delivery of vaccines, the efficacy of the vaccines, and the importance of vaccination, as well as dispelling myths and misconceptions about the virus and vaccine (Lopes et al., 2022). This thorough coverage was vital in lessening the COVID-19 pandemic's effects on society by keeping people informed and aware. Media outlets can inform and enlighten, but they also have the potential to present a biased or limited perspective. Since the viral disease outbreak, sharing information about the disease has seen a surge in using different media platforms, particularly social media (Pouwels et al., 2022; Troise et al., 2022).

Information overload can occur when individuals struggle to focus on or comprehend new information (Khaleel et al., 2020). There are serious repercussions; it affects our ability to make informed and careful analyses, can make us feel fatigued, anxious, or frustrated, and even increases our stress levels. However, research carried out by Huang et al. (2022) shows that inundating people

with information can have unfavorable effects, such as making them avoid it entirely, leading to unclear decision-making and noncompliance with advised actions. Being constantly bombarded with information can make people more stressed and anxious, which makes it harder for them to effectively comprehend COVID-19 sensitization signals. As a result, although social media can help raise knowledge, the deluge of information may function as a barrier and lessen the chances of successful desensitization (Ganggi, 2020; Hong and Kim, 2020). With the emergence of social media, millions of people are now more exposed to different COVID-19 sensitization messages. The overflow of information brought on by the increasing usage of cell phones and internet access causes information overload (Abdelfattah et al., 2022). When the volume of information is greater than an individual's capacity to handle it effectively, this can lead to a state known as information overload. There is concern that an excess of information about COVID-19 awareness may result in information overload, which can lead to confusion within society and increase anxiety levels, resulting in a lack of trust in the information being disseminated (Debowska et al., 2022). Since social media is available to interested individuals for disseminating and consuming information on COVID-19 sensitization, information overload results from the overabundance of information brought on by the widespread use of cell phones and internet access (Hallström, 2022). This study investigates how these social media sites contribute to the overabundance of information regarding COVID-19 sensitization.

The present study determines that COVID-19 sensitization and the media contribute to the world of information overload in the Osun State, particularly in South-West, Nigeria. The current study establishes its own technological determinism theory. Technological determinism theory " highlights how observation, imitation, and modeling help people learn from their surroundings." This theory strongly emphasizes how social context, behavior, and cognitive processes interact to influence human learning, development, and behavior (Hauer, 2017). The objectives of the current study are:

- To examine that stress has a significant impact on extensive use of social media.

- To examine whether anxiety significantly impacts the extensive use of social media.
- To examine that depression has a significant impact on the extensive use of social media.
- To explore that extensive use of social media has a mediating effect between stress and COVID-19 sensitization.
- To explore that extensive use of social media has a mediating effect between anxiety and COVID-19 sensitization.
- To explore that extensive use of social media has a mediating effect between depression and COVID-19 sensitization.
- To explore that extensive use of social media significantly impacts COVID-19 sensitization.
- To explore that information overloaded has moderating impact on extensive use of social media and COVID-19 sensitization.

## LITERATURE REVIEW

The present study determines that COVID-19 sensitization influences stress, anxiety, and depression, as well as the extensive use of social media as a mediator and information overload as a moderator in the Osun State, particularly in South-West, Nigeria, as well as the technological determinism theory involved.

### Technological determinism theory

Marshall McLuhan introduced the technological determinism theory in 1964, which this study adopts. The concept investigates the range at which technological factors exert control over human thought and behavior, questioning who or what may hold sway over human affairs. Hauer (2017) notes that individuals who uphold technological determinism are impacted and molded by technological advancements within society. The impact of technological advancements on society is significant, but any negative consequences are primarily due to human misuse rather than inherent flaws in the technology. Moreover, the emergence and adoption of new technologies are shaped by social factors and reflect the prevailing social order (Lee, 2017).

According to the technological determinism theory, the medium conveys a message, although some media studies scholars argue that the medium shapes the

effectiveness of communication (Lopes et al., 2022). According to McLuhan, it is impossible to separate the media's use of technologies and their effects from the messages they convey. To some extent, it is interconnected with the agenda-setting theory, which delineates how social media can affect the prominence of specific issues on the public agenda. Extensive and prominent coverage of a news item is likely to make the audience perceive it as more important (Mohan and Nambiar, 2020). Social media channels, in particular, have considerably impacted how information about COVID-19 is disseminated, raising public knowledge of the virus on a broad scale. Phone types previously used for communication have undergone significant advancements and are now a major tool for shaping communication on social media (Janavi et al., 2021).

According to Huang et al. (2022), message receivers are not required to make any effort or actively engage with the medium through which the message is conveyed, such as print, radio, or cinema. Therefore, by the principles of the theory, the presuppositions of the theory must align with the topic at hand concerning the objective of this investigation. The principles of these theories are consistent with the findings of scholars such as Hauer (2017) in their research, as they highlight the value of technology in accelerating the distribution of the information-evolving role of the Nigerian media. In particular, social media use exemplifies modern technology's utilization to disseminate information (Gil de Zuniga et al., 2018).

### **COVID-19 pandemic**

Coronaviruses are classified under the family "Coronaviridae" within the order Nidovirales. The term "coronavirus" was coined due to the crown-shaped spikes visible on the virus's outer surface (Zhang et al., 2020). Towards the end of 2019, the city of Wuhan, which is an up-and-coming commercial center in China, was hit by an outbreak of a novel coronavirus strain that, in the first 50 days of the outbreak, caused over 1,800 fatalities and infected over 70,000 people. The virus was determined to belong to the "B" group, and Chinese researchers named it COVID-19, or the 2019 new coronavirus (2019-nCoV) (Ruan et al., 2020).

Pandemics like COVID-19 are some of the most

severe events that directly impact how people interact with each other (Mohan and Nambiar, 2020). The COVID-19 pandemic is a global crisis that has impacted countries in diverse ways, leading to the implementation of various measures to control and manage the situation. Due to the nature of the virus, detecting it can be challenging, and as a result, estimating the number of people infected is also difficult (Sahu et al., 2020). Over 70 million COVID-19 infections and 1.6 million fatalities have been reported in almost 190 countries since 2020 when the World Health Organization classified it as a pandemic. The emergence of COVID-19 as an unexpected and highly disruptive event has profoundly impacted various aspects of people's everyday routines (Sahu et al., 2020).

According to Hong and Kim (2020), COVID-19 data is perpetually changing, and daily government updates and expert opinions are constantly disseminated to provide up-to-date information. It is acceptable to say that COVID-19-related news has taken over both online and conventional media channels upon the declaration of the W. H. O. that it is a global pandemic in March 2020 (Lopes et al., 2022). For a developing country like Nigeria, encountering a pandemic like COVID-19 was a major challenge. Enforced travel limitations and promoting and adopting individual safety measures (such as face masks, regular hand washing, and social seclusion) have all been part of the reaction to stop COVID-19 (Matalon et al., 2021). The effectiveness of preventative measures recommended by public health officials largely hinges on the propensity of the general public to adhere to them. As these measures are usually voluntary, individuals' willingness to participate is crucial to ensuring their effectiveness (Hosseini and Homayuni, 2022). However, effective health communication is crucial in encouraging the public to adopt recommended preventive measures, and mass media serves as a vital platform for addressing these issues. The importance of media, particularly mass media, in addressing physical threats at the societal level should be considered, especially in the current context (Secundo et al., 2021).

Access to accurate and timely information is crucial for understanding how to respond to the pandemic. Without access to information, people in rural and

urban areas struggle to navigate the challenges of daily life and the threat of death from COVID-19 (Sharma and Kumra, 2022). By spreading information on health communication, the mass media significantly influences how the public perceives the epidemic. The availability, quality, and quantity of this information can affect people's perception of the risk posed by the pandemic, ultimately affect individuals, and influence their willingness to participate in preventative measures. Nevertheless, studies have demonstrated that conventional media channels like radio and television are still relied upon as sources of information during a crisis (Park et al., 2017; Poursadeghiyan et al., 2016; Sahu et al., 2020).

#### **Stress and extensive use of social media**

Numerous factors have substantially impacted people's stress levels during the COVID-19 pandemic, and widespread social media usage has been essential in determining how people experience stress (Sharifi et al., 2022). For many, the dread of catching the virus, going through severe symptoms, or losing loved ones to COVID-19 has been a major source of stress. The general level of worry and tension has increased due to the ambiguity surrounding the virus and its potential long-term implications (Agyapong et al., 2022). The requirement for physical separation and limitations on social interactions have resulted in feelings of loneliness and isolation. Stress levels can rise, and people may feel disconnected if they don't have access to supportive networks or in-person social interactions (Debowska et al., 2022). Due to job losses, furloughs, or reduced work hours, the pandemic has put many people and families in a difficult financial situation. Economic instability and financial hardship can be significant stressors impacting mental health (Deguchi et al., 2022). Real-time updates and information regarding COVID-19 have been widely disseminated thanks to social media channels (Sharma and Kumra, 2022). Even though it has made it easier for people to stay informed, the constant flow of information can also result in information overload, which raises stress and anxiety levels. The sheer volume of COVID-19 news may overwhelm people, and they may find it difficult to separate fact from fiction and rumors. Pandemic-related anxiety and uncertainty may be amplified by quickly disseminating information on social media.

COVID-19-related images, films, and personal tales can trigger strong emotional reactions, which might increase stress levels (Shi et al., 2022).

Online interactions have increased due to the epidemic, which has regrettably contributed to increased cyberbullying and online harassment (Huang and Zhang, 2020). Being the target of disparaging remarks or attacks on social media sites can be upsetting and increase tension and worry. Social media can cause stress, but some people use it as a coping method when isolated or have few opportunities for social engagement. Online interaction, experience sharing, and support from online communities can reduce stress and foster a sense of community. According to Janavi et al. (2021), Kim et al. (2021), Lopes et al. (2022), Poetze and Strauss (2020), and Pouwels et al. (2022), social media use significantly increased during the epidemic as people searched out information, stayed in touch, and dealt with the difficulties of isolation. Even though social media provides a platform for online networking, several studies have found that excessive use may raise stress levels. According to studies, exposure to fear-inspiring information about the pandemic on social media may increase stress and anxiety (Tandoc Jr and Goh, 2023). Users' stress levels can increase due to false information, rumors, and unpleasant posts. Social networking sites frequently provide an idealized view of people's lives, which can cause inadequacy and social comparison. According to Poursadeghiyan et al. (2016), people who compare themselves to others on social media during the pandemic may feel more stress, particularly if they believe that others are handling the situation better or are having a better experience. Wang et al. (2022) suggested that social media can be a coping strategy when faced with stressful situations. Stress can be reduced by participating in online support groups, exchanging stories, and looking for social support in online communities. Kim et al. (2021) revealed that some groups, like young people and adolescents who use social media more regularly, may be more susceptible to stress owing to excessive exposure to COVID-19 material and social comparison.

**H1:** Stress significantly impacts the extensive use of social media.

### **Anxiety and extensive use of social media**

People of various ages and socioeconomic backgrounds have experienced anxiety throughout the COVID-19 epidemic, which has been a substantial and widespread issue (Brailovskaia et al., 2020). Numerous stressors and uncertainties brought on by the pandemic have raised anxiety levels for many people. Feelings of doubt and anxiety have been exacerbated by the pandemic's tendency to change often, increasing regulations, and ambiguity regarding the future (Debowska et al., 2022). The social comparison may result from the idealized portrayal of people's lives on social media sites. Anxiety and self-doubt can worsen by routinely comparing oneself to others and their perceived successes or happiness. The social comparison may result from the idealized portrayal of people's lives on social media sites (Park et al., 2020). Anxiety and self-doubt can worsen by routinely comparing oneself to others and their perceived successes or happiness. Social media can be a venue for these behaviors, which can seriously harm a person's emotional health and raise anxiety levels. Social media can be a venue for these behaviors, which can seriously harm a person's emotional health and raise anxiety levels (Poursadeghiyan et al., 2016; Sharifi et al., 2022).

Anxiety and stress levels are elevated due to the ongoing influx of COVID-19-related information and unfavorable news on social media platforms. Numerous studies have discovered a link between high social media use and anxiety. Spending more time on social media sites, especially those that are used often, is associated with increased levels of anxiety in users (Debowska et al., 2022; Gallagher et al., 2020; Matalon et al., 2021; Sharifi et al., 2022). Many scholars often describe social media as having both positive and negative effects, making it a double-edged sword (Poursadeghiyan et al., 2016). People's tension and anxiety have also increased due to the uncertainty surrounding the pandemic's duration and intensity and the effectiveness and accessibility of vaccines and therapies. People's lives are frequently presented in a carefully managed way on social media, highlighting good times and accomplishments. At the start of 2020, there was much research on social media and how the COVID-19 pandemic was affected by it (Lopes et al., 2022). Social media's recognition as a crucial

platform that affects how the general public perceives danger is one of its key features; the media serves as a source of information for individuals regarding topics such as risk warnings and aids in interpreting risks related to the pandemic. Studies have shown a strong link between social media cyberbullying incidents and elevated anxiety levels (Brailovskaia et al., 2020; Effati-Daryani et al., 2020; Huang et al., 2022). An individual's mental health may suffer if they experience online harassment or unfavorable interactions.

**H2:** Anxiety significantly impacts the extensive use of social media.

### **Depression and extensive use of social media**

Since the COVID-19 pandemic has brought about several stressors and difficulties that might exacerbate depressive symptoms, depression has become a significant public health concern (Bazmandegan et al., 2022). Physical barriers to interaction and restrictions on social gatherings have increased feelings of loneliness and isolation, which can help depression develop or deepen. The fear of getting the virus, concerns about the well-being of loved ones, and uncertainty about the future have increased stress levels and contributed to feelings of helplessness and hopelessness, typical characteristics of depression (Lopes et al., 2022). Social media platforms have also developed significantly during the past few decades. 2 Twitter was established in 2006, WhatsApp in 2009, and Instagram in 2010. Facebook was established in 2004 (Tandoc Jr and Goh, 2023). Meanwhile, research frequently examines the connection between excessive social media use and an uptick in symptoms of anxiety and sadness (Matalon et al., 2021; Sharifi et al., 2022).

Additionally, the COVID-19 pandemic's exceptional crisis has made online interaction<sup>10</sup> much more necessary to collaborate, learn, and communicate, while social isolation measures were required (Effati-Daryani et al., 2020). Worse consequences, such as rising rates of anxiety or depression, could result from this increase. The connection between social media use and depression is starting to be studied. The emotion of jealousy is a key mechanism that links social media use to depression (Hosseini and Homayuni, 2022). Due to the fact that social media platforms expose users to "competition for

power or attractiveness, among other things," using them may result in sentiments of envy and self-deprecation, which may make users more prone to depressive symptoms (Sharma and Kumra, 2022). Since the emergence of (Hosseini and Homayuni, 2022), through the introduction of Facebook and Instagram (Tandoc Jr and Goh, 2023), and the more recent inclusion of Snapchat and Tiktok (Brailovskaia et al., 2020), academics have studied the effects of social media use. While social media platforms offer a variety of valuable functions, including entertainment (Debowska et al., 2022), information (Kim et al., 2020), and social connection (Kim et al., 2021), scholars have understandably concentrated on their detrimental effects, such as serving as conduits for cyberbullying and other problematic social media usage. Many studies have found a positive correlation between excessive use of social media and depressive symptoms. Individuals who spend more time on social media platforms, especially those with a high frequency of use, tend to report higher levels of depression (Lee, 2021; Mohan and Nambiar, 2020). Social media platforms often present an idealized version of people's lives, which can lead to social comparison. Constantly comparing oneself to others on social media can contribute to feelings of inadequacy and increased depressive symptoms. Social media can be a platform for the spread of emotions, both positive and negative (Pouwels et al., 2022). Being exposed to negative emotions and distressing content on social media can contribute to feelings of sadness and depression. Excessive use of social media, especially before bedtime, can disrupt sleep patterns and quality, leading to sleep disturbances. Poor sleep is linked to an increased risk of depression (Secundo et al., 2021; Shi et al., 2022).

**H3:** Depression significantly impacts the extensive use of social media.

#### **Mediating role of extensive use of social media**

The major goal of the media's awareness-raising campaign on the coronavirus is to inform the public of the threat the virus poses. Through the COVID-19 awareness and sensitization campaign, Nigeria sought to inform the people about the current condition, according to Dr. Yerinbuluemi Stowe, the Director of People's Health in Bayelsa State (Xu et al., 2020). The mainstream media has a considerable impact on

how people think and act. The term "mass media" encompasses various communication technologies used to distribute information to a vast audience, including the Internet, social media, email, radio, and television (Huang et al., 2022). In the instance of COVID-19, social media has been shown to have a significant role in facilitating understanding of the virus and its associated repercussions. The rise of digital communication platforms and the abundance of health-related data have led to an increased focus on information overload concerning health communication. This issue has garnered substantial interest from experts and practitioners in the field (Kim et al., 2021). A flood of information has been shared on social media due to the COVID-19 outbreak, which can lead to information overload. Due to the abundance of information, particularly false and misleading information, people can need assistance separating fact from fiction (Mohan and Nambiar, 2020; Xu et al., 2020).

Social media has been frequently used to find health-related information during the coronavirus pandemic, either as a supplement to or replace more conventional sources, as it allows users to share information (Gil de Zuniga et al., 2018). Users may need help locating, processing, and managing essential information due to the wealth of health information shared during the pandemic on social media. Social media users who use it frequently are exposed to abundant information that outweighs their capacity for good data management. Lee (2021) investigated how an excessive amount of COVID-19 information impacted the intention of Generation Z to stop using social media while under lockdown during the pandemic. Although earlier research emphasizes the advantages of social media during a pandemic, Lee (2021) examined the potentially harmful effects of Generation Z's usage of social media in the UK between March and May 2020, when the COVID-19 lockdown was in effect. Extensive use of social media can positively and negatively affect mental health (Matalon et al., 2021).

On the one hand, it can provide a sense of social connectedness and support, especially during isolation, which can help reduce stress, anxiety, and depression. Social media can also serve as an outlet for self-expression and sharing positive experiences

(Shi et al., 2022). The mediating effect suggests that the relationship between stress, anxiety, or depression and COVID-19 sensitization is influenced by how individuals use social media. In this context, extensive social media use can intensify stress, anxiety, and depression and, in turn, impact an individual's level of awareness and sensitivity to COVID-19-related information and preventive measures (COVID-19 sensitization) (Kim et al., 2021; Lee, 2017; Poecze and Strauss, 2020).

**H4:** Extensive use of social media has a mediating effect between stress and COVID-19 sensitization.

**H5:** Extensive use of social media has a mediating effect between anxiety and COVID-19 sensitization.

**H6:** Extensive use of social media has a mediating effect between depression and COVID-19 sensitization.

#### **Extensive use of social media and COVID-19 sensitization**

The effectiveness of mass media sensitization exercises in communicating messages through the communication process largely depends on the dynamics involved (Ganggi, 2020). The media can serve as a valuable tool for achieving sensitization, mobilization, and education goals, and the information they provide expands our mental and economic perspectives. The daily worldwide updates on the COVID-19 pandemic are currently highly popular, broadcast on radio stations, displayed on TV screens, and circulated on social media (Huang et al., 2022; Khaleel et al., 2020). According to Huang et al. (2022), the excessive influx of information on COVID-19 through social media had detrimental impacts on the mental health of Generation Z individuals who use social media. The study also noted that the perception of being overwhelmed with excessive information on social media, coupled with increased anxiety related to COVID-19, resulted in an increase in the prevalence of social media fatigue and a greater tendency among users to abandon social media (Ganggi, 2020; Hong and Kim, 2020). In addition, the study found that despite feeling exhausted and uneasy about COVID-19, Generation Z users who largely rely on social media as their main means of communication and connection during lockdown often have a lower likelihood of abandoning social media (Gil de Zuniga et al., 2018). The "fear of

missing out" (FOMO), which served as a mitigating factor, was said to be the cause of this (Brailovskaia et al., 2020). Because social media allows for quick contact and information sharing, people can get real-time updates on COVID-19 developments, like case counts, vaccination campaigns, and safety precautions (Abdelfattah et al., 2022).

Social media's global reach has made it possible for COVID-19 sensitization campaigns to reach a variety of global groups. Rapid cross-border communication of information allows it to reach people in remote places and underserved communities (Huang and Zhang, 2020; Lopes et al., 2022). To increase awareness and promote behavioral change, social media platforms have been used to promote a number of public health initiatives linked to COVID-19, including mask use, hand hygiene, and physical seclusion (Poecze and Strauss, 2020; Shi et al., 2022). Social media platforms enable multimedia content, such as videos, infographics, and interactive postings, making COVID-19 sensitization interesting and spreadable among users (Poursadeghiyan et al., 2016). Social media has made it easier for people to share their personal COVID-19 stories and information, which has increased public awareness of the pandemic's effects and the value of preventative measures (Wang et al., 2022). Social media has also been used to dispel rumors and incorrect information about COVID-19. These platforms have been used by fact-checking groups and health authorities to refute myths and offer factual information. Social media platforms have established online communities where people can share knowledge, provide support throughout the pandemic, and exchange experiences (Tandoc Jr and Goh, 2023).

**H7:** Extensive use of social media significantly impacts COVID-19 sensitization.

#### **Moderating role of information overloaded**

Global information greatly impacts our lives because we live in the information age. When a person's ability to effectively manage the available information exceeds the amount available, information overload results. Ganggi (2020). Information overload can cause cognitive strain and poor functioning in people, according to Huang et al. (2022). According to Khaleel et al. (2020), "information overload" refers to the sensation of being overloaded with



information that one cannot efficiently digest. When individuals recognize that they cannot manage a considerable volume of intricate information, they may endeavor to improve their coping skills, which may be accompanied by stress, anxiety, depression, and a sense of being overburdened. Kim et al. (2021) argue that information overload is intensified by multiple formats and channels and is fostered by exposure to information from various sources of media and Sources of information that are personal, including interactions with healthcare professionals and informal conversations with other individuals. Emphasizing the significance of information quality often involves addressing factors such as uncertainty, ambiguity, novelty, and complexity, which can all impact the reliability of the information. Poetze and Strauss (2020) opine that feeling overloaded and perplexed by the wealth of available knowledge is known as information overload, which can have a detrimental effect on the ability to make decisions, which can hinder learning and impede the ability to make informed decisions". Nevertheless, in support of this notion, most definitions center on cognitive concepts, such as excessive knowledge that surpasses an individual's capacity to assimilate (Gil de Zuniga et al., 2018). However, emotional reactions to information inundation include confusion, frustration, uncertainty, and vulnerability. While sharing information can enhance social cohesion, individuals tend to engage with news based on its emotional effect on them, its relevance to their interests or concerns, and the sender's purpose in rendering guidance or a warning (Janavi et al., 2021). These motivations are distinctive to Nigerians, who are frequently characterized as having altruistic attitudes. These motivations are distinctive to Nigerians, who are frequently characterized as having altruistic attitudes. Coping with the excessive amount of information, or "Information overload," in the modern era is considered one of the significant challenges (Van der Meer and Jin, 2020). The problem of information overload has gained attention due to the adverse effects caused by excessive access to information through technology. The root cause of this situation is the enormous amount of information created and obtained through social media (Tandoc Jr and Goh, 2023).

Individuals worldwide have experienced fear, concern, and anxiety due to the impact of COVID-19 (Matalon et al., 2021). Many media outlets disseminated vast amounts of information related to COVID-19. Information on the creation of COVID-19 will be available to anyone with media connections. Despite its usefulness, the abundance of information received can lead to additional problems because the information emanating from these sources (the media) can lead to an overload of information (Lau et al., 2020). Information overload is frequently seen in a media environment when there is abundant information as a side effect of information seeking. Because of the increased sharing of material on COVID-19 on social media throughout the uncertain pandemic phase, individuals have developed unfavorable psychological reactions to both the platform and the COVID-19 content (Ruan et al., 2020).

Hong and Kim (2020) suggested that information about COVID-19 has comparable features and people processing information about COVID-19 need additional resources, which makes them vulnerable to information overload. As online communication channels continue to advance and an abundance of health information becomes available, public health and health communication professionals and academics have focused a lot on information overload (Khaleel et al., 2020). A glut of information results from abundant COVID-19-related information in multiple media. Individuals tend to search for information supporting their viewpoints and avoid information contradicting their attitudes (Janavi et al., 2021). As a result, individuals may continue to search for information from alternative sources if they encounter information that aligns with their existing beliefs or if they are dissatisfied with the information they find. Information overload can result from receiving an overwhelming amount of information from numerous sources. However, Kim et al.'s (2020) researchers looked at media consumption (such as television, radio, newspapers, magazines, and the Internet) while looking into information overload indicators that can be present. However, they found no proof that more media consumption was associated with more information overload (Lau et al., 2020). This scenario can occur when

individuals are tasked with managing and assimilating a large quantity of information from different sources, leading to a challenging scenario that results in information overload. Exposure to too much material on social media can harm one's health and increase the likelihood of a negative reaction. Information overload brought on by using social media could lead to psychological suffering in this scenario (Mohan and Nambiar, 2020). An earlier study that recognized the negative effects of information overload on social media users' mental and emotional health suggested that too much information on social media could result in burnout (Huang and Zhang, 2020). Social media platforms may have an equal or even more significant impact than traditional media outlets when it comes to educating or misinforming people about COVID-19. When individuals encounter false information, they become anxious. Mohan and Nambiar (2020) studies on misinformation highlight information overload as a factor that gives rise to confusion due to the excessive amount of information.

**H8:** Information overload has a moderating impact on the extensive use of social media and COVID-19 sensitization.

## METHODOLOGY

The empirical analysis for this study involved collecting primary data, which was conducted using an online survey questionnaire. Online survey questionnaires are widely considered to be a highly effective research design. According to experts in communication research, the extensive use of the internet has made it simpler to collect a broad and sizable sample of the public for study participation. The online questionnaire was designed into two parts: part one consisted of questions regarding the respondents' demographic data, and part two contained a Likert scale ranging from (1) strongly disagree to (5) strongly agree questions regarding COVID-19 sensitization and social media in the world of information overload. The study employed convenient sampling techniques to collect data. Undergraduate students at Redeemers University were randomly assigned 150 online survey questionnaires, and 146 complete questionnaires were received. Two objectives were developed by the study to validate its findings. To present the

frequencies gleaned from the 150 online survey questions supplied to the participants, the results of these findings were organized tabularly, and 146 (97.3%) copies were received. However, due to respondents' insufficient understanding of the topic of the inquiry, 2.6% of the questionnaire copies needed to be appropriately filled out. As a result, the data analysis was dependent on the questionnaires being filled out.

## Measurements

A questionnaire was employed to gather the primary data for this study. Demographic and variable data were included in the instrument to measure the suggested research model and evaluate the hypotheses. With the extensive use of social media as a mediator and information overload as a moderator, the questionnaire sought respondents' perceptions and experiences concerning stress, anxiety, depression, and COVID-19 sensitization.

The first portion of the questionnaire was entirely concerned with directions and information, while the second half asked respondents for demographic data. Gender, age, social media use duration, and source of information were among the demographic factors. The instrument's second section contains particular components designed to gauge specific structures. The items were chosen based on their applicability to the specific systems and have been adapted from various sources. For each construct's number of items, anxiety was assessed by modifying the four items from Charles et al. (2011). Utilizing the 4 items of the other independent variable, stress was measured by Ströhle (2009), and the last independent variable, depression, was measured by Puccinelli et al. (2021). The mediating variable, the extensive use of social media, was measured by adapting the five questions from the scale created by The three items from Khaleel et al. (2020) were modified to measure the overloaded moderating variable information. COVID-19 sensitization was the study's dependent variable and was examined using an adaptation of the four items from Shi et al. (2022). All items were modified using the 5-point Likert Scale, where 1 represents strongly disagreeing, and 5 represents strongly agreeing.

**RESULTS**

The present study determines that COVID-19 sensitization influences stress, anxiety, and depression, as well as the extensive use of social media as a mediator and information overload as a moderator in the Osun State, particularly in South-West, Nigeria, as well as the technological determinism theory involved.

**Demographics**

The structural and measurement models were assessed using SmartPLS3 based on a preliminary

evaluation of respondent data. The demographic details and descriptive statistics of the sample for the current study (N = 146) are shown in Table 1. The association between COVID-19 sensitization influence on stress, anxiety, and depression and the extensive use of social media as a mediator and information overload as a moderator in the Osun State, particularly in South-West, Nigeria. The model's analysis revealed that student's gender, age, social media use duration, and source of information.

**Table 1: Demographic profile**

Demography	Description	No. of Responses	%
Gender	Male	89	60.9
	Female	57	39.0
Age	25-35	66	45.2
	35-45	43	29.4
	Above 45	37	25.3
Social Media Use Duration	11-12 hours	32	21.9
	9-10 hours	51	34.9
	7-8 hours	27	18.5
	5-6 hours	20	13.6
	3-4 hours	9	6.3
	1-2 hours	7	4.7
Source of Information	Instagram	55	37.6
	Facebook	27	18.5
	Twitter	41	28.1
	YouTube	7	4.5
	WhatsApp	11	7.5
	Others	5	3.5

Table 1 presents the gender of the respondents' uses of social media to seek information cumulatively in a day. The data shows that 60.9% (n = 89) of the respondents were male, and 39.0% (n = 57) were female. Age of the respondents' uses of social media to seek information cumulatively in a day The data shows that 45.2% (n = 66) of the respondents were 25–35, 29.4% (n = 43) of the respondents were 35–45, and 25.3% (n = 37) of the respondents were above 45. Duration of the respondents' uses of social media to seek information cumulatively in a day The data shows that 21.9% (n = 32) of the respondents spent 11–12 hours on social media in a day. 34.9% (n = 51) used 9–10 hrs, 18.5% (n = 27) used 7–8 hrs, 13.6% (n = 20) used 5–6 hrs, 6.3% (n = 9) used 3–4 hrs, and 4.7% (n = 7) used 1–2 hrs in a day. The study's results show a noticeably higher percentage of individuals who spend 1 to 3 hours daily on social media. Source of information on COVID-19

sensitization among social media platforms. From the data generated, 37.6% (n = 55) of the respondents stated Instagram and 18.5% (n = 27) stated Facebook. Similarly, 28.1.4% (n = 41) stated Twitter, 4.5% (n = 7) stated YouTube, 7.5% (n = 11), and 3.4% (n = 5) were within the category of others. The study shows that Instagram is the social media channel most participants use to acquire information on COVID-19.

**Descriptive statistics**

A collection of statistical methods known as descriptive statistics is used to identify, describe, and summarize a dataset's key characteristics. The distribution, central tendency, and variability of the data may all be understood using these approaches in an easy-to-understand manner. Descriptive statistics are frequently utilized in various sectors, including the social sciences, economics, business, and many others, to acquire insights into the data and make it more

understandable. Six variables from the descriptive analysis of the current study are shown in Table 2, together with their means, standard deviations, and most significant and lowest values.

**Table 2: Descriptive statistics**

Variables	N	Minimum	Maximum	Mean	Std. Deviation
Stress	146	1	6	3.98	0.91
Anxiety	146	1	6	3.85	0.88
Depression	146	1	6	3.76	0.79
Extensive Use of Social Media	146	1	6	3.81	0.82
Information Overloaded	146	1	6	3.79	0.81
COVID-19 Sensitization	146	1	6	3.84	0.83

**Measurement model**

PLS-SEM was first used to assess the factor loadings, validity, and reliability of the data gathered from 146 undergraduate students at Redeemers University. A measurement model, or confirmatory factor analysis (CFA) model, is a statistical technique used in quantitative research to assess the measurement properties of a group of observed variables or indicators. The measurement model examines the relationships between the latent constructs that support the observable variables (Hair et al., 2019).

**Composite Reliability, Cronbach’s Alpha and AVE**

: The factor loadings, validity, and reliability of the information acquired from 146 undergraduate students at Redeemers University were first evaluated

using PLS-SEM. The measurement model investigates the connection between the observable variables and the latent constructs that underlie them (Sarstedt and Cheah, 2019). When evaluating the consistency or reliability of a group of observed variables on a measuring scale, two measures of "internal consistency reliability, Composite Reliability (CR) and Cronbach's alpha, are usually used. They are frequently employed in psychometrics to assess the accuracy of scales and questionnaires. Although the objectives are the same, some variances exist in how they are computed and comprehended. Table 3 shows that composite reliability, Cronbach alpha, and AVE values, respectively.

**Table 3: Composite reliability, cronbach alpha, AVE**

Constructs	Items	Loadings	CA	CR	AVE
Stress	S1	0.873	0.815	0.877	0.642
	S2	0.766			
	S3	0.728			
	S4	0.830			
Anxiety	A1	0.875	0.902	0.931	0.772
	A2	0.859			
	A3	0.892			
	A4	0.889			
Depression	D1	0.886	0.892	0.925	0.755
	D2	0.791			
	D3	0.898			
	D4	0.897			
Extensive Use of Social Media	EUSM1	0.906	0.945	0.958	0.820
	EUSM2	0.901			
	EUSM3	0.910			
	EUSM4	0.912			
	EUSM5	0.899			
Information Overloaded	IO1	0.896	0.897	0.936	0.829
	IO2	0.907			
	IO3	0.928			
COVID-19 Sensitization	CS1	0.861	0.862	0.916	0.784
	CS2	0.887			
	CS3	0.907			

Note: CR=composite reliability; AVE=average variance extracted; CA= Cronbach's Alpha

**Discriminant Validity (HTMT)**

The research you described investigates the relationships between several constructs related to COVID-19 sensitization, stress, anxiety, and depression, with social media use as a mediator and information overload as a moderator, in the Osun State, particularly in South-West, Nigeria. Discriminant validity is a statistical and research methodology concept, particularly psychometrics, that assesses whether two constructs or variables

are distinct and can be clearly differentiated. It is an essential aspect of validating measurement instruments and is crucial when dealing with multiple variables in a study (Sari et al., 2023). When determining discriminant validity, researchers look at how much unique variance and overlap two constructs or variables have. It could be challenging to tell two constructs apart if they are highly connected or share significant variance. Table 4 shows HTMT values.

**Table 4: Discriminant validity**

	S	CS	D	EUSM	IO	S
Anxiety	0.879					
COVID-19 Sensitization	0.657	0.885				
Depression	0.464	0.674	0.869			
Extensive Use of Social Media	0.660	0.762	0.790	0.906		
Information Overloaded	0.682	0.653	0.762	0.741	0.910	
Stress	0.598	0.499	0.438	0.393	0.452	0.801

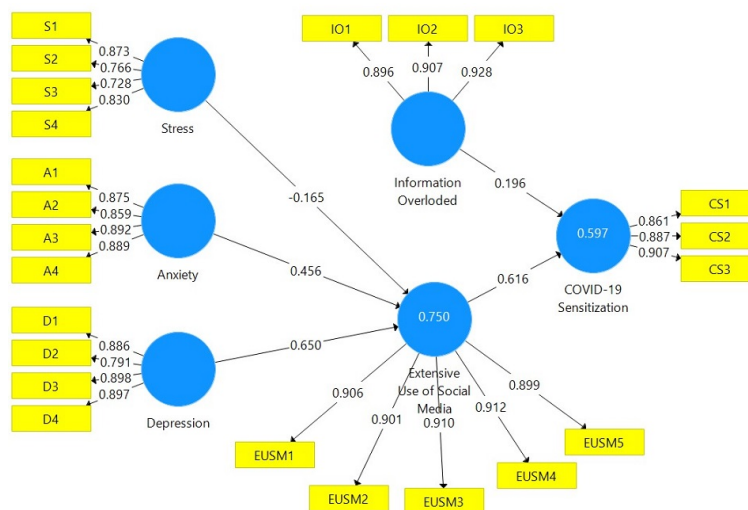
**R Square**

R-squared ( $R^2$ ) is a statistical measure of the variance in the dependent variable (in this case, stress, anxiety, or depression) that the independent variable (COVID-

19 sensitization) can account for. R-squared, thus, represents the degree to which the independent variable may predict the dependent variable.

**Table 5: Assessment of R square**

	$R^2$	Adjusted $R^2$
COVID-19 Sensitization	0.597	0.595
Extensive Use of Social Media	0.750	0.748



**Figure 1: Assessment of algorithm**

The R-squared ( $R^2$ ) value indicates how much of the variance in the dependent variable in a regression model the independent variables are responsible for (Purwanto et al., 2021). It is frequently used to assess a regression model's goodness of fit and determine how well the independent variables predict outcomes. A regression analysis uses one or more independent variables to predict the dependent variable. Its range is from 0 to 1, where 0 denotes that there is no explanatory power for the independent variables and 1 denotes that there is complete explanatory power for the independent variables' impact on the variability of the dependent variable. Table 5 shows that the COVID-19 sensitization of the R square was 0.597, and the adjusted R square was 0.595. The extensive use of social media value of the R square was 0.750, and the adjusted R square value was 0.748, respectively.

**Structural equation model**

With the help of the PLS-SEM bootstrapping method, the structural model route coefficients that support the hypothesized relationships were found statistically. A statistical modeling method, a Structural Equation Model (SEM), explores intricate connections between latent (unobserved) and apparent variables. It is a useful method that uses route analysis, regression analysis, and component analysis components to simultaneously investigate measurement and structural models (Becker et al., 2023).

**Direct relation**

In the Osun State, particularly in South-West, Nigeria, the PLS-SEM analysis examined the relationships between COVID-19 sensitization influence on stress, anxiety, and depression and excessive social media use as mediators and information overload as moderators. According to Purwanto et al. (2021), "direct analysis" is a method used in structural equation modeling (SEM) to examine the direct correlations between variables in a theoretical model. There have been instances where the phrase "direct path analysis or direct effects analysis" has been employed. Instead of mediating or indirect effects through intermediary factors, it concentrates on the direct impacts of independent variables on dependent variables. The results show that the relationship between stress and extensive use of social media was negatively significant ( $\beta = -0.165, t = 4.340, p = 0.000$ ). Hence, H1 is accepted. The results show that the relationship between anxiety and extensive use of social media was positively significant ( $\beta = 0.456, t = 11.906, p = 0.000$ ). Hence, H2 is accepted. The results show that the relationship between depression and extensive use of social media is positively significant ( $\beta = 0.650, t = 16.844, p = 0.000$ ). Hence, H3 is accepted. The results show that the relationship between extensive use of social media and COVID-19 sensitization is positively significant ( $\beta = 0.726, t = 9.873, p = 0.000$ ). Hence, H7 is accepted.

**Table 6: Direct relation**

Relationships	Original Sample	t Statistics	p Values	Decision
Stress -> Extensive Use of Social Media	-0.165	4.340	0.000	Supported
Anxiety -> Extensive Use of Social Media	0.456	11.906	0.000	Supported
Depression -> Extensive Use of Social Media	0.650	16.844	0.000	Supported
Extensive Use of Social Media -> COVID-19 Sensitization	0.726	9.873	0.000	Supported

**Mediating effect**

To assess the mediating effect of extensive use of social media on the relationship between COVID-19 sensitization and stress, anxiety, and depression, researchers typically employ a statistical technique called mediation analysis. Similarly, they would use moderation analysis to assess the moderating effect of information overload. These analyses can provide information on the strength and significance of the mediating and moderating effects. In mediation, "the

parties meet with a mutually agreed-upon neutral third party who assists them in discussing their differences," according to the explanation (Cheah et al., 2020). Table 7 shows that despite the extensive use of social media as a mediating variable, the association between stress and COVID-19 sensitization remained significant ( $\beta = -0.119, t = 3.896, p = 0.000$ ). With extensive use of social media as a mediating variable, the association between anxiety and COVID-19 sensitizations is significant ( $\beta = 0.331, t =$

7.257,  $p = 0.000$ ). With extensive use of social media as a mediating variable, the association between

depression and COVID-19 sensitizations is significant ( $\beta = 0.472, t = 8.436, p = 0.000$ ). Hence H4, H5, H6 hypothesis was accepted.

**Table 7: Mediating effect**

	Original Sample (O)	t Statistics	p Values
Stress -> Extensive Use of Social Media -> COVID-19 Sensitization	-0.119	3.896	0.000
Anxiety -> Extensive Use of Social Media -> COVID-19 Sensitization	0.331	7.257	0.000
Depression -> Extensive Use of Social Media -> COVID-19 Sensitization	0.472	8.436	0.000

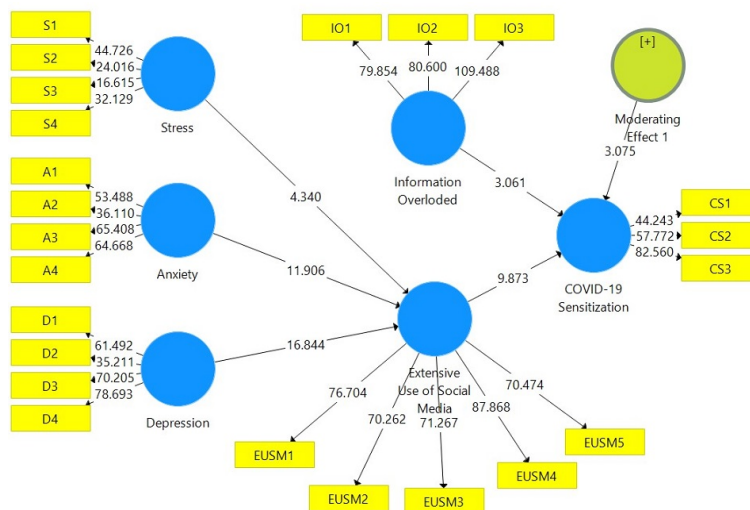
**Moderating effect**

According to Sari et al. (2023), a moderator variable is often used "when there is an inconsistent or weak link between the independent and dependent variables." Researchers would do a moderation analysis to determine the moderating impact of information overload on the connection between COVID-19 sensitization and stress, anxiety, and depression. The amount of a third variable (information overload) affects the direction or strength of the link between

two variables (in this case, COVID-19 sensitization and mental health outcomes). This is determined via moderation analysis. A moderator third variable, also known as a moderation effect or an interaction effect, alters the connection between an independent variable and a dependent variable. Table 8 shows that the moderating role of information overload between extensive use of social media and COVID-19 sensitization is significant ( $\beta = -0.134, t = 3075.602, p = 0.002$ ). Hence, H8 is accepted.

**Table 8: Moderating effect**

	B-value	t-Value	p-value	Decision
Extensive Use of Social Media *Information Overloaded -> COVID-19 Sensitization	-0.134	3.075	0.002	Supported



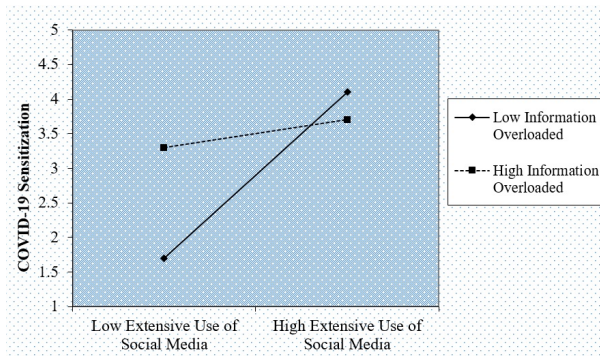
**Figure 2: Assessment of bootstrapping**

Although the moderation effect impacted the correlations' slopes, graph 1's slopes demonstrate that these effects were significant for low, moderate, and high levels of findings (Cheah et al., 2020; Dash and

Paul, 2021). In other words, extensive use of social media and high COVID-19 sensitization correlate with high information overload. Conversely, extensive use of social media and poor COVID-19 sensitization are

indicators of low information overload. The graph demonstrates that information overload has led to a more significant improvement in the relationship

between extensive use of social media and COVID-19 sensitization.



**Figure 3: Moderation graph**

## DISCUSSION

The present study determines that COVID-19 sensitization influences stress, anxiety, and depression, as well as the extensive use of social media as a mediator and information overload as a moderator in the Osun State, particularly in South-West, Nigeria, as well as the technological determinism theory involved. Nevertheless, when people are unable to discern whether information is valuable or not, information overload can contribute to feelings of anxiety. Information anxiety can have a detrimental effect on one's mental health, particularly for those already grappling with other life stressors amid the pandemic. Information overload can trigger information anxiety, resulting in individuals avoiding information altogether. Differences may also influence the impression of information anxiety in the flow and comprehension of the information, which may lead people to avoid COVID-19 awareness items. All hypotheses were accepted.

The results show that the relationship between stress and extensive use of social media is negatively significant. Furthermore, posting unpleasant sentiments online was similarly connected to less favorable results. Stress levels were twice as likely in people exposed to negative emotional situations, such as unpleasant work, connection, or educational situations, and life difficulties. However, no findings were drawn on whether stress was caused by exposure to negative emotions or whether those with depression were more likely to submit bad content

(Agyapong et al., 2022).

The results show that the relationship between anxiety and extensive use of social media is positively significant. On the one hand, those who struggle with anxiety or depression use social media more frequently; on the other hand, the more frequently someone uses social media, the worse their anxiety or depression is (Effati-Daryani et al., 2020). Other social media use patterns may also exacerbate sadness or anxiety. Time devoted to social media not only plays a part in raising mental distress, but Numerous papers also address the idea of social media misuse since it seems more important than overall usage time (Sharifi et al., 2022).

The results show that the relationship between depression and extensive use of social media is positively significant. According to several studies, frequent use of social media is linked to, among other things, spending more excellent time on the platform, with evidence of hazardous usage appearing at 4-5 hours or more per day. Other studies, which did not examine significant social media use, showed that the more time spent using social media, the higher the risk of depression (Effati-Daryani et al., 2020). Dangerous usage ranges ranged from >11 hours daily to >12 hours daily, 7 hours daily, or 6 hours daily. Although cutoff time estimates were absent, two studies revealed that the more time spent on social media, the more damaging it became.

The results show that the relationship between extensive use of social media and COVID-19 sensitization is positively significant. The current



study focused on time spent on the social network instead of prior studies that looked at the impact of monitoring, extensive use of social media, or utilizing the social network to keep track of what other users post. However, Model 1's findings (t1 to t2) indicated that Facebook use could result in depressive symptoms, correlating with earlier research on extensive social media use (Tandoc Jr and Goh, 2023). The findings of earlier studies (Huang and Zhang, 2020; Kim et al., 2021) that depression may cause users to increase their extensive use of social media are also supported by (t2 to t3). People who use social media sites more regularly may be more knowledgeable and aware of COVID-19, which could heighten their sensitivity to the pandemic and the issues it raises.

Despite the extensive use of social media as a mediating variable, the association between stress and COVID-19 sensitization remained significant. The possible effect of Psychological Elements on People's Perceptions and Awareness of the Pandemic High-stress levels may make people more aware of COVID-19-related information, increasing their sensitivity to the virus and its effects. However, the continuance of this strong link, even after taking social media use into account, suggests that mechanisms other than social media are key in determining how people respond to stress and how conscious they are of the pandemic (Secundo et al., 2021).

With the extensive use of social media as a mediating variable, the association between anxiety and COVID-19 sensitizations is significant. Higher anxiety levels may cause people to become more sensitive to and aware of information about the pandemic. Due to their increased worry, they may actively seek out and interact with COVID-19-related content on social media platforms. The observed relationship between anxiety and COVID-19 sensitization was not entirely explained by the amount of social media use, suggesting that additional factors may be involved in this association (Lopes et al., 2022).

With the extensive use of social media as a mediating variable, the association between depression and COVID-19 sensitizations is significant. People with higher degrees of depression might be more inclined to look for and consume pandemic-related content on social media, increasing their sensitivity to the

COVID-19 virus (Gallagher et al., 2020). This result is consistent with earlier research that suggests social media can act as a forum for people to express and share their emotional experiences during times of crisis as well as a source of knowledge.

The moderating role of information overload from extensive use of social media and COVID-19 sensitization is significant. High levels of information overload can cause people to feel more stressed and anxious, which makes them more responsive to information about COVID-19 on social media and heightens their sensitivity to the epidemic. On the other hand, people who feel less information overload might be better able to control the flow of information and digest it more gradually, which would mean that social media would have less of an impact on how sensitive they are (Mohan and Nambiar, 2020).

#### **Practical and theoretical implications**

First, the link between perceived information overload and disseminating unverified information suggests that perceived information overload should be reduced to reduce people's propensity for doing so. There are various ways to make this a reality. Social media networks should strengthen their fact-checking capabilities to eliminate many false information. Platforms can utilize algorithms to push content on other subjects while simultaneously drawing users' attention away from COVID-19 information. Furthermore, platform corporations can implement a protective mode to stop heavy users from surfing postings about the coronavirus for too long based on users' online browsing history to identify those who are prone to experiencing information overload. Social media users are urged to improve their digital literacy to better handle the information influx and lessen the perception of information overload. Second, the results imply that COVID-19 sensitization may cause people in Osun State, particularly in South-West, Nigeria, to feel increased stress, anxiety, and sadness. How mental health interventions are designed should consider these psychological difficulties and the possible effects of social media use and information overload. People more susceptible to the negative consequences of COVID-19 sensitization may experience a reduction in their mental health burden if they receive specialized care and services. Third, fostering media literacy

and efficient information management techniques is essential, given that heavy social media use has been shown to moderate the link between stress and COVID-19 sensitivity. Particularly in extreme information overload, people should be encouraged to critically assess the information they consume. Developing media literacy skills can make it easier for people to distinguish between fact and fiction, which will lessen pandemic-related fear and anxiety. Fourth, the study supports the technological determinism argument, which holds that technology significantly influences how society and people are shaped. The results show that frequent use of social media can operate as a mediation factor, affecting how stress and COVID-19 sensitization are related. This indicates that social media platforms—in this example, technology—can significantly impact how people react to and interpret information about the pandemic, potentially harming their mental health. Last, the study emphasizes the need for public health communication during medical emergencies. Authorities in public health ought to be mindful of how social media and information overload affect COVID-19 sensitization. Creating precise, accurate, and succinct communications can aid in managing public impressions and reducing the negative psychological impacts of prolonged media exposure.

#### **Limitations and future research**

The study on COVID-19 sensitization's influence on stress, anxiety, and depression extensively used social media as a mediator and information overload as a moderator. The 146 undergraduate students from one university who participated in the study may have limited the findings' applicability to a larger group. The findings might need to accurately reflect the different demographic traits and experiences of people living in Osun State, or the larger Chinese community. Larger and more varied sample sizes should be considered in future studies to improve the results' external validity. Convenient sampling was utilized in the study's participant recruitment, which could have introduced bias. The sample's representativeness may be impacted by systematic differences between participants who chose to participate and those who did not. Using random or other probability-based sampling techniques, the study's capacity to derive more reliable findings

about the target population would increase. This study's cross-sectional design offers a glimpse of the connections between the variables simultaneously. As a result, it is impossible to determine causality from the results. Future research should use longitudinal designs that track participants over time to identify temporal correlations and causal effects, allowing for a deeper understanding of how variables interact and change. The study probably used self-reported measures to evaluate information overload, COVID-19 sensitization, stress, anxiety, and depression. Measures that participants self-report may be prone to response biases and not correctly reflect participant behaviors. To increase the reliability of the findings, future studies might include objective metrics or combine self-reported data with additional data sources. Cross-sectional research is being done in this study. Future studies could evaluate the evolution of COVID-19 sensitization, stress, anxiety, and depression, as well as the mediating and moderating factors, by conducting longitudinal investigations. This would offer insightful information about the dynamic interactions between these variables and their effects on outcomes related to mental health.

#### **CONCLUSION**

Social media has helped people understand the current situation, and with media and its process of transmitting information, people might know the virus, what they should do, what the government and other nations are doing, or what sort of steps can hamper their lives. Thus, the importance of the media must be considered. In the social media context, the media can influence people's thoughts positively or negatively and can produce a change in behavior and attitude. In the fight against COVID-19, more people are expressing fatigue with COVID-19 prevention strategies like social withdrawal and mask use. Some people are also becoming desensitized to recommendations to curb the spread of the virus, citing "information fatigue" as the reason for their apathy. People are exposed to more information the more frequently they use media, which increases the risk that they will experience information overload. Paradoxically, people overloaded with knowledge purposefully avoid media to lessen their exposure to it.

The findings indicate that COVID-19 sensitization is associated with increased levels of stress, anxiety, and depression among undergraduate students. Social media use acts as a partial mediator, indicating that individuals experiencing higher levels of stress, anxiety, and depression are more likely to turn to social media as a means of coping, potentially intensifying their awareness and sensitivity to pandemic-related information. Moreover, the study highlights the significant moderating role of information overload between social media use and COVID-19 sensitization. When individuals experience high levels of information overload, their engagement with social media platforms amplifies their sensitization to the pandemic. Implementing public education programs could be an effective way to help individuals navigate information overload and improve their information processing abilities in this context. Practical public training, including crisis coping strategies and information filtering techniques, is crucial. Individuals should visit only official and reputable social media platforms to avoid confusion, disappointment, and frustration when seeking COVID-19-related news rather than relying on random internet searches or social media sources. To prevent feelings of anxiety or distress caused by COVID-19 news, the World Health Organization advises minimizing exposure to such news by refraining from excessive watching, reading, or listening. The World Health Organization also advises individuals to limit their COVID-19 information updates to specific times during the day, ideally once or twice

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