



The mediating role of social media fatigue on social media usage behaviour of the ageing society during the COVID-19 pandemic

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ABSTRACT

At the peak of the COVID-19 pandemic, research on social media in the Malaysian context focused on its benefits and overlooked its drawbacks. To investigate this, we looked at an ageing society whose psychological health was severely affected during the pandemic. This study developed a model based on the Stressor-Strain-Outcome (SSO) framework that predicts factors that prompt passive social media use in Malaysia's ageing society during the COVID-19 pandemic. Convenient sampling was utilised to collect responses from 389 Malaysian older adults through an online survey. The direct effects of stressors, including information overload, communication overload, complexity, privacy, and fear of missing out on the strain of social media fatigue, and indirect effects on the outcome of passive social media use were investigated. For the assessment of the study model, partial least squares structural equation modelling (PLS-SEM) was applied. Out of 11 hypotheses, four direct and three indirect hypotheses were accepted. The study findings did not support the direct and indirect effects of privacy and fear of missing out on social media fatigue and passive social media use, respectively. Findings reveal complexity as the more significant factor influencing social media fatigue, and indirectly, contributing towards the passive use of social media. This study contributes to understanding how social media interaction affects an ageing society during the pandemic lockdown. Despite widespread interest in this field, research on ageing populations concerning social media effects and pandemics is still in its early stages in Malaysia. The study's conclusion offers a thorough examination of its limitations and provides valuable recommendations for future research endeavours.

Keywords: *Ageing society, communication effects, COVID-19, social media usage, social media fatigue*

INTRODUCTION

There had been over 572 million COVID-19 infections and over 6 million deaths reported worldwide by August 2022. From that number, over 500 million people have recovered from the deadly virus. Malaysia recorded over 4.5 million infections until August 2022, with 36,000 deaths reported (World Health Organization, 2022). During the pandemic, older adults were at a greater risk of COVID-19 related serious life-threatening illnesses. Along with increased mortality risk, social isolation has been linked to negative post-traumatic psychological consequences like bewilderment, depression, and anger (Jiménez-Pavón et al., 2020). According to a recent report based on the United Nations definition, Malaysia's population is growing older, with the proportion of individuals aged 65 and above rising from 7% to 7.3% (Department of Statistics Malaysia, 2021). Malaysian society is becoming more vulnerable because of this situation.

The spread of COVID-19 has also posed economic and societal challenges, particularly for the elderly. Social distancing rules removed social interactions and exacerbated the probability of loneliness (Bonsaksen et al., 2021). Therefore, the engagement of older people in their everyday life has become very important. Information and communication technology (ICT) might provide essential tools to achieve this objective. Social media, in particular, assists in keeping older people connected to society by expanding their contact and socialisation options, thereby reducing loneliness and social exclusion (Hajek & König, 2021). Preliminary evidence suggests that this social media function can help in mitigating the psychological consequences of movement control measures implemented during the COVID-19 outbreak, such as loneliness and social isolation (Sala et al., 2021). On the flip side, excessive COVID-19-related news on social media also caused serious psychological problems (Stainback et al., 2020).

Due to the higher prevalence of chronic illnesses among the elderly, this cohort is particularly at risk. Because of their weaker immune system, it is challenging to combat viruses. Recoveries become harder and psychological depression makes these recoveries more complex. Constantly hearing about the mounting death toll in the news causes stress, melancholy, and insomnia. Because of this, the quality of life for the elderly may suffer as a whole (Dhar, 2020). The COVID-19 pandemic and the 24-hour news cycle have created a situation in which it is difficult to resist an overwhelming flood of information. Additionally, contradicting information about the pandemic from various media outlets, may also be distressing. Further, psychological discomfort impairs the individual capacity to cope with the different lifestyle changes brought on by COVID-19, such as reduced socialisation and isolating or quarantining (Stainback et al., 2020).

Whilst the presence of old age and older people in traditional media has been well documented (see Higgs & Gilleard, 2022; Jiao & Chang, 2020; Reul et al., 2022), examinations of such presence within the social media discourse are still scarce. Especially in an era when the spread of COVID-19 provoked several challenges and threats to the ageing population. These threats became even more apparent during the COVID-19 pandemic when virtual communication became increasingly important in the lives of ageing people (Raycheva, 2021). Here, the question arises whether these threats propelled by social media interactions may lead the older population towards passive social media use. Considering this context, we incorporated Zolkepli et al. (2021)'s recommendation and aimed to explore the psychological antecedents of social media fatigue that further affect the trend of social media use among older adults in Malaysia. Information overload, communication overload, complexity, privacy, and fear of missing out (FoMO) were incorporated as psychological antecedents. The Stress-Strain-Outcome (SSO) model provided the theoretical underpinning.

The convenient sampling technique assisted in recruiting the older participants from the Malaysian population. The findings reveal that the antecedents describe acceptable predictive accuracy for passive social media use among Malaysian older adults.

LITERATURE REVIEW

Social media landscape during the COVID-19 pandemic

Social media, because of its persuasive power, has rapidly evolved into an essential communication tool for information production and dissemination since the emergence of COVID-19. In fact, governments, private organisations, and research institutes have recognised its importance as a communication tool for disseminating pivotal information to the public (Ali & Malaco, 2022). Previous research has shown that social media data has helped detect infectious disease outbreaks and interpret public perception of the disease. It is important to note that frightening situations, such as the spread of COVID-19, increase public interaction with all forms of media for information. A similar global trend was observed in social media during the pandemic (Hajek & König, 2021). Additionally, social media penetration among the masses remains useful in communicating vital public health information (Tsao et al., 2021).

Considering the importance of social media, state-owned health departments rely heavily on it. In China, where COVID-19 first appeared, social media aided the Chinese government in raising public awareness and persuading them in containing the virus' spread (Chen et al., 2020). Similarly, in Malaysia, where 86% of the population uses social media (Müller, 2021), the Ministry of Health (MoH) relied heavily on social media to raise COVID-19 awareness among Malaysians. Effective risk communication using social media platforms aided the Malaysian government in providing the latest and sufficient information to the public (Dawi et al., 2021). Although numerous studies (see Chen et al., 2020; Dawi et al., 2021; Tsao et al., 2021) have focused on the benefits of social media at the peak of COVID-19, some negative aspects need to be addressed as well (Liu et al., 2021).

To address these aspects, we examined an ageing society that has been deemed vulnerable and whose psychological health has been seriously affected by the pandemic (Jiménez-Pavón et al., 2020), but received less attention in the past. Responding to the gap stated earlier, we developed a predictive model based on the Stressor-Strain-Outcome (SSO) framework. The predictive model explains the impact of stressors, including information and communication overload (Liu et al., 2021; Whelan et al., 2020), complexity (Hakiki et al., 2021), privacy, and fear of missing out (FoMO) (Dhir et al., 2018) on the outcome of passive social media use (Valkenburg et al., 2021) through the strain of social media fatigue (Xiao et al., 2021) among older Malaysian adults during the COVID-19 pandemic. In this study, passive social media use is the dependent variable and social media fatigue acts as the mediating variable. The stressors, including information and communication overload, complexity, privacy, and FoMO, are independent variables.

Theoretical underpinning

We formulated a conceptual framework using the Stress-Strain-Outcome (SSO) model (Koeske & Koeske, 1993). This model connects stressors with behavioural outcomes while viewing strain as a mediator. Stressors are attributed to environmental stimuli observed as troublesome and potentially disruptive (Cheung & Cheung, 2013). In this study, we inserted five stressors: information overload, communication overload, complexity, privacy, and FoMO. Koeske and Koeske (1993) placed strain as the mediating factor attributed to the

disruptive effect of stressors on an individual's cognition that causes emotional exhaustion and transfers the impact of stress onto behavioural outcomes. In the present research, we incorporated social media fatigue as a strain that transfers stressors' effect on the outcome as a mediator. However, outcomes are the long-term behavioural or psychological effects of persistent stress and strain. It refers to attitudinal dispositions and behavioural intentions or decisions (Koeske & Koeske, 1993). In this study, passive social media use is the behavioural outcome of the strain.

From the assessment of previous research (see Brown et al., 2018; Shi et al., 2020; Yang et al., 2016), it appears that the concept of examining the social media fatigue as a strain in SSO model while monitoring older adults is novel. Thus, this research attempts to address this void in current literature. It is also observed that past literature provides a valuable discussion on social media adoption among older adults (see Hajek & König, 2021; Valkenburg et al., 2021). Nevertheless, the negative effect of social media adoption on their social media usage behaviour during outbreaks of the pandemic is rarely discussed. These gaps are precisely aligned with the primary goal of the present research, that is, to analyse which stressor caused social media fatigue and the deleterious effects it placed on the ageing population during the recent pandemic.

RESEARCH MODEL AND HYPOTHESES DEVELOPMENT

Using previous research combined with the SSO model, we provide a conceptual framework as illustrated in Figure 1. The SSO model helped us define the placement of variables, while past research assisted in developing relationships between well-placed variables.

Relationship between stressors and strain

According to Chowdhury et al. (2020), advanced ICT stresses people behaviourally and psychologically. Particularly, when technology usage exceeds its optimal level, it might have negative consequences (Odgers & Jensen, 2020). That is precisely what happened when COVID-19 broke out. Due to lockdowns and movement restrictions, social media became the sole source of information, communication, and entertainment. The excessive reliance on social media increased its optimal usage, particularly among older adults (Hajek & König, 2021). As a result, the proliferation of social media and the consistent and rapid flow of COVID-19-related information resulted in communication and information overload (Elciyar, 2021). The negative impact of information and communication overload sparked real concerns among researchers. It is claimed that information overload influences performance and decision-making abilities, in particular, information overload caused by social media use will induce fatigue and stress (Liu et al., 2021). Referring to this situation, the research findings of Pang (2021) demonstrated that information overload triggered social media fatigue among the Chinese population during the COVID-19 pandemic. Similar outcomes were established for the relationship between communication overload and fatigue by Hwang et al. (2020). Based on the literature, we predict:

H1: Information overload positively influenced social media fatigue among the ageing population during the COVID-19 pandemic.

H2: Communication overload positively influenced social media fatigue among the ageing population during the COVID-19 pandemic.

Meanwhile, Nimrod (2018) proposed complexity as one of the stressors for older adults. Growing complexity exacerbates the cognitive strain, resulting in lower performance, pleasure, and social presence (Zhang et al., 2020). The consistent updating of social media

features causes complexity that makes it difficult for the ageing society to handle them. Such complexity develops cognitive problems, including fatigue, among older adults (Hakiki et al., 2021). However, during the COVID-19 pandemic, the widespread propagation of fake news about medical facts, societal concerns, government response, and geopolitical issues made social media interactions more complex. Therefore, we expect a more intensive impact of complexity on social media fatigue and hypothesise:

H3: Complexity positively influenced social media fatigue among the ageing population during the COVID-19 pandemic.

Privacy management is another persistent problem users experience while interacting on social media platforms. The digital age has made it easy to acquire and spread personal data, making it more difficult for individuals to maintain their privacy on social media (Jozani et al., 2020). This scenario raises social media users' privacy concerns. The rise in the social media usage has further fuelled this. These mounting concerns may eventually result in significant mental stress, negative attitudes, and scepticism toward social media. During the recent pandemic, individuals on social media who prioritised privacy tended to experience more stress and fatigue (Alzaidi & Agag, 2022). Dhir et al. (2019) also demonstrated that social media users concerned about online privacy are more likely to be uncomfortable and even overwhelmed, resulting in social media fatigue. Based on these past research, we hypothesise:

H4: Privacy concerns positively influenced older people's social media fatigue during the COVID-19 pandemic.

Academic investigations (see Dhir et al., 2018; Tandon et al., 2021) illustrate that social media users who experience FoMO are likely to spend excessive amounts of time on these platforms and are prone to stress, anxiety, and depression. These previous investigations on FoMO have shown unequivocally that excessive FoMO has detrimental effects on one's mental and physical health. Recently, Dhir et al. (2018) found that FoMO has been associated with social media fatigue. However, it is not yet established whether the significance of this relationship endures during health emergencies like COVID-19; nonetheless, it has been established that citizens are more inclined to engage with social media during the pandemic (Raycheva, 2021). This led us to the following hypothesis:

H5: Fear of Missing Out (FoMO) positively influenced social media fatigue among the ageing population during the COVID-19 pandemic.

The relationship between strain and outcome

Some possible behavioural outcomes for strain are social media usage patterns. These patterns are identified as active and passive social media use (Chhatwani et al., 2022). We explored passive social media use as the outcome of the strain of social media fatigue among older adults. Fatigue is a sort of emotional state. It is well established that an individual's emotional state can influence their actions in various ways. For example, discontinuation of social media use can occur if individuals get fatigued from using it. Having unfavourable feelings about social media can also make people reluctant to use it actively, leading to passive social media use intentions (Li et al., 2022). Growing mental health issues amongst senior citizens due to social media interaction during the pandemic has turned into a point of concern. However, the rising percentage of social media users

exhibiting emotions of boredom and fatigue, also causes a decline in their excitement for social media (Chhatwani et al., 2022). Borrowing from the past literature, we hypothesise the following association:

H6: Social media fatigue positively influenced passive social media use among the ageing population during the COVID-19 pandemic.

In the light of past literature and the SSO model's recommendation of using strain as a mediator between stressors and outcome (Koeske & Koeske, 1993), we further explored social media fatigue's mediating role between stressors and strain. We assumed that the five stressors in this study indirectly trigger passive social media use through the mediating effect of social media fatigue. Accordingly, we propose the following hypotheses:

H7: The relationship between information overload and passive social media use among the ageing population was mediated by social media fatigue during the COVID-19 pandemic.

H8: The relationship between communication overload and passive social media use among the ageing population was mediated by social media fatigue during the COVID-19 pandemic.

H9: The relationship between complexity and passive social media use among the ageing population was mediated by social media fatigue during the COVID-19 pandemic.

H10: The relationship between privacy and passive social media use among the ageing population was mediated by social media fatigue during the COVID-19 pandemic.

H11: The relationship between FoMO and passive social media use among the ageing population was mediated by social media fatigue during the COVID-19 pandemic.

The conceptual model derived from the hypotheses mentioned above is displayed in Figure 1.

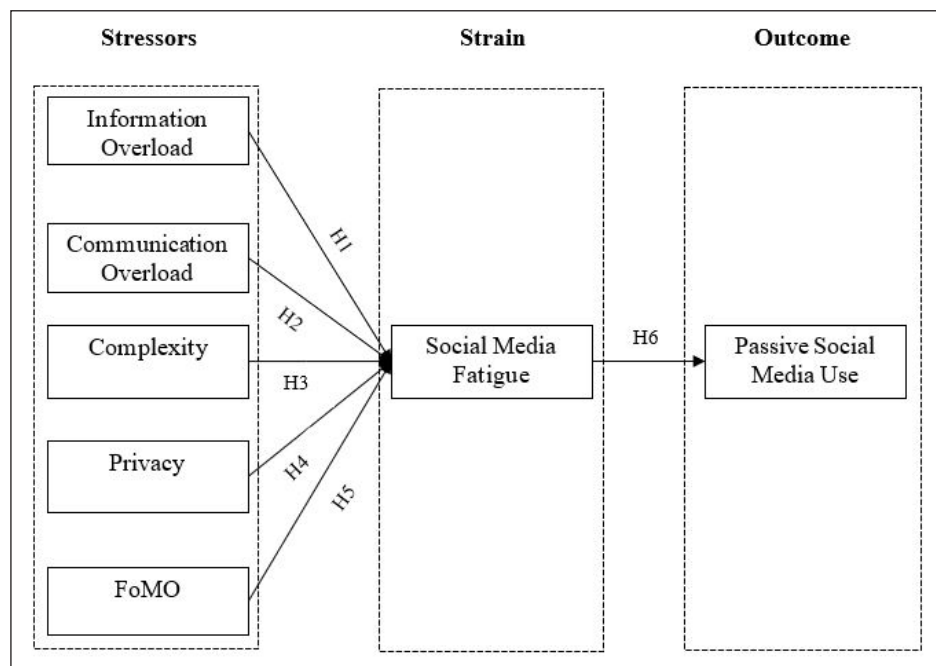


Figure 1. Conceptual framework

MATERIALS AND METHODS

Data collection process

We relied on a questionnaire, developed in Google Forms, for data collection. Due to strict movement control orders (MCO) imposed in Malaysia to combat COVID-19, physical data collection in the field was not possible. Therefore, we adopted non-probability convenience sampling technique and online survey approach to reach the sample size. The survey was circulated via Facebook and WhatsApp groups. The questions were made available in Bahasa Melayu and English to suit the understanding and interpretation of the Malaysian older population. According to the Department of Statistics (2021), those aged 60 years and above comprised 3.6 million, which made up 11.2% of the Malaysian population. To determine sample size, we used the Raosoft sample size calculator. For a 3.6 million population with a 5% error margin and 95% confidence level, the proposed sample size is 385. Fortunately, we received 388 useable responses to the questionnaire. The demographic data (see Table 1) illustrates the study's sample which consisted of 388 older adults from Malaysia who use social media. Of the 388 respondents, 54.90% were male and 45.10% female. Most respondents fell in the age bracket of 60 to 64 (62.37%), followed by those aged 65 to 69 (26.04%). Only 11.59% of the respondents were over the age of 70. The sample was also typical of a multi-ethnic Malaysian society with the representation of all ethnicities including Malay (35.57%), Chinese (31.96%), Indian (30.67%), and others (1.80%). The demographic details are presented in Table 1.

Table 1. Demographics (N = 388)

Variable	Description	Frequency	Percent (%)
Age	60 – 64	242	62.37
	65 – 69	101	26.04
	70 and above	45	11.59
Gender	Male	213	54.90
	Female	175	45.10
Marital Status	Married	328	84.54
	Widowed	44	11.34
	Single	09	2.32
	Divorced	07	1.80
Race	Malay	138	35.57
	Chinese	124	31.96
	Indian	119	30.67
	Others	7	1.80
Education	Primary	35	9.02
	Secondary	115	29.64
	Diploma/ equivalent	157	40.46
	Bachelor's	66	17.01
	Master's	11	2.84
	PhD	4	1.03
Employment Status	Employed	26	6.70
	Retired	316	81.44
	Self-employed	41	10.57
	Unable to work	5	1.29

Measurement

We measured the study constructs using a well-established scale, and wordings adapted to the context of our research. Items to measure information overload and communication overload were adapted from the studies of Karr-Wisniewski and Lu (2010) and Cho et al. (2011), respectively. Similarly, complexity and privacy items were derived from the past research of Lee et al. (2016) and Nimrod (2018). Przybylski et al. (2013), Dhir et al. (2018), and Nimrod (2018) provided us with the items to measure FoMO. Dhir et al. (2018)'s research was also utilised to get the measurement scale of social media fatigue. Items to measure passive social media use were derived from Chen et al. (2016), and Zhu and Bao (2018). Before data collection, we incorporated Sekaran & Bougie's (2020) recommendation and carried out a rigorous scale validation process. We employed 5-point Likert scales, with values ranging from 1 (Strongly Disagree) to 5 (Strongly Agree), to operationalise all the constructs in the study.

RESULTS AND FINDINGS

The research data for this study originated from a single source, making the collinearity assessment critical (Hair et al., 2017). Therefore, before the assessment of the measurement model, a collinearity assessment was done by exploring the variance inflation factor (VIF). The results illustrate that the VIF value falls within the acceptable range of five or less (Hair et al., 2017).

Assessment of Measurement Model

For assessing the measurement model, convergent validity, internal consistency reliability, and discriminant validity criteria were used as per Ramayah et al. (2018)'s recommendations. Convergent validity of construct is assessed by measuring the outer loadings of the indicators and Average Variance Extracted (AVE). Following the recommendations of Hair et al. (2017) and Rasoolimanesh et al. (2017), we retained items with loadings 0.50 and above and deleted items that failed to meet this threshold. The recommended threshold value for AVE is also 0.50 and above (Hair et al., 2017). The values of Cronbach's alpha ($\alpha > 0.60$) (Sekaran & Bougie, 2020), Composite Reliability (CR > 0.70) (Hair et al., 2017), and rho_A ($\rho_A > 0.70$) (Henseler et al., 2016), helped to meet the internal consistency reliability. The results illustrated in Table 2 explain that we successfully achieved convergent validity and internal consistency reliability.

Table 2. Eta-squared analysis

Variable	Items	Loadings	CA	rho_A	CR	AVE
Complexity (CMP)	CMP1	0.895	0.890	0.900	0.919	0.695
	CMP2	0.867				
	CMP3	0.747				
	CMP4	0.841				
	CMP5	0.812				
Communication Overload (CO)	CO1	0.593	0.804	0.952	0.865	0.623
	CO2	0.876				
	CO3	0.928				
	CO4	0.714				

Table 2. (con't)

Variable	Items	Loadings	CA	rho_A	CR	AVE
Fear of Missing Out (FoMO)	FoMO1	0.623	0.888	0.897	0.920	0.702
	FoMO2	0.824				
	FoMO3	0.884				
	FoMO4	0.932				
	FoMO5	0.890				
Information Overload (IO)	IO1	0.905	0.804	0.952	0.865	0.623
	IO2	0.954				
	IO3	0.804				
Privacy (PRY)	PRY1	0.691	0.830	0.867	0.886	0.661
	PRY2	0.866				
	PRY3	0.843				
	PRY4	0.840				
	PSU1	0.863	0.909	0.913	0.938	0.791
	PSU2	0.951				
	PSU3	0.946				
	PSU4	0.787				
Social Media Fatigue (SMF)	SMF1	0.770	0.769	0.770	0.853	0.591
	SMF2	0.810				
	SMF3	0.722				
	SMF4	0.771				

Discriminant validity guarantees the uniqueness of the phenomenon measured by the constructs in the same framework. To assess discriminant validity, this study explored both Fornell and Larcker's (1981) criterion and Heterotrait-Monotrait Ratio (HTMT) criteria. Table 3 and Table 4 clearly illustrate that discriminant validity is established.

Table 3. Fornell-Larcker Criterion

	CMP	CO	FoMO	IO	PRY	PSU	SMF
CMP	0.834						
CO	0.202						
FoMO	0.402	0.197	0.838				
IO	0.356	0.445	0.105	0.89			
PRY	0.281	0.621	0.266	0.414	0.813		
PSU	0.35	0.026	-0.061	0.12	0.095	0.889	0.591
SMF	0.602	0.374	0.272	0.464	0.384	0.539	0.769

Notes: *CMP* (Complexity), *CO* (Communication Overload), *FoMO* (Fear of Missing Out), *IO* (Information Overload), *PRY* (Privacy), *PSU* (Passive Social Media Use), *SMF* (Social Media Fatigue)

In a discussion on the HTMT threshold level, Henseler et al. (2015) depicted that it is debatable. In this study, we considered a strict threshold level, i.e., 0.85 (HTMT0.85), as elaborated in Table 4.

Table 4. Heterotrait-Monotrait Ratio (HTMT)

	CMP	CO	FoMO	IO	PRY	PSU	SMF
CMP							
CO	0.259						
FoMO	0.445	0.250					

Table 4. (con't)

	CMP	CO	FoMO	IO	PRY	PSU	SMF
IO	0.404	0.493	0.170				
PRY	0.32	0.798	0.307	0.495			
PSU	0.394	0.174	0.095	0.138	0.141		
SMF	0.722	0.44	0.332	0.571	0.459	0.642	

Notes: *CMP* (Complexity), *CO* (Communication Overload), *FoMO* (Fear of Missing Out), *IO* (Information Overload), *PRY* (Privacy), *PSU* (Passive Social Media Use), *SMF* (Social Media Fatigue)

Structural Model Assessment

Following the evaluation of the measurement model, we analysed the structural model that helps measure the model's predictive capability and the relationship among constructs in the framework (Hair et al., 2017). To test relationship validity, we followed Ramayah et al. (2018) by conducting bootstrapping on 388 cases using 5,000 samples. The results of relationships in structural path analysis are explained in Table 5. The path coefficient between information overload and social media fatigue ($\beta = 0.199$, $p = 0.000$, $t = 4.420$) was positive and significant. The supportive result for H1 suggests that respondents having information overload tend to experience social media fatigue. We also explored the positive and significant relationship between communication overload and social media fatigue ($\beta = 0.137$, $p = 0.001$, $t = 3.179$). H2's positive result validates the second hypothesis. Complexity was found to have a positive influence on social media fatigue ($\beta = 0.476$, $p = 0.000$, $t = 12.760$). As a result, H3 received adequate support. The study also found that privacy ($\beta = 0.080$, $p = 0.079$, $t = 1.758$) and fear of missing out ($\beta = 0.011$, $p = 0.835$, $t = 0.208$) have no effect on social media fatigue. As a result, H4 and H5 were rejected due to a lack of statistical support. H6 received significant support for the hypothesised positive influence of social media fatigue on passive social media use ($\beta = 0.539$, $p = 0.000$, $t = 14.658$).

Along with β , p , and t values, the confidence interval (CI) results are also shown to provide additional statistical support for the structural model (Ali et al., 2018). The results in Table 5 show that zero "0" does not fall between the lower and upper levels of the confidence interval. As a result, H1, H2, H3, and H6 satisfied the CI criterion, whereas H4 and H5 did not (Ramayah et al., 2018).

Table 5. Direct and indirect relationships

Relationships	β -Value	t-Value	2.5%	97.5%	Supported
IO $\rightarrow$ SMF	0.199***	4.420	0.114	0.289	Yes
CO $\rightarrow$ SMF	0.137**	3.179	0.049	0.218	Yes
CMP $\rightarrow$ SMF	0.476***	12.760	0.403	0.548	Yes
PRY $\rightarrow$ SMF	0.080	1.758	-0.012	0.166	No
FoMO $\rightarrow$ SMF	0.011	0.208	-0.097	0.109	No
SMF $\rightarrow$ PSU	0.539***	14.658	0.462	0.606	Yes
IO $\rightarrow$ SMF $\rightarrow$ PSU	0.108***	4.339	0.061	0.158	Yes
CO $\rightarrow$ SMF $\rightarrow$ PSU	0.074***	3.179	0.028	0.119	Yes
CMP $\rightarrow$ SMF $\rightarrow$ PSU	0.257***	8.68	0.201	0.318	Yes
PRY $\rightarrow$ SMF $\rightarrow$ PSU	0.043	1.739	-0.006	0.091	No
FoMO $\rightarrow$ SMF $\rightarrow$ PSU	0.006	0.209	-0.051	0.059	No

Note: * $p = 0.05$, ** $p < 0.05$, *** $p < 0.001$

To analyse the mediation analysis, we incorporated the most recent Preacher and Hayes (2008)'s approach. We bootstrapped the sampling distribution to explore indirect effects. This study tested five indirect relationships to explore the mediating role of social media fatigue in the proposed conceptual framework. Results reveal that social media fatigue is a significant mediator between information overload and passive social media use ($\beta = 0.108, p = 0.000, t = 4.339$), communication overload and passive social media use ($\beta = 0.074, p = 0.001, t = 3.179$), complexity and passive social media use ($\beta = 0.257, p = 0.000, t = 8.680$). We failed to find any significant mediation of social media fatigue between privacy and passive social media use ($\beta = 0.043, p = 0.082, t = 1.739$) and between fear of missing out and passive social media use ($\beta = 0.006, p = 0.209, t = 0.835$). Furthermore, the results demonstrate that the outcome variable, i.e., passive social media use has a weak coefficient of determination ($R^2 = 0.291$) that describes weak but acceptable predictive accuracy (Hair et al., 2017). Figure 2 illustrates the structural model of this study.

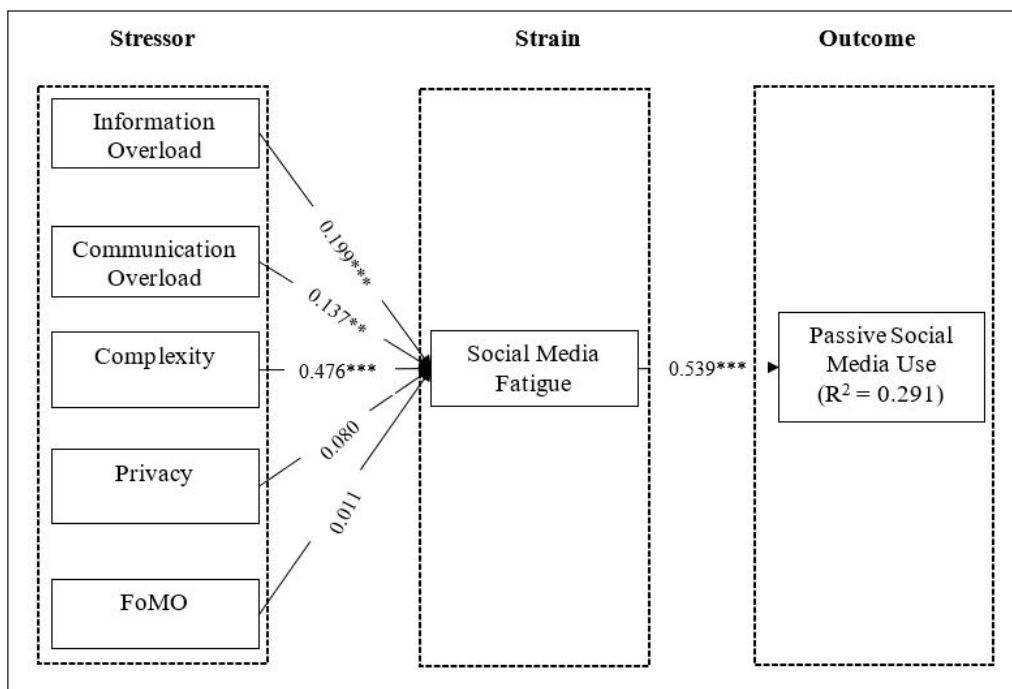


Figure 2. Structural model assessment

DISCUSSION AND CONCLUSION

We developed a conceptual framework based on the SSO model and investigated the influence of five stressors in determining passive social media use via social media fatigue among Malaysia's older population during the COVID-19 pandemic. The research findings reveal that complexity is the more significant factor causing social media fatigue among the older population of Malaysia, followed by information and communication overload. A similar sequence of significant effects was found for the mediating role of social media fatigue between the three stressors and the outcome of passive social media fatigue. However, neither privacy nor FoMO significantly affect social media fatigue, nor do they transfer any effect on passive social media use via social media fatigue.

The theoretical contribution of SSO framework in this study is significant in understanding the impact of social media stressors on the behavior of an ageing population. Previously, this framework is usually tested in exploring the behavior related to workplace

environment. However, this particular study provides a comprehensive view of the stress processing in social media environment, and elaborates how it eventually effects the use of social media itself, that is novel in literature. Overall, the theoretical contributions to the stressor-strain-outcome framework in the social media context aim to deepen our understanding of the complex relationships between social media related multiple stressors, strain, and outcome.

The results reinforce the prior study of Nimrod (2018), on the link between complexity and social media fatigue, who proved that consistently updating social media features is a technological invention. Still, it causes feature overloading that exceeds users' capability to handle them. This situation has undesirable repercussions, one of which is fatigue when using these features. However, the cognitive decline among older adults due to complexity is well determined in past literature (Hakiki et al., 2021). Sensory impairment, depression, and cognitive decline have also been recorded among Malaysian older adults (Harithasan et al., 2020). In these circumstances, build-up of social media fatigue due to complex social media interactions and the transfer of this positive influence further onto passive social media use is evident. Our study's findings also proved this.

Another factor contributing to social media fatigue and the development of passive social media usage among older Malaysians is the difficulty in understanding and relying on COVID-19-related social media content. Throughout the pandemic, the widespread propagation of fake news on social media was reported in Malaysia (Elena et al., 2021). Although the Malaysian Communications and Multimedia Commission (MCMC) has and continues to act against fake news, we believe more efforts are needed to protect the most vulnerable societal segment.

The results regarding information overload are consistent with those of Liu et al. (2021). The authors stated that information overload is problematic when it exceeds one's ability to accommodate and handle it, leading to negative feelings of tiredness and frustration. We found information overload ended in developing behavior of passive social media use. Additionally, this study's results coincide with the findings of Lin et al. (2021), who proved a significant relationship between information overload as a stressor on the passive use of social networking sites. Our study findings also demonstrate that in the Malaysian setting, during a health emergency, information overload significantly and positively impacts social media fatigue and transfers the same impact towards passive social media use among older people.

Our results regarding communication overload and social media fatigue coincide with recent research of Hwang et al. (2020). They confirmed that consistent communication over social media causes cognitive fatigue. The reason might be that communication on social media is based on short and poorly structured messaging called instant messages. Usage of slang language and shorter words also require more mental effort, leading to a high level of fatigue (Chen et al., 2018). The cognitive components and the essence of overloaded communication demonstrate that excessive communication relates to an inability to make decisions with excessive information, affecting one's efficiency. Receivers will suffer stress and fatigue if they do not have enough time to assimilate the communication stream, ultimately resulting in a decline in social media use. This pattern of intensive COVID-19-related communication and its adverse psychological effects has also been observed in Turkey, which resulted in social media fatigue (Elciyar, 2021). Our findings in the context of the Malaysian population demonstrate that if people from two different cultural contexts live under the same social constraints, they will behave similarly.

The current study findings also demonstrate that privacy and FoMO are not real concerns for elderly social media users in Malaysia. This finding challenged scholars'

prevalent belief that privacy concerns (Dhir et al., 2018) and FoMO (Tandon et al., 2021) in online communication significantly influence human behavior and make users feel stressed and fatigued when using social media. We were also expecting the same. However, we discovered the opposite. Privacy and FoMO have no direct relationship with social media fatigue and have no indirect influence on passive social media use. A possible explanation for this outcome is the substantial influence of social media in boosting public awareness and its effective use as a risk communication tool during the COVID-19 pandemic (Dawi et al., 2021). Social media's value in spreading information during the pandemic prevented the development of a strong link between privacy concerns and social media fatigue among older Malaysians. However, during the pandemic, Malaysia imposed strict movement control orders (MCO), and older people were confined to their homes. As a result, instead of instilling FoMO, social media assisted in keeping older people linked to society by expanding their contact and interaction options. These insignificant relationships show that privacy and FoMO are not psychologically consequential in determining social media fatigue and passive social media use among older people in Malaysia.

Limitations and Recommendations

This study provides insights into the adverse effects of social media on the older population of Malaysia. However, there were some limitations in this research that might change the results overcome in future research. The results are based on data from a cross-sectional survey. When it comes to establishing causal inferences based on connections between variables, cross-sectional surveys have limits. Future research is needed to investigate the influence of stressors and strain on the outcomes over time using a longitudinal survey. Besides longitudinal studies, future research might use experimental research, praised for its high validity, to establish the causal linkages in this study's conceptual framework. Future researchers might also use the experimental method to investigate how certain media platforms like Facebook, Twitter, blogs, and WhatsApp alter attitudes and behaviour in connection to the variables in this study.

Another limitation is connected to the sampling technique. This study adopted a convenient sampling technique, a non-probability sampling approach, which aims to recruit readily available respondents online in the Malaysian context. Though it is the most suitable approach to collect data conveniently, it does not allow for the inclusion of every segment of the ethnically diverse population of Malaysia, creating a generalisation problem. As a result, this study recommends future researchers to use either multistage cluster sampling or quota sampling. Either of these sampling techniques along with multigroup analysis will cover a geographically diversified population and provide a comparison of different ethnic identities of Malaysia that will improve study generalisation. However, quota sampling will help gain a thorough understanding of the outcomes of study variables in the context of diverse ethnic groups in Malaysia.

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