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Assessing the Negative Determinants on the Usage Intention of Social Media

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Abstract

Since the development of the Internet jumped quickly, the user can perform a variety of social media information and communicate via computers, mobile phones and other smart devices. Social media can be presented in many different forms, including text, images, music and videos. Under the high popularity of social media usage, users will share information on community self-media platforms, including personal ideas, feelings and experiences. However, social media is one of the sides of a virtual network that allows users to bring convenient, instant, etc. But they also bring negative factors can't be predicted for users, such as: lack of privacy controls, social media into hidden problems. Due to these reasons, users can cause by long-term excessive use of social media, and make themselves feel fatigue social of psychology. The study investigates whether the negative factors will affect users of social media for social impact of fatigue, use Google questionnaires to collect samples of the web results. To sum up, the conclusion of the study showed that most of the negative factors of social media are social media users will feel social fatigue.

Keywords: Social Media, Negative Factors, Social Fatigue, Partial Least Squares

1. Introduction

Due to the rapid development and fusion of the Internet, users can use computers, mobile phones, and other smart devices to deliver and communicate a variety of information through social media, which has the advantage of not being limited by time and space, and is highly interactive, low-cost, and even responsive (Chen et al., 2012). Social media is a virtual network platform that users use to create, share, and exchange ideas and experiences with each other, and the most significant difference between social media and mass media is that it allows users to enjoy more choice and editorial power to assemble themselves into some kind of online sharing community. And social

media can come in many different forms, including text, images, music and video clips, such as Facebook, Twitter, Plurk, Instagram, Google+ and other social media. With the high usage of social media, some social media users are already experiencing Social Media Fatigue.

On the other hand, social media has created a new virtual society on the Internet through its potential social functions and leisure needs, and has successfully captured the hearts of users through the advantages of two-way communication and interactive exchange. However, according to a survey conducted by Sophos, a UK-based Internet security provider, the privacy of Facebook users is poorly protected, with 60% of users considering abandoning Facebook due to privacy concerns. Depending on the user's Internet privacy, the level of Internet privacy, and the user's personality, the higher the user's level of Internet privacy, the higher the user's level of privacy protection will be, which will cause the user to refuse to use social media.

In previous studies, researchers have focused on the positive causes of social media use, such as sending and receiving messages in real time, expanding social relationships, and information dissemination, to explore users' intention to use social media through positive causes. However, social media itself is a two-sided virtual network. Social media brings convenience, immediacy, and entertainment to users, but it also brings unexpected negative consequences, such as privacy frustrations and perceived lack of control, social comparison, social comparison, SNS addiction and other negative causes (Lin, 2013; Masur et al., 2014; Fox & Moreland, 2015). In addition, some studies have demonstrated that excessive addiction to social media can reduce happiness levels (Chou & Edge, 2012; Chen & Lee, 2013; Kross et al., 2013), as can indifference in student relationships or lead to couple breakups (Marshall, 2012; Fox et al., 2013). al., 2013; Tokunaga, 2014; Bevan et al., 2014). Therefore, in order to understand the consequences of the negative attributes of social media to the users, the negative attributes of social media were included in this study.

However, Lin's (2015) research indicates that many social media users consider whether to continue using social media because of the social fatigue caused by the negative aspects of social media. According to Krämer & Winter (2008), social media users are expressing themselves on their own social media platforms in order to actively participate in social media and to reveal their feelings about themselves. Revealing feelings, emotions and experiences, when these self-revealing behaviors lack privacy and control, can be easily stolen and abused by those who want to get away from using social media. Summarizing the above, the objectives of this study are as follows:

- 1) To explore whether the negative causes of social media influence the users' level of social fatigue.
- 2) The theoretical and practical contributions of the proposed research model in this study are discussed through a two-stage structural equation model analysis (measurement model and structural model analysis).

2. Literature Discussion

2.1 Negative factors

The rapid development of information technology has rewritten the way people communicate with each other, and face to face communication is no longer the main method. The convenience of social media also affects the daily lives of individuals and attracts the attention of corporate organizations because companies can create business opportunities by publishing advertising messages through social media, such as posting their brand's video ads, photos and brand stories on their social media pages.

Although social media can be a great way to communicate and make our lives easier, past research has shown that there are negative aspects of social media that make users refuse to use it. The negative aspects of social media are also according to Bevan et al. (2014) who stated that excessive use of social media or spending too much time on social media can reduce one's quality of life, Chen & Lee's (2013) study also noted that social media can link to other users' personal pages to generate jealousy or comparison, which can lower users' self-esteem, over-perception of self, and feelings of pressure to use social media. Lin's (2013) study also mentions negative factors of social media, such as: an interface that is too easy to use, causing users to expose their user information, too many

advertisements on users' interfaces, difficulty in protecting personal privacy, over-reliance on social media, social fatigue of users, individuals wasting too much time using social media, gossiping about others, and social constraints. Fox & Moreland (2015) conclude that there are five negative factors associated with the use of social media, such as: managing inappropriate or annoying content, being tethered to social media, lack of privacy control, social comparison and jealousy, and relationship tension and conflict in social media; On the other hand, Masur et al. (2014) also mention online invisibility as a negative factor of social media, such as: loss of control, tolerance, Social Media Withdrawal syndrome, Negative consequences for social relations, Negative consequences for work and performance.

2.2 Social fatigue

Fatigue is a physiological change that occurs when the human body loses its function or disrupts itself. In other words, when the environment changes or when the body is tired of someone and lacks interest in something, the body experiences changes in function, material changes, conscious fatigue, or changes in efficiency. With the proliferation of smart devices, the number of people using social media (e.g., Facebook, Twitter) has increased dramatically, but so has the number of people who feel psychologically exhausted from using social media. Hochberg et al. (2013) mentioned that in general, fatigue is a feeling of chronic tiredness and reduced interest in things and Ukaegbu et al. (2014) also stated that fatigue is a subjective feeling or a lack of interest in things.

Yamakami (2012) refers to many past studies that have shown social fatigue in users who overuse social media to publish their experiences, describing symptoms of psychological fatigue in the context of social media use. According to a report in the Korean Central Daily News (2013/9/14), whether it's using social media all the time to check if a friend has passed on a message, using social media to express one's personal feelings, or being under peer pressure to compare, the repetitive effects over time can cause social media users to experience psychosocial fatigue, They may even become addicted to social media, which affects their daily lives and may be overly sensitive to the online world's authentication and evaluation.

In an article by Lee et al. (2016), it is also noted that social media provides a platform for users to express themselves and facilitate their adjustment to the advent of social media. However, overuse of social media can have unintended consequences, one of which is social fatigue, although it is not always easy to see. This social fatigue refers to the psychological fatigue users feel when using social media for subjective or self-assessment purposes. With the extensive use of social media, users become obsessed or expect other users to respond to their posts in real time; therefore, in order to meet these expectations, users need to continuously pay attention to their own social media, which causes them physical and psychological stress as they are overloaded with information, communication, and system functions.

Moreover, the social fatigue of social media goes beyond the overuse of social media. The article by Hong et al. (2015) also mentioned that there are many factors that contribute to social fatigue (Table 1). For example, self-disclosure, social interaction or knowledge sharing, social pressure, privacy violations, etc., can burden social media users and lead to psycho-social fatigue in the process.

Table 1: Factors influencing social media fatigue

Influencing factor	definitions
Worry about the personal information leakage and the privacy invasion	The fatigue comes from fears about personal information leaks and privacy violations.
Social Pressure	Fatigue is caused by undesirable behaviors or expressions of atmosphere and social stress.
Undesirable relationships	Fatigue comes from being connected to an unknown user.
Burden on the social media	Fatigue is the social media that takes time to try to sustain itself.

Source: Hong et al. (2015) and this study.

3. Research Design

3.1 Operational definitions of research variables

The variables in this study include two dimensions of social media negativity and social fatigue. The variables are organized into operational definitions based on the literature, which are listed in Table 2.

Table 2: Definition of constructs

Measurements	Variable operation definition	Reference source
Loss of control	It is difficult for social media users to control the amount of time they spend on social media and to continue using social media for a long period of time.	Masur et al. (2014); Lin (2013)
Withdrawal syndrome	With limited Internet access or long periods of disconnection, social media users are anxious and eager to use social media.	Masur et al. (2014); Lin (2013)
Negative consequences for social relations	Social media users will use social media to the detriment of important people (family/friends) etc., resulting in a decline in social relationships.	Masur et al. (2014); Lin (2013); Fox & Moreland (2015)
Negative consequences for work and performance	Social media users will use social media to the detriment of their work/school performance, resulting in reduced self-esteem.	Masur et al., (2014); Lin (2013); Fox & Moreland (2015)
Managing inappropriate or annoying content	Social media cannot keep users' personal information securely and filter inappropriate content.	Fox & Moreland (2015)
Lack of privacy and control	Social media cannot properly control a user's privacy, for example, by exposing personal information and messages.	Fox & Moreland (2015); Liu et al., (2014)
Relationship tension and conflict	Conflicts of opinion arise when a user expresses an opinion that differs from that of other users.	Fox & Moreland (2015)
Tolerance	Social media users continue to spend more and more time using social media.	Masur et al. (2014); Lin (2013)
SNS Fatigue	Social media users are tired of using social media or are not interested in social media.	Lin (2015); Yamakami (2012)

3.2 Hypothesis derivation and research framework

Past studies have found that social media brings many positive factors to users, such as a sense of belonging and community awareness (Chang & Zhu, 2012; Chen et al., 2012; Wu & Chen, 2015). And recent studies have suggested many negative factors of using social media, such as exposure to personal privacy risks, product marketing advertisements, and online invisibility (Lin, 2013; Masur et al., 2014; Lin, 2015; Fox & Moreland, 2015). According to Masur et al. (2014), the literature exploring online invisibility assumes that users lack autonomy and use social media to expose themselves and their self-expression, use social media to introduce

themselves to other social media users, or use social media to escape from reality. The results of the study show that users will still be invisible to the social media network, even if they are offline. Fox & Moreland's (2015) findings on negative social media also cited five negative social media factors that affect users' intention to continue using social media. And synthesizing the above two literatures, this study proposes eight negative factors to be explored as negative factors. According to Lin (2015) who confirmed that social media negatives affect users' satisfaction and lead to social fatigue with social media, and Yamakami (2012) who stated that overuse of social media can make users feel socially fatigued, Lin (2015) identified social media negatives and social fatigue as negative effects in his study. Based on the aforementioned related studies, the following hypotheses are proposed for this study:

According to Masur et al. (2014) and Lin (2013) literature, users will have difficulty controlling the amount of time they spend using social media compared to the expected increase in time spent using social media due to internet addiction to social media, and attributing the difficulty control factor to a form of internet addiction is a negative factor for users of social media. However, in Lin's (2015) study it was also confirmed that the negative aspects of social media would lead to social fatigue felt by social media users, hence hypothesis H1:

H1: Social media users have a positive and significant impact on social fatigue due to difficulty controlling their use of social media.

According to Masur et al. (2014) and Lin (2013) literature, users become dependent on social media due to internet addiction to social media use and feel anxious and uneasy after not using social media for a long period of time, and the social media syndrome factor is categorized as a form of internet addiction, which is a negative factor of social media for users. However, in Lin's (2015) study it was also confirmed that the negative aspects of social media would lead to social fatigue felt by social media users, hence the hypothesis H2:

H2: Social media users have a positive and significant impact on social fatigue in social media syndrome.

According to Masur et al. (2014) and Lin (2013) in their literature, users can become addicted to social media due to internet addiction and neglect the negative social relationships that result to those important to the user's surroundings (family, friends, etc.) Fox & Moreland (2015) also referred to social media as a way to keep oneself disconnected from social media use due to peer relationships or a desire to stay connected to other users. Lin (2015) also confirmed in his study that the negative aspects of social media would lead to social fatigue felt by social media users, thus hypothesis H3 was proposed:

H3: Social media users have a positive and significant impact on social fatigue in terms of social media social relationships.

According to Masur et al. (2014) and Lin (2013) literature, users can become addicted to the use of social media and neglect what they are supposed to do, resulting in negative job performance, which is categorized as a social media negative. Fox & Moreland (2015) also mentioned that social media users would recommend their friends to use social media with them, and that social media users would have to spend time browsing and responding to other users' activities, leaving them less time to concentrate on their work or studies and less time to communicate with each other face-to-face. It was also confirmed in Lin's (2015) study that the negative aspects of social media will lead to social fatigue felt by social media users, hence the hypothesis H4:

H4: Social media users have a positive and significant impact on social fatigue in terms of their social media performance.

According to Fox & Moreland (2015) literature, users may experience mild irritation with inappropriate social media content ranging from irritation, surprise, and disgust, making inappropriate content management a negative factor in the use of social media. It was also confirmed in Lin's (2015) study that the negative aspects of social media will lead to social fatigue felt by social media users, hence the hypothesis H5:

H5: Mismanagement of social media content positively affects social fatigue among social media users.

According to Fox & Moreland (2015) and Liu et al. (2014), users pay considerable attention to personal privacy in social media, and the failure of social media to protect users' privacy leads to personal outflow, making the lack of privacy control a negative factor in the use of social media. Ho et al. (2009) also noted that social media does not provide users with adequate privacy protections such as security, personal information, reputation, and reliability. While social media facilitates interaction and communication between users, users may also be concerned that over-expression of their personal information on social media may expose their privacy. According to Stieger et al. (2013), a high level of online privacy is highly valued by Internet users, and as a result, many highly Internet-averse users refuse to use social media, and even turn off or delete social media. It was also confirmed in Lin's (2015) study that the negative aspects of social media will lead to social fatigue felt by social media users, hence the hypothesis H6:

H6: Social media users' lack of privacy control over social media positively affects social fatigue.

According to Fox & Moreland (2015), social media users can cause conflicts of opinion by posting articles via offline status. For example, the high visibility of social media posts makes it easy for other users to link to a personal profile, which can be used to create a topic of conversation and trigger a conflict of opinion. Users can be influenced by politics, morality, or current events to create topics that can be heatedly explored and commented on, thus causing other users to feel unhappy about negative comments or comments that are different from their own. It was also confirmed in Lin's (2015) study that the negative aspects of social media will lead to social fatigue felt by social media users, hence the hypothesis H7:

H7: Social media users' conflicting views on social media positively affect social fatigue.

According to Masur et al. (2014) and Lin (2013), users tolerate their increasing time spent using social media due to internet addiction to social media, and categorizing the social media tolerance factor as a form of internet addiction is a negative factor for users of social media. According to Hsu & Lu (2004) and Koo (2009), the flow experience of online games will positively influence the willingness to use online games, which means that the addiction to online games will positively influence the players' willingness to use online games. Literature we can illustrate that social media tolerance is a stream-of-mind experience, and that social fatigue itself is one of the attitudes. Referring to the above literature, we propose hypothesis H8:

H8: Social media users' tolerance for social media is negative significantly affecting social fatigue.

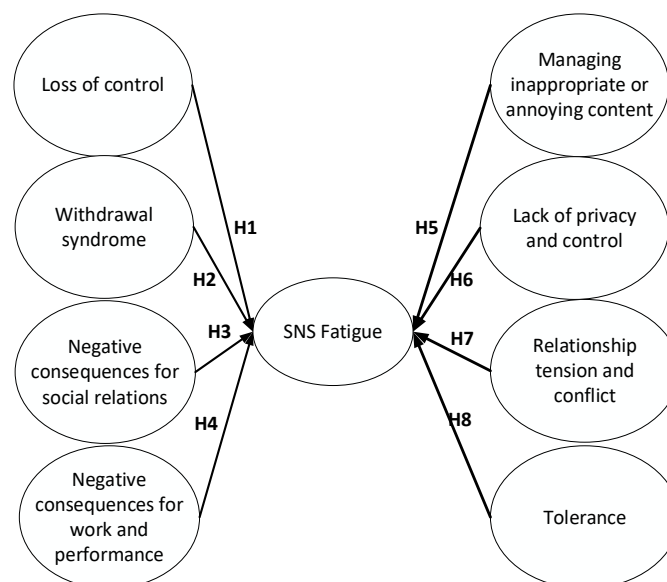


Figure 1: Research Framework

Table 3: Research Hypotheses

Hypothesis	Path direction
H1: Social media users have a positive and significant impact on social fatigue as they find it difficult to control their use of social media.	LC → FAT
H2: Social media users showed a positive and significant impact on social fatigue.	WS → FAT
H3: Social media users have a positive and significant impact on social fatigue in terms of social media social relationships.	SR → FAT
H4: Social media users showed a positive and significant impact on social fatigue in terms of social media job performance.	WP → FAT
H5: Mismanagement of social media content positively affects social fatigue among social media users.	MIAC → FAT
H6: Social media users' lack of privacy control over social media positively affects social fatigue.	PR → FAT
H7: Conflicting views of social media users positively affect social fatigue.	FIG → FAT
H8: The negative trend in social media users' tolerance for social media significantly affects social fatigue.	TL → FAT
Note: FAT=Fatigue; FIG=Fighting on and about Social Media; LC=Loss control; MIAC=Managing inappropriate or annoying content; PR=Privacy frustration and perceived lack of control; SR=Negative consequences for social relations; TL=Tolerance; WP=Negative consequences for work and performance; WS=Withdrawal syndrome	

3.3 Questionnaire Design

Based on the aforementioned proposed research purpose, research framework and operational definition organization, this study questionnaire was designed with reference to the relevant literature for questionnaire content design. During the design process, the questionnaire was discussed with professors in related fields, and was revised several times. The question on the "negative aspects of social media" was modified from Lin (2013), Masur et al. Withdrawal syndrome, Negative consequences for social relations, Negative consequences for work and performance, managing inappropriate or annoying content, Privacy frustration and perceived lack of control, Fighting on and about Social Media, and Tolerance.

In this study, "social fatigue" was based on the social fatigue questions developed by Yamakami (2012) and Lin (2015) and modified as a measure of "social fatigue". A seven-point Likert scale was used for each construct, ranging from strongly agree (7) to strongly disagree (1), as shown in Table 4.

Table 4: Questionnaire design

Loss of control: Lin (2013); Masur et al., (2014)
LC1 When I'm browsing social media, I often think "in a few minutes", but I have trouble controlling when I end up on social media!
LC2 I spend a lot more time on social media than I expected.
LC3 I often try to reduce my time spent on social media, but to no avail
LC4 I sometimes worry that I spend a lot of time on social media.
Withdrawal Syndrome: Lin (2013); Masur et al., (2014); Fox & Moreland (2015)
WS1 I get nervous when I don't have access to social media for a period of time.
WS2 When I can't use social media because I haven't used it for a while (e.g. when I'm away on a trip or on vacation), I get antsy and want to know what other people are up to.
WS3 Am I missing dynamic messages on social media when I'm not online?
WS4 When I'm not online, I want to know about updates on social media.
Negative consequences for social relations: Lin (2013); Masur et al. (2014)
SR1 I use social media less to interact with my real-world friends.

SR2 People who are important to me (e.g., friends, family) tell me that using social media is a bad decision.

SR3 People who are important to me (e.g., friends, family) often complain that I spend too much time using social media.

SR4 Since I started using social media, I've noticed that some of my friends are drifting away from me.

Negative consequences for work and performance: Lin (2013); Masur et al., (2014); Fox & Moreland (2015)

WP1 I often use social media at my work/campus location.

WP2 My use of social media often interferes with my work or studies.

WP3 I often neglect what I'm supposed to be doing because I'm using social media.

Managing inappropriate or annoying content: Fox & Moreland, (2015)

MIAC1 When I use social media, I often see my friends post angry or frustrated messages.

MIAC2 When I use social media, I can get important personal messages from my close friends.

MIAC3 When I use social media, I often see content that is violent, obscene or inappropriate

Privacy frustrations and perceived lack of control: Liu et al., (2014); Fox & Moreland, (2015)

PR1 Generally speaking, when I use social media, it is risky to send messages to others.

PR2 When I use social media to send messages to others, there is a high risk that my personal information will be exposed.

PR3 When I use social media, I don't give people much information about me.

PR4 Providing personal information about others and myself at a time when social media involves many unanticipated issues.

PR5 When I use social media, I feel safe giving others my private information.

Fighting on and about Facebook: Fox & Moreland, (2015)

FIG1 When I use social media, other users care if you respond to their activity.

FIG2 When I use social media, I'm expressing my opinion, and I'm in conflict with other users.

FIG3 When I use social media, I'm not getting along with my friends because I'm posting inappropriately.

Tolerance: Lin (2013); Masur et al. (2014)

TL1 Until now, I've been spending more time on social media.

TL2 The amount of time I spend browsing social media continues to increase.

TL3 I wish I had more time to browse social media.

SNS Fatigue: Yamakami (2012); Lin (2015)

FAT1 When I use social media, I may be receiving too much information.

FAT2 When I use social media, I can't always afford to overload myself with information.

FAT3 When I use social media, it doesn't find the information I'm looking for quickly enough.

4. Results

After the design of the draft questionnaire of this study was completed, it was verified with the professors in the related research fields that the content of the scales designed in this study conformed to the meanings mentioned in each research construct in order to meet the expert validity. After the questionnaire was amended, social media users were invited to complete the questionnaire online in a convenient sampling method. The online questionnaire of this study specifically asked respondents whether they had experience in using social media. No data will be collected from inexperienced users to ensure that. A total of 485 questionnaires were collected and analyzed after the sampling survey. After eliminating the invalid questionnaires, the total number of valid questionnaires was 450. In this study, Smart PLS 2.0 and SPSS 18.0 were used as analysis tools. The analysis process is mainly divided into two stages: Outer Model Analysis and Inner Model Analysis. The first stage of the exomodel analysis focuses on whether the internal consistency, content validity, convergent validity, and discriminant validity of the data meet the criteria. The within-model analysis in the second stage examines whether the hypothesis of the path proposed by the research model holds or not.

4.1 Descriptive Statistic Analysis

The main purpose of statistical analysis in this study is to analyze the distribution of basic information of the sample, in order to gain a preliminary understanding of the distribution and characteristics of the sample. The

sample of this study was drawn from experienced users of social media. Please refer to Table 5 for the sample structure of this study.

According to Hair et al. (2010), a sample size of more than 100 is the minimum requirement for parameter estimation by best approximation because a small sample size may result in a large sample size. The results cannot be restrained or are inappropriate. The number of valid questionnaires for this study was 450. Therefore, the sample size of this study met the requirement of statistical analysis. In addition, the nine components and questions of this study are based on the relevant domestic and international literature, designed and revised according to the content of this study. Therefore, it means that the measure used in this study meets the criteria of content validity and therefore this study has a significant degree of content validity.

Table 5: Sample structure

Item	Variable	Number of people	percentage %
gender	males	281	62.4%
	female	169	37.6%
age	Under 20 years old	46	10.2%
	21-30 years old	314	69.8%
	31-40 years old	63	14.0%
	41 years old and above	27	6.0%
Academic qualifications	Senior High School (inclusive) or below	58	12.9%
	University (College)	320	71.1%
	Master's degree or above	72	16.0%
Occupation	Students	140	31.1%
	In Service	272	60.4%
	Unemployed & Others	38	8.5%

4.2 Measurement Mode Analysis

In this study, factor loadings greater than 0.5 were used as the evaluation criterion. If the factor loadings in the question do not reach the recommended values, they are not representative and should be deleted (Hair et al., 2010), otherwise they should be retained. In this study, a measurement model was used to validate the factor load of each question. The factor loadings of the other constructive questions, except for FAT1, FIG1, MIAC2, PR3, and WP1, which were deleted because of their low factor load, was used to verify the factor load of each question. The proposed values were all higher than the recommended value of 0.5 and were retained (Table 6).

According to Fornell and Larcker (1981), for a research model to have Convergent Validity, the following conditions must be met: (1) The factor load must be significant; (2) the composite reliability (CR) must be at least 0.6; and (3) the average extraction variation (AVE) must be at least 0.5. As shown in Table 6, the present model meets the conditions for convergent validity as identified by Fornell and Larcker (1981). In addition, the square root of AVE of each component is larger than the correlation coefficient of each component in terms of Discriminant Validity (as shown in Table 7), indicating that the measurement model in this study has discriminant validity.

Table 6: Factor Loadings, Reliability and AVE for Each Component

Structure	Pointer Variable	Factor loading	Composition Reliability	AVE
Loss Control	LC1	0.794	0.904	0.701
	LC2	0.815		
	LC3	0.878		
	LC4	0.860		
Withdrawal Syndrome	WS1	0.840	0.906	0.708
	WS2	0.875		

Structure	Pointer Variable	Factor loading	Composition Reliability	AVE
	WS3	0.780		
	WS4	0.866		
Negative consequences for social relations	SR1	0.755	0.873	0.634
	SR2	0.763		
	SR3	0.806		
	SR4	0.856		
Negative consequences for work and performance	WP2	0.926	0.917	0.847
	WP3	0.915		
Managing inappropriate or annoying content	MIAC1	0.824	0.829	0.708
	MIAC3	0.858		
Privacy frustrations and perceived lack of control	PR1	0.865	0.829	0.624
	PR2	0.872		
	PR4	0.602		
Fighting on and about Facebook	FIG2	0.903	0.910	0.835
	FIG3	0.925		
Tolerance	TL1	0.898	0.897	0.746
	TL2	0.934		
	TL3	0.748		
SNS Fatigue	FAT2	0.767	0.848	0.584
	FAT3	0.707		
	FAT4	0.841		
	FAT5	0.734		

Table 7: Correlation coefficient matrix and AVE square

	FAT	FIG	LC	MIAC	PR	SR	TL	WP	WS
FAT	0.873								
FIG	0.406	0.897							
LC	0.339	0.318	0.930						
MIAC	0.341	0.373	0.234	0.767					
PR	0.327	0.295	0.266	0.411	0.826				
SR	0.483	0.543	0.428	0.388	0.331	0.898			
TL	0.221	0.315	0.671	0.286	0.196	0.460	0.912		
WP	0.409	0.466	0.493	0.356	0.284	0.601	0.429	0.906	
WS	0.202	0.358	0.489	0.281	0.218	0.409	0.585	0.377	0.928

Note1: FAT=Fatigue; FIG=Fighting on and about Social Media; LC=Loss control; MIAC=Managing inappropriate or annoying content; PR=Privacy frustration and perceived lack of control; SR=Negative consequences for social relations; TL=Tolerance; WP=Negative consequences for work and performance; WS=Withdrawal syndrome

Note 2: The value of the diagonal bold italic font is the square root of the AVE value of each component.

4.3 Path Analysis

Based on the values of the indicators generated by the research framework, the path analysis of the test model is performed and the data from the analysis results are used to validate the research framework. This section mainly focuses on the path analysis of the proposed research model in this study, and uses Smart PLS software to conduct the Inner Model analysis, which is the Structural Equation Model mentioned in SEM method. Therefore, the main purpose of this section is to check whether the paths of each component are statistically significant, and to verify the influence and effect of each component.

Table 8 shows the results of the estimation of internal patterns in this study, while Figure 2 shows the results of the analysis of internal patterns in a graphical presentation. According to Table 8, six of the path coefficients have T-values greater than 2, indicating that two of the eight research hypotheses proposed in this study do not hold at the 95% confidence level.

Table 8: Results of the hypothesis testing

Research Hypothesis	Path Coefficient	t-value	Supported
H1: Social media users have a positive and significant impact on social fatigue as they find it difficult to control their use of social media.	0.201***	3.896	Yes
H2: Social media users showed a positive and significant impact on social fatigue.	-0.070	1.349	No
H3: Social media users have a positive and significant impact on social fatigue in terms of social media social relationships.	0.276***	4.977	Yes
H4: Social media users have a positive and significant impact on social fatigue in terms of social media job performance.	0.091	1.511	No
H5: Mismanagement of social media content positively affects social fatigue among social media users.	0.115*	2.055	Yes
H6: Social media users' lack of privacy control over social media positively affects social fatigue.	0.109*	2.033	Yes
H7: Conflicting views of social media users positively affect social fatigue.	0.143**	2.804	Yes
H8: The negative trend in social media users' tolerance for social media significantly affects social fatigue.	-0.139**	2.275	Yes

Note: * p-value<0.05, **p-value<0.01, *** p-value<0.001

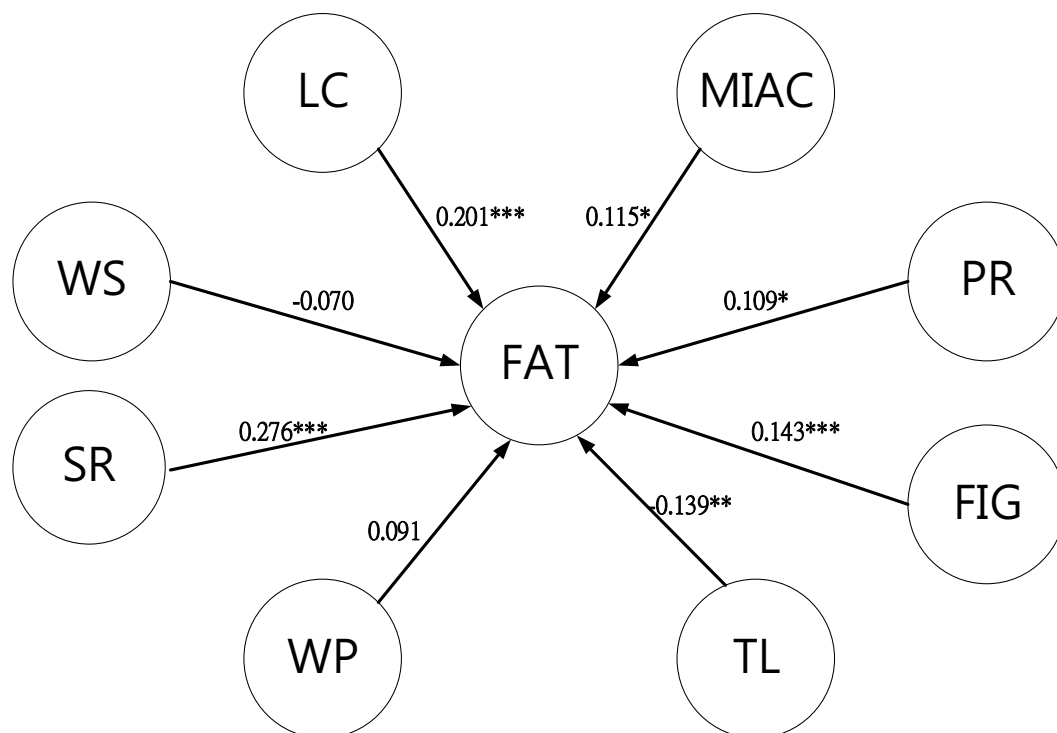


Figure 2: Inner-mode Path Analysis Results

5. Conclusion and Recommendations

This study is divided into three subsections to summarize the above empirical results, which are divided into research conclusions, management implications, research limitations, and future research directions, to illustrate the conclusions of this study after data analysis, to suggest the practical implications of the research results, management implications and recommendations, and finally to propose the research limitations and future research directions of this study for reference for future related research and studies.

5.1 Conclusion and Discussion

This study hypothesized that the results of the H1 study would indicate a positive and significant effect of social media users' perception of social fatigue due to difficulty controlling their self-use of social media. There was a positive and significant effect of social media users' difficulty in controlling the amount of time they spent browsing social media based on their difficulty in controlling the amount of time they spent browsing social media, which resulted in social fatigue from prolonged social media use. The concept of not being able to control one's use of social media is akin to being addicted to online games. It is necessary to replace the prolonged use of social media with other forms of recreation, such as exercise or fun, to distract the user's mind from the prolonged use of social media and to relieve social fatigue.

This study hypothesized that the results of the H2 study would indicate that there is no positive significant effect of social fatigue experienced by social media users on social media syndrome. Based on the fact that social media users do not use social media for a period of time, which causes anxiety to the user, the user does not experience social fatigue. Therefore, social media users had no significant positive effect on the social fatigue experienced by social media syndrome. Social media users do not get social fatigue from not using social media for a period of time because they spend their time on leisure activities such as traveling, playing, etc. Instead of focusing their minds on social media, social fatigue is not visible.

This study hypothesized that the results of the H3 study indicated a positive and significant effect of social media users' perception of social fatigue on their social relationships with social media. Social media users have a positive and significant impact on their social relationships with real-world friends, as they often spend less time with their

significant others (family, friends) when using social media. Social media users should allocate time for family, friends and significant others to get along with each other rather than indulge in social media to relieve social fatigue; Social fatigue can also be minimized by sharing tips on using social media so that they feel engaged, rather than ignored.

The results of this hypothesis H4 study indicated that there was no positive and significant effect of social media users' perception of social fatigue on social media performance. Based on the fact that social media users do not often neglect their work or study performance when using social media, social media users have a positive but not significant impact on social media performance. The use of social media did not affect the level of social fatigue on the self's performance at work and may have been the result of concentrating on work while working, as focusing on work did not make the user feel socially fatigued.

This study hypothesized that the results of the H5 study indicated a positive and significant effect of social media users' perception of social fatigue due to inappropriate content management in social media. Social media users perceived a positive but significant impact of social media content mismanagement based on the fact that social media users were often concerned about annoyance, surprise, and other content on social media, and the negative aspects of social media caused users to feel social fatigue. Social media operators should detect and remove inappropriate content from the text or content of social media users. If you report pornographic postings or other indecent content, you will be rewarded with a reward for reporting them, which maintains the social media culture and provides a good environment for users to use social media, while relieving social fatigue.

This study hypothesized that the results of the H6 study indicated a positive and significant effect of social media users' perception of social fatigue due to a lack of privacy control over social media. According to the negative aspects of social media users' use of social media, the lack of privacy control over social media will positively and significantly affect social fatigue due to the inability of social media to protect users' privacy. Social media operators should effectively control users' personal information, such as preventing hackers from accessing the database system and stealing users' personal information, so that users no longer have to worry about their personal information. The lack of privacy control prevents users from exposing too much information about themselves to social media to reduce the level of social fatigue they feel.

This study hypothesized that the results of the H7 study indicated that social media users' perceptions of social media opinion conflict were positively and significantly affected by social fatigue. According to the social media users, social media users may use social media by posting inappropriate comments. The negative aspects of social media cause social media users to feel social fatigue, so social media users' opinion conflicts on social media positively affect social fatigue. Social media is a platform for free speech, and every user can express their own opinion. If social media can manage inappropriate users, such as by banning them, it will reduce conflicts of opinion and social fatigue.

This study hypothesized that the results of the H8 study indicated a negative and significant effect of social media users' perceived social fatigue on their level of self-tolerance of social media use. Based on the negative and significant impact of social media users' tolerance for self-induced social fatigue due to increasing time spent using social media, tolerance for time spent using social media was found to be negative and significant. Tolerance is a mind-blowing experience in itself, and social fatigue will increase the longer you use social media, so social media companies should work with online game companies to develop window games that will interest social media users. For example, in the past, MSN or Instant Messenger allowed users to play mini-games with online friends in the course of chatting, which could help reduce social fatigue.

5.2 Management Implications

This study explores the relationship between the negative aspects of social media and social fatigue based on users' use of social media. It is hoped that this study will provide the academic and practical community with a deeper perspective on how to use social media in a way that avoids the negative aspects of social media that lead to social fatigue. Summarizing the results of the empirical analysis of this study, the following recommendations are made.

This study found that users will feel social fatigue due to the negatives of social media is established, it is clear to learn that if the negatives of social media are lower, the less social fatigue will be experienced by social media users. However, the rise of social media in recent years has led to an increase in the negative aspects of social media, and many social media users have stopped using social media. Therefore, we can infer that social media users will experience social fatigue due to the negative aspects of social media, making users gradually reject the use of social media.

Therefore, we can give different recommendations for managers, users, users' relatives and friends, etc., in that order:

- For managers: We need to think about how to mitigate the negative aspects of social media so that users are less socially fatigued and more likely to use social media. The primary focus is to protect the privacy and personal information of the user's social media, to keep that information inviolate, or to keep it from being exposed to other users, and to enhance the intention of using social media.
- For adult users: we should develop strategies to reduce social fatigue among users, for example, setting a time frame to avoid prolonged use of social media can help relieve social fatigue as adults are better able to manage themselves. If targeting child users: We can help the child set a schedule or teach the child the advantages and convenience of using social media, accompany him, guide him in the right way, and remain calm and respectful instead of jumping to conclusions and over-sensitizing the child.
- For the user's family and friends: We should help users not to become too addicted to social media use, for example, through outdoor activities to enhance the emotional connection between the user and the social media user, and to temporarily detach the user from social media use. The games can also be used to reduce social fatigue, e.g., at the dinner table, by centralizing smart devices and punishing the first person to use social media, which makes the games fun and allows users to bond with each other.

5.3 Research Limitations and Future Research Directions

This study aims to investigate the negative factors of social media, using respondents' use of social media on the Internet as the target population, and to obtain the convenience of sampling data, a random Internet survey was conducted. Although this study strives to be rigorous, time and manpower constraints may result in a narrow range of data sources and under-representation of data. In light of the above, this study suggests that subsequent researchers can separately investigate users' perceptions of social fatigue for different negative aspects of social media. By distinguishing between students and non-students, the relationship between social fatigue can be compared with that of Yamakami's (2012) study. In addition, this study examines social media as a whole using only the negative factors of social media and SNS fatigue as the main variables. If different variables such as IS Continuance Intention and Satisfaction can be added in future studies, the whole research topic can be improved.

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