Probing technostress factors in social media using the Techno Stressor-Techno Strain-Techno Outcome model: An examination of Filipino Facebook users

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Abstract: Staying connected is a strong reason why people use social networking sites. However, as social media increasingly becomes part of our lives, over-dependence on this technology may lead to an adverse side effect called technostress. This study explored the phenomenon of technostress among Filipino Facebook users, highlighting the stressors associated with prolonged engagement on social networking sites (SNS). Using the Stressor-Strain-Outcome (SSO) model, the research identified key dimensions of overload and examined its contributions to the exhaustion and discontinuance of SNS usage. A sample of 105 Facebook users was analyzed through structural equation modeling, revealing that techno stressors such as social and system feature overload are significant predictors of the techno strain called social media fatigue. The findings also demonstrated a positive correlation between Fear of Missing Out and social overload, while the proposed model did not support information and communication overload. Finally, the techno outcome, discontinuance behavior, was linked to the previously identified techno strain. This relationship emphasized the importance of understanding the negative impacts of excessive SNS usage. Lastly, this study extends the current literature by expanding to underrepresented countries, like the Philippines, in technostress and social media research.

Key Words: Technostress, Strain-Stressor-Outcome, Facebook

1. INTRODUCTION

1.1 Background of the Study

Social networking sites (SNS) refer to online services people use to build and maintain social relations with others (Luqman et al., 2020). SNS have gained mass popularity and continue to change how people communicate, access information, and build communities. According to a previous report published, on average, people touch their smartphones 2,617 times a day, and SNS is the major contributor to this figure (The Brussels Times, 2022). In the case of the Philippines, a recent survey revealed that Filipinos spend over three hours using SNS, the highest statistic in the Asia-Pacific region (Tran, 2025). Meanwhile, Facebook remains the most popular SNS in the country in terms of downloads and usage (Balita, 2024).

Facebook serves not only as a social media site but also as a key news source and e-commerce platform in the Philippines. This combination of functions increases its attractiveness and usefulness for users, leading to its extensive acceptance (Barangas, 2024). Staying connected is a strong reason why people use Facebook. However, as social media increasingly permeates our daily lives, over-dependence on this technology may also lead to adverse side effects. Thus, the repercussions of using SNS cannot be overlooked (Naga & Ebardo, 2024).

Stress occurs when one feels that their well-being is compromised (Lazarus & Folkman, 1984, p. 19). Putting it into perspective, the stress-induced effect of Facebook is a significant drawback. This adverse effect is called Technostress—a term (coined by Brod in 1982) that refers to the specific type of stress that an individual experiences due to his or her use of information technology (IT) (Trafadar et al., 2019). Technostress manifests not only in the workplace or organizational setting but also in the

personal use of IT (Salo et al., 2022).

Numerous research studies on SNS stress have recognized different SNS stressors and the resulting impacts of their use. However, the gap remains in the scarcity of studies on the different dimensions of overload and which mechanism can mediate social media discontinuance (Fu et al., 2020).

Apart from this, diverse populations are underrepresented in studies on social media and technostress research. The prominence of a study on Technostress and social media research is primarily conducted in Western, Educated, Industrialized, Rich, and Democratic (WEIRD) societies (Muthukrishna et al., 2020). As a result, findings from WEIRD countries may not be generalizable to other populations. Thus, expanding the literature on developing countries like the Philippines could present another context not captured by these previous studies. Recognizing these gaps, the research tries to respond to the following questions:

RQ1: *What dimensions of overload (information, social, communication, and system features) correlate to SNS fatigue?*
RQ2: *How does social media overload relate to discontinuance behavior?*

To address the research gaps, this research uses the stressor–strain–outcome (SSO) approach to examine the relationships among the various dimensions of social media overload and how various types of overload can be associated with discontinuance of Facebook use. The research model was empirically tested in the context of Facebook usage based on 105 valid user responses gathered through a survey questionnaire.

1.2 Related Literature

The SSO framework, created by Koeske and Koeske in 1993, was first utilized in psychological research to illustrate the stress process. According to this framework, a stressor is the environmental element that triggers stress and influences individuals ' psychological conditions. Strain denotes the psychological results that stem from stressors. The outcomes can be seen as responses to strain, with avoidance and approach behaviors commonly viewed as mitigation strategies (Nawaz et al., 2018).

In this paper, the SSO framework served as the basic theoretical paradigm in this study to explore individuals' experiences with social media. The SSO model fits the research by understanding the individual user perspective and appears to be the most frequently used model from the systematic review of Naga and Ebardo (2024).

Overload refers to how individuals perceive and assess the amount of information, people, or items exceeding their capacity to manage (Saegert, 1973). This overload has been identified as a key factor leading to adverse outcomes associated with using information and communication technologies (ICTs) (Lee, Son, & Kim, 2016). The table below presents how overload has been applied in the IS literature:

Table 1. Summary of Literature Review

Concept	How is it applied in the study
Stressor Literature	
Techno Stressor	Refer to SNS overload like information, social, communication, and system feature overload that directly create stress.
Information Overload	Happens when people are exposed to more information than they can process (Fu et al., 2020)
Communication Overload	Occurs when communication demands from ICT exceed users' communication capacities (Cho, Ramgolam, Schaefer, & Sandlin, 2011).
Social Overload	An individual perceives oneself as giving too much social support to other individuals embedded in one's social media-enabled network (Maier et al. 2015).
Fear of Missing Out (FOMO)	Fear of not being included in something (such as an interesting or enjoyable activity) that others are experiencing (Przybylski et al., 2013)
System Feature Overload	This is when "the given technology is too complex for a given task" or "the addition of new features presents challenges (Thompson et al., 2005)

Strain Literature	
Techno Strain	Are immediate psychological and behavioral responses to these techno stressors
Social Media Fatigue	Qaisar et al. (2021) defined it as a subjective feeling of discomfort, decreased motivation, and increased physical factors.
Outcome Literature	
Techno Outcome	Represent enduring psychological consequences resulting from prolonged exposure to techno strains.
Discontinuance of Use	Discontinuous use refers to users' behavioral reactions when they decrease their use intensity or no longer use a particular technology at all (Maier et al., 2015a).

Based on the previously discussed SSO framework and the literature, this research's hypotheses are the following:

H1. An increase in information overload means an increase in SNS Fatigue.
H2a. Heightened social overload plays a significant role in SNS fatigue.
H2b. FOMO directly contributes to social overload by driving excessive SNS engagement.
H3. An increase in communication overload contributes to greater SNS fatigue.
H4. It is anticipated that with the rise in system feature overload, there is also an increase in SNS fatigue.
H5. Higher SNS fatigue leads to greater discontinuance behavior as users seek relief from digital exhaustion.

2. METHODOLOGY

2.1 Survey Design

This research utilizes a field survey to gather data. The measurement items for the constructs in the proposed research model are modified from the current literature to suit the Facebook context. The approaches for addressing information overload, social overload, and system feature overload are derived from the research of Zhang et al. (2016). Meanwhile, the metrics for social overload and social media fatigue are derived from the research of Maier et al. (2015a). As for communication overload and Fear of Missing Out, the constructs of Cho et al. (2015) and Przybylski, 2013 were used respectively. Furthermore, the concept of social media fatigue and discontinuous usage behavior is assessed using items from the research of Maier et al. (2015b).

Every item of the construct was assessed with a 6-point Likert scale, spanning from strongly disagree (1) to strongly agree (6).

2.2 Sample and Data Collection

Online survey was cascaded using Google Forms. The particular SNS to be used is Facebook because it is the most widely used platform in the Philippines. The study sample was from Filipino users of Facebook aged adults whose minimum age is 18. A snowball sampling technique through Facebook was used to recruit participants. The survey link was posted on Facebook, and participants were instructed to complete the survey, and they can share the link within their social circle.

Structural equation modeling (SEM) has been employed in this study to investigate and evaluate the impact of the research constructs (Hair et al., 2019). According to Ringle et al. (2005), SEM is a statistical method that utilizes factual data and statistical figures to evaluate the validity of a theory. Lastly, Smart PLS 4 software was used to test the various hypotheses presented in this study empirically.

3. RESULTS AND DISCUSSION

The data were analyzed in this study through the following ways. First, a descriptive analysis was conducted to describe the demographic profile of the respondents. Table 1 presents a breakdown of demographic data, specifically gender and age distribution, for a sample of 105 individuals.

A bootstrapping process with 5,000 iterations (Kashyap & Agrawal, 2020) was conducted to evaluate the statistical importance of the constructs' weights and path coefficients. In line with Hair et al.'s (2019) recommendation, a two-stage method for data

analysis has been implemented to assess both the measurement and structural models.

Table 2. Demographics of respondents

Variable		Frequency	Percentage
Gender	Male	48	45.7
	Female	57	54.3
Age	18-24	16	15.2
	25-34	60	57.1
	35-44	19	18.1
	45-54	8	7.6
	55-65	2	1.9

Pearson Correlation was performed to measure linear relationship between each construct. From the diagram shown below, the strongest correlation ($r > 0.5$) is the linear relationship between Fear of Missing Out (FMO) and Social Overload (SO). Additionally, Social Media Fatigue (SMF) and Discontinuance behavior (DB) also exhibited the similar strong coefficient. As for other overload dimensions, Information Overload (IO), System Feature Overload (SFO), and Social Overload (SO) presented a moderate correlation between Discontinuance Behavior (DB). Meanwhile Communication Overload (CO) is the only dimension that has a weak correlation towards Discontinuance behavior.

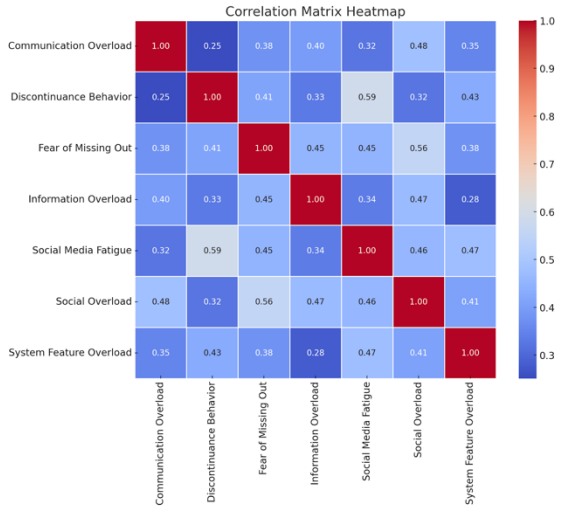

Figure 1. Correlation Matrix

A Confirmatory Factor Analysis (CFA) was done to quantify the model fit of the constructs. The model's chi-square test is significant, which suggests a poor exact fit. However, χ^2 is highly sensitive to sample size, so other fit indices should be considered. Thus, the Comparative Fit Index (CFI), Standardized Root Mean Square Residual (SRMR), and Root Mean Square Error of Approximation (RMSEA) were used as good indicators of model fit since the values are within the acceptable range, as suggested by Hair et al. (1998).

Table 3. Model Fit Indices

Model Metric	Results
χ^2	304
df	254
p	0.171
CFI	0.886
SRMR	0.0749
RMSEA	0.0435

The structural model underwent an evaluation utilizing path coefficients (ß) and p-value. Table 3 represents the outcomes of the hypothesis testing. The study results revealed that information overload ($ß = 0.110$, $p > 0.05$) and communication overload ($ß = 0.044$, $p > 0.05$) have no significant impact on social media fatigue and do not support the hypotheses H1 and H3. On the other hand, social overload ($ß = 0.251$, $p < 0.05$) and system feature overload ($ß = 0.326$, $p < 0.05$) have positive and significant impacts on social media fatigue and support the hypotheses H2a and H4. Similarly, Fear of Missing out significantly impacted social overload ($ß = 0.557$, $p < 0.05$) and supported hypothesis H3b. Finally, social media fatigue has a positive and substantial impact on SNS usage behavior ($ß = 0.583$, $p < 0.05$) and level of happiness ($ß = 0.590$, $p < 0.05$). Therefore, the results validated the proposed hypothesis H5.

	Relationship	β	p-value	Decision
H1	Information Overload -> SNS Fatigue	0.110	0.340	Not Supported
H2a	Social Overload -> SNS Fatigue	0.251	0.011	Supported
H2b	Fear of Missing Out -> Social Overload	0.557	0.000	Supported
H3	Communication Overload -> SNS Fatigue	0.044	0.675	Not Supported
H4	System Feature Overload -> SNS Fatigue	0.326	0.000	Supported

The current study accommodates overload as a core determinant of SNS addiction. It identifies overload as techno stressors, which are pinpointed as the drivers of why users of social media experience technostress. The first hypothesis (H1) pointed out that although there is a moderate correlation between information overload and discontinuance behavior, the p-value of H1 is still rejected. A study by Zhao et al. (2022) found that younger users experience less technostress from information overload as they are more accustomed to high levels of digital engagement. Thus, this aligns with the data collected from the study since the majority of the respondents of this study are young professionals (25-34 years). Younger adults are found to have a higher tolerance for information overload because they are used to constant digital engagement (Zhao et al., 2022). Similarly, LaRose et al. (2014) uncovered that younger individuals saw high information flow as a standard part of social media use rather than a stressor. Therefore, an increase in information overload does not mean an increase in SNS Fatigue.

Examining H2a, the second hypothesis is accepted in terms of its significance. Social overload significantly contributes to the emergence of social media fatigue. When individuals sense a compulsion to participate in ongoing and intense online engagements, their emotional and mental health suffers, which results in withdrawal and a decrease in social media participation (Zhang et al., 2016). Hence, a heightened social overload plays a significant role in SNS fatigue.

Bearing the strongest correlation, H2b is also supported since the results display the Fear of Missing out as the primary predictor of social overload. People who experience high levels of FOMO tend to overcommit themselves to social activities to maintain connections and prevent feeling left out (Przybylski et al., 2013). This over-involvement results in numerous social responsibilities, leading to stress and exhaustion. Therefore, FOMO directly contributes to social overload by driving excessive SNS engagement.

Another rejection of the p-value is the third hypothesis (H3). Even though communication overload causes stress and frustration, it does not necessarily lead to social media discontinuance. Maier et al. (2015) discovered that individuals frequently cope with communication overload by altering how they engage rather than stopping their use of social media. Common coping mechanisms include (a) muting notifications to reduce message bombardment, (b) filtering interactions by prioritizing important conversations, and (c) using message scheduling to control response time. Justifying this, communication overload is more of an operational challenge than an emotional burden. Therefore, increased communication overload does not contribute to greater SNS fatigue.

The fourth hypothesis (H4), the p-value is also supported since system feature overload also contributes to negative user experiences, making it a key predictor of discontinuance behavior (Dhir et al., 2018). System feature overload makes social media less enjoyable by complicating simple interactions. Koch et al. (2012) learned that individuals bombarded with too many features are more inclined to halt using a platform entirely. Hence, it is anticipated that with the rise in system feature overload, there is also an increase in SNS fatigue.

Lastly, the fifth hypothesis (H5) pertains to techno strain (Social Media Fatigue) and techno outcome (Discontinuance Behavior). This study revealed a strong correlation between these two variables. As a result, the study's findings supported the arguments of Maier et al. (2015) by exhibiting how users experiencing fatigue find social media less enjoyable, leading to withdrawal from platforms. Therefore, H5 is supported because higher SNS fatigue leads to greater discontinuance behavior as users seek relief from digital exhaustion.

4. CONCLUSIONS

The double-edged nature of information systems (IS) has garnered the attention of researchers over the years. By employing a quantitative approach and utilizing correlation and structural equation modeling, the research validates the relationships between dimensions of social media overload as key predictors of SNS fatigue. The study also showed how SNS fatigue affects discontinuance behavior, suggesting that disengagement from SNS can reduce technostress.

Prior studies on technostress illustrate how users encounter feelings of overload in developed countries. However, localizing it in the Philippine context addresses the geographical gap made by previous studies. The study's implications also extend the literature on personal use of IS, providing a deeper understanding of the psychological and behavioral consequences of excessive SNS use. In conclusion, these conceptual developments can benefit researchers and practitioners by enabling them to understand the responsible and ethical use of information systems, specifically social media.

5. ACKNOWLEDGMENTS

The author would like to acknowledge, Dr. Raymund Sison for his insight and expertise to support this research endeavor.

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