Effects of Psychological Factors on Social Media Addiction and Hedonic Online Shopping Behavior

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ABSTRACT

When the COVID-19 pandemic began spreading in 2020, social media usage and online shopping underwent significant increases (e.g. Haddad, 2020; Kemp, 2020; Subudhi & Palai, 2020; J.P. Morgan, 2020; UNCTAD, 2020). As psychological factors and major life events play important roles in human behavior, this study was conducted to identify the relationships among several psychological factors and negative life events and their effects on adult consumer responses to social media addiction and hedonic shopping. Online and paper-based surveys were used to collect the data from Thai working adult consumers in Bangkok. Among the 403 returned questionnaires, 71.7% of the respondents were female and 28.3% male, with the average age being 36.04 years old. Most of the respondents were single, working for a company, and earning an average income of 50k–70k Baht.

The findings indicate that stress is inter-related with personal influence and coping responses. Structural equation modeling is applied for testing the conceptual model and its hypotheses. Personal influence and situational influence are explored. The results reveal that personal influence including

depression, loneliness, and self-esteem have a significant impact on stress. Of these personal influences, depression has the biggest impact on stress and, as expected, lower self-esteem leads to higher stress levels. Stress can be an important indicator of coping responses. The results also reveal that stress has a significant impact on social media addiction and hedonic online shopping behavior. However, situational life events also have an insignificant impact on stress and coping responses. These findings can be beneficial to the study of predictive models for social media addiction and hedonic online shopping where stress theory is applied. For future research, the direct and indirect effects of personal influences and coping responses should be emphasized as an expansion and contribution to the theory of stress and consumer behavior.

Keywords: Stress, Depression, Loneliness, Social Media, Social Media Addiction, Addiction, Hedonic Shopping

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บทคัดย่อ

ก ารใช้สื่อสังคมออนไลน์และการซื้อสินค้าออนไลน์ได้เติบโตขึ้นตั้งแต่ช่วงการแพร่ระบาดไปทั่วโลกของโควิด-19 ในปี 2563 (e.g. Haddad, 2020; Kemp, 2020; Subudhi & Palai, 2020; J.P. Morgan, 2020; UNCTAD, 2020) งานวิจัยนี้จึงได้ทำการศึกษาความสัมพันธ์ระหว่างปัจจัยทางจิตวิทยาต่าง ๆ และเหตุการณ์เชิงลบในชีวิตที่มีผลต่อการตอบสนองต่อการเสพติดสื่อสังคมออนไลน์ (Social Media Addiction) และการซื้อของเพื่อความเพลิดเพลิน (Hedonic Shopping) ของผู้บริโภคในวัยผู้ใหญ่ งานวิจัยชิ้นนี้เก็บข้อมูลจากผู้บริโภคชาวไทยวัยผู้ใหญ่ในกรุงเทพมหานครจำนวน 403 คนจากแบบสอบถามแบบกระดาษและออนไลน์ โดยร้อยละ 71.7 เป็นเพศหญิง และ 28.3 เป็นเพศชาย ซึ่งส่วนใหญ่สถานะโสด ทำงานบริษัท และมีช่วงรายได้เฉลี่ยระหว่าง 50,000-70,000 บาทต่อเดือน

ผลการวิจัยชี้ให้เห็นว่า ความเครียด (Stress) มีความสัมพันธ์เป็นตัวกลางระหว่างปัจจัยด้านอิทธิพลส่วนบุคคล (Personal Influence) และปัจจัยด้านการตอบสนองในการรับมือ (Coping Responses) ในการวิจัยได้มีการใช้การวิเคราะห์โมเดลสมการโครงสร้างในการทดสอบแนวคิดและสมมติฐานในการวิจัย โดยได้สำรวจปัจจัยด้านอิทธิพลส่วนบุคคล และปัจจัยด้านอิทธิพลของสถานการณ์ (Situational Influence) ซึ่งผลวิจัยชี้ให้เห็นว่าปัจจัยด้านอิทธิพลส่วนบุคคล ได้แก่ ภาวะซึมเศร้า (Depression) ความเหงา (Loneliness) และความภาคภูมิใจในตนเอง (Self-Esteem) มีผลต่อความเครียด

อย่างมีนัยสำคัญ โดยภาวะซึมเศร้าเป็นปัจจัยด้านอิทธิพลส่วนบุคคลที่ส่งผลต่อความเครียดมากที่สุด และความภาคภูมิใจ
ในตนเองที่น้อยลงนำไปสู่ความเครียดที่สูงขึ้น และความเครียดสามารถเป็นตัวชี้วัดที่สำคัญของปัจจัยด้านการตอบสนองใน
การรับมือ ผลวิจัยยังพบว่า ความเครียดมีผลต่อการเสพติดสื่อสังคมออนไลน์และการซื้อของออนไลน์ เพื่อความเพลิดเพลิน
อย่างมีนัยสำคัญ แต่เหตุการณ์สำคัญในชีวิตมีผลต่อความเครียดและการตอบสนองในการรับมืออย่างไม่มีนัยสำคัญ โดย
ผลการวิจัยนี้ จะเป็นประโยชน์ต่อการศึกษาแบบจำลองการพยากรณ์เกี่ยวกับการเสพติดสื่อสังคมออนไลน์และการซื้อของ
ออนไลน์เพื่อความเพลิดเพลินด้วยทฤษฎีที่เกี่ยวกับความเครียด นอกจากนี้ผู้วิจัยมีข้อแนะนำในการศึกษาผลทางตรงและ
ทางอ้อมของปัจจัยด้านอิทธิพลส่วนบุคคลและการตอบสนองในการรับมือ เพื่อต่อยอดทฤษฎีที่เกี่ยวกับความเครียดและ
พฤติกรรมผู้บริโภคต่อไป

คำสำคัญ : ความเครียด ภาวะซึมเศร้า ความเหงา สื่อสังคมออนไลน์ การเสพติดสื่อสังคมออนไลน์ ภาวะเสพติด การซื้อของ
เพื่อความเพลิดเพลิน

INTRODUCTION

With social media usage continuing to grow and annual spending on social media advertising passing $60 billion, social media is an interesting topic for marketers and researchers (Gil-Or, 2010; Smith, 2011). While social media's ability to grab consumers' attention easily in this digital era makes it a particularly useful tool for digital media advertisers, the downside is that it can create addiction in many users. For this reason, understanding social media addiction can help researchers and policy makers to ensure that social media channels and content are utilized properly without creating negative habits and long-term mental illness. However, there is a shortage of research seeking to explain the influential factors behind social media addiction and the phenomenon of excessive social media usage.

In this study, stress theory, which is widely used for understanding various occurrences in behavioral science, is employed to explain both the direct and the indirect factors affecting the use of social media and hedonic shopping. Previous studies have found that stress is a crucial mechanic in initiating undesirable behavior such as compulsive buying and materialistic characteristics (i.e., Rindfleish et al, 1997). Various consumption patterns occur as part of a coping mechanism in the adaptation process (Lazarus and Folkman 1984). However, few studies have utilized the stress model to explain consumption patterns in consumer behavior.

Building upon the previous literature, an exploratory model of stress theory is developed in this study in an attempt to explain social media addiction and hedonic shopping behavior and consequently to advance the knowledge in the field of consumer behavior. The initial factors of negative life events and human characteristics (self-esteem, loneliness and depression) are hypothesized to create stress and to be related to coping responses (social media addiction and hedonic shopping). Based on this study's results and the interpretation of its findings, the implications for practitioners and guidance for future research are addressed to enhance contributions to field and provide suggestions for future studies in this area.

BACKGROUND

Social Media Addiction

In 2020, most parts of the world were affected by various measures aimed at slowing the spread of COVID-19. According to *Google Mobility* Report tracker, billions of people around the world adapted their life to the 'new normal' by spending more time at home during lockdowns (Haddad, 2020). Even in January 2020, a few months before widespread lockdowns were implemented around the world, almost 60 percent of the global population was active online with 3.8 billion social media users worldwide (Kemp, 2020). According to the Digital 2020 Global Digital Overview report (*ibid.*), three-quarters of all internet users aged 16 to 64 globally indicated that they made online purchase every month, with the highest ecommerce adoption rates found in Indonesia, Thailand, and Poland. Recent studies conducted

in various countries also identified an increase in internet use during the periods of COVID-19 lockdown (Fernandes, Biswas, Tan-Mansukhani, Vallejo & Essau, 2020; Li, Sun, Meng, Bao, Cheng, Chang, Ran, Sun, Kosten, Strang, Lu & Shi, 2021; Subudhi & Palai, 2020). The global pandemic has also transformed consumption trends towards online shopping, with this change observed across the world and across sectors (J.P. Morgan, 2020). In emerging economies, the latest shift to online shopping is expected to have lasting effects (UNCTAD, 2020).

In response to the growing number of social media users globally, many studies have begun to investigate the issue of social media addiction. Addiction to social media or social networking sites (SNS) is a kind of internet addiction (Kuss & Griffiths, 2012) that results from a failure to self-regulate SNS usage leading to negative personal outcomes (LaRose, Kim & Peng, 2010; Ryan, Chester, Reece & Xenos, 2014). Social media addiction could occur to individuals who spend excessive time on social media to the extent that it becomes problematic to their personal, social, educational, and professional responsibilities (Şahin and Yagci, 2017, as cited in Baltaci, 2019). These individuals have such a desire to receive immediate notifications of anything on their social media sites that it may then consequently lead to virtual tolerance, virtual communication and virtual problems (Şahin, 2018).

Many studies have proposed scales to measure social media addiction. Addreassen, Torsheim, Brunborg & Pallesen (2012) developed *the Bergen Facebook Addiction Scale (BFAS)* which measures six core features of addiction: salience, mood, modification, tolerance, withdrawal, conflict, and relapse. *The Social Media Disorder (SMD)* Scale was developed by Eijnden, Lemmens, & Valkenburg (2016). The SMD scale contains a diagnostic cut-off point to identify those who are addicted to social media using nine criteria: preoccupation, tolerance, withdrawal, displacement, escape, problems, deception, displacement, and conflict. Şahin and Yagci (2017) proposed *the Social Media Addiction Scale-Adult Form (SMAS-AF)* to measure social media addiction in adults. Their scale comprised virtual tolerance and virtual communication sub-dimensions. *The SMAS-AF* was also adopted in many research studies, such as in the work of Baltaci (2019) and Ciplak (2020). Şahin (2018) also proposed *the Social Media Addiction Scale-Student Form (SMAS-SF)*, which consists of four sub-dimensions, namely virtual tolerance, virtual communication, virtual problems, and virtual information factors.

Hedonic Shopping

Shopping is considered a consumption-oriented activity in which a person has a tendency to make a purchase (Lehtonen & Maenpaa, 1997). While shopping for food and other essential items is a necessity, it can also be a pleasurable form of activity. The increasing importance of this hedonic view of shopping has been emphasized by both academics and practitioners. Many retailers, for example, try to respond to consumers' desire for entertainment and excitement in their shopping experience (Sit, Merrilees, & Birch, 2003).

Regardless of purchasing behavior, hedonic shopping is related to browsing, (Bloch & Richins, 1983), social interaction, sensory stimulation, and learning about new trends (Westbrook & Black, 1985). In most shopping situations, consumers may not seek only hedonic or utilitarian perceptions (Hirschman & Holbrook, 1982). Consumers could expect a pleasurable experience, such as receiving good service, whereas utilitarian shopping involves product acquisition. Hence, utilitarian and hedonic perceptions can be engaged simultaneously in the shopping experience (i.e., Babin & Darden, 1995; Babin, et al., 1994).

Hirschman and Holbrook (1982) described the emergence of hedonic consumption in relation to four aspects: mental constructs, product classes, product usage, and individual differences. The concept from their study has since been developed to include product symbolism and subjective aspects of consumption. As such, it now includes all facets of consumer behavior in relation to the multisensory, fantasy and emotive aspects of one's experience with products. The source of hedonism in shopping includes joy in the forms of the excitement of shopping or as an escape from daily activity (Hirschman & Holbrook, 1982). Hedonic shopping differs from instrumental (utilitarian) shopping, which entails shopping efficiency and making the right product choice based on a logical assessment of product information. Therefore, hedonic shopping is more subjective than utilitarian shopping and often results in fun and playfulness and involves emotions having an influence on purchasing decision and choice (Hirschman & Holbrook, 1982).

Theoretical Background

Increased recognition of stress as an unavoidable condition in an individual's life (Lazarus and Folkman 1984) has resulted in the theory of stress being widely used in behavioral science. However, it has received less attention in the sphere of marketing and consumer behavior. Many researchers (Viswanathan et al, 2005; Moschis, 2007) suggest that this theory can be applied to understand the causes of stress and consumption-based coping responses. A coping mechanism is an important adaption process which continually changes the cognitive and behavioral outcomes of people's lives and consumption behavior (Lazarus and Folkman 1984).

Grounded in psychological theory, stress involves internal or external changes of sufficient magnitude to threaten the organism's homeostatic equilibrium (Moschis, 2007, P.431). The term stress is defined as "any environmental, social or internal demand that requires the individual to adjust his/her usual behavioral patterns" (Thoits, 1995; p. 65). The assumption of this theory is that all changes and stimuli can create a stress condition which potentially requires readjustment or coping strategies to regain a normative state. The interactions between environments and individuals create two stages in the stress model: first, sources of stress, and second, consumption coping responses. In the first stage, people will make a cognitive assessment to identify the stimulus causing their level of stress to rise. The second appraisal involves individuals evaluating their existing resources, including physical, social

and material resources, in order to counter the presence and/or the effects of the stressful stimulus (Lazarus and Folkman, 1984).

In recent theoretical formulations, coping strategies as a consequence of stress are regarded as a way to resolve disruptions of balanced states through behavior adaption (Moschis, 2007, p. 433). This process includes both behavioral and cognitive efforts to manage stressful events or situations (Lazarus and Folkman, 1984). It can take the form of tension reduction behaviors, such as turning to alcohol consumption and shopping activities to help reduce stress. Often seen in recent practical behavior are various forms of escape behavior, such as overconsumption of social media including Facebook usage and shopping. Applying this escape theory, Heatherton and Baumeister (1991) observed that people who experience stress tend to over consume products or activities to help them reduce their focus on the consequences of the stress events they are currently experiencing. For example, stressed people may use social media to avoid recognition of their stress and reduce the focus on themselves. Also called relaxation purpose, this strategy is identified in the way people use social media to escape from their reality and to take their minds off stressful events (Whiting and Williams, 2013).

Engaging in activities that people enjoy, such as social media, shopping and impulsive spending (Burroughs and Rindfleisch, 2002), could be a coping response to relieve stress. Oropesa (1995) stated that people who enjoy shopping have lower stress levels and higher satisfaction levels. Both media consumption and shopping have been considered to be part of a stress relief process often referred to as "retail therapy". In particular, female consumers gain pleasure from visiting shopping malls to escape from the negative aspects of their life or work (Underhill, 1999). Moreover, shopping as a form of stress relief has been widely referred to as a therapeutic process and as compensatory consumption in retail literature (Woodruffe-Burton, 1998; Woodruffe, 1997); the alleviation of negative moods and the regaining of satisfaction in life is achieved through the shopping process.

HYPOTHESES

In addition to the stress theories, several studies have also found that psychological factors such as depression (e.g. Lee & Ko, 2017; Southwick, S. M., Vythilingam, M., & Charney, D. S., 2005; Lee & Kang, 2014; Lee & Kim, 2006; Thapar, Kerr, & Harold, 2009; Yanik, Erel, & Kati, 2004; Wang, Snyder & Kaas, 2001), loneliness (e.g. Campagne, 2019; Brown, Gallagher Creaven, 2017; Segrin, McNelis & Pavlich, 2017; Segrin & Burke, 2013), and self-esteem (e.g. Lee & Kang, 2014; Çelik & Odacı, 2020; Lee, 2016; Moksnes, Moljord, Espnes & Byrnee, 2010; Choi, 2010) are related to stress. Some studies have suggested that lower levels of depression are associated with higher usage of social media (Kross, Verduyn & Demiralp, 2013); however, there is no clear relationship between these two variables (Lin et at, 2016). Based on stress theory, mental health issues can be an important cause of stress leading to higher levels of social media usage and addiction.

Regarding an individual's personal characteristics, self-esteem has been found in different contexts to play a significant role in preventing stress and other mental health issues (i.e., depression) (e.g., Avison & McAlpine, 1992; Birndorf, Ryan, Auinger, & Aten, 2005). Self-esteem is defined as the overall positive or negative attitude towards the self (Rosenberg, 1965). People with low self-esteem tend to be sad and lonely, which leads to higher levels of stress and depression (Orth et al., 2014).

Previous behavioral science studies have identified social relationships as one of the requirements of fundamental fulfillment and the behavior adaptation process; loneliness is found to predict and be a cause of stress leading to mental health illness (Hawkley & Cacioppo, 2003). This study therefore proposes that:

H1: Depression has a significant impact on stress

H2: Loneliness has a significant impact on stress

H3: Self-esteem has a significant impact on stress

There has been extensive research into the causes of stress, with life stage changes or unexpected events especially negative ones such as loss of spouses or parents being found to interact negatively with normative roles and create stress (e.g., Cohen, 1988, Balkwell, 1985). Life events have been observed to be primary stressors (Pearlin, 1989). Although life events are a direct causal factor of stress in human beings, they can also cause indirect states of mind and behaviors such as depression and material consumption. Research on stress indicates that the stressfulness of an event depends on two main factors: life events and the characteristics of the person (e.g., Cohen 1988; Norris and Murrell 1984; Thoits 1995; Wheaton 1990). Stressful life events have been proven to affect stress levels and behaviors in adult consumers as shown in the stress model. Moreover, many studies have also identified direct impacts of life events on coping responses such as social media addiction (e.g. Li, Wu, Jiang & Zhai, 2018; Li et al., 2016) and online shopping (e.g. Hand et al., 2009). Thus, we hypothesize that:

H4: Stressful life events have a significant impact on stress

H5: Stressful life events have a significant impact on social media addiction

*H6: Stressful life events have a significant impact on hedonic online shopping*

The stress model also illustrates the impact of stress on consumption behavior as a coping response, which in this study is separated into 2 types: social media addiction and hedonic online shopping. Previous studies have also confirmed the relationship between stress and increased internet usage on social media platforms such as WeChat (Leung, 2006) and Facebook (Brailovskaia et al., 2019), while some studies (Keskin & Günüç, 2017; Zhao et al., 2016) have revealed the effects of stress on online shopping addiction. Especially among older people, it has been found that shopping and social activities can be a form of therapy for people who live alone (Bloch et al., 1991). The consumption

experience and the enjoyment from using social media can increase the satisfaction of consumers and reduce their stress levels (Kim, Kang & Kim, 2005). Therefore, this study proposes that:

H7: Stress has a significant impact on social media addiction

H8: Stress has a significant impact on online hedonic shopping

To sum up, the conceptual framework of this study is presented in Figure 1 below.
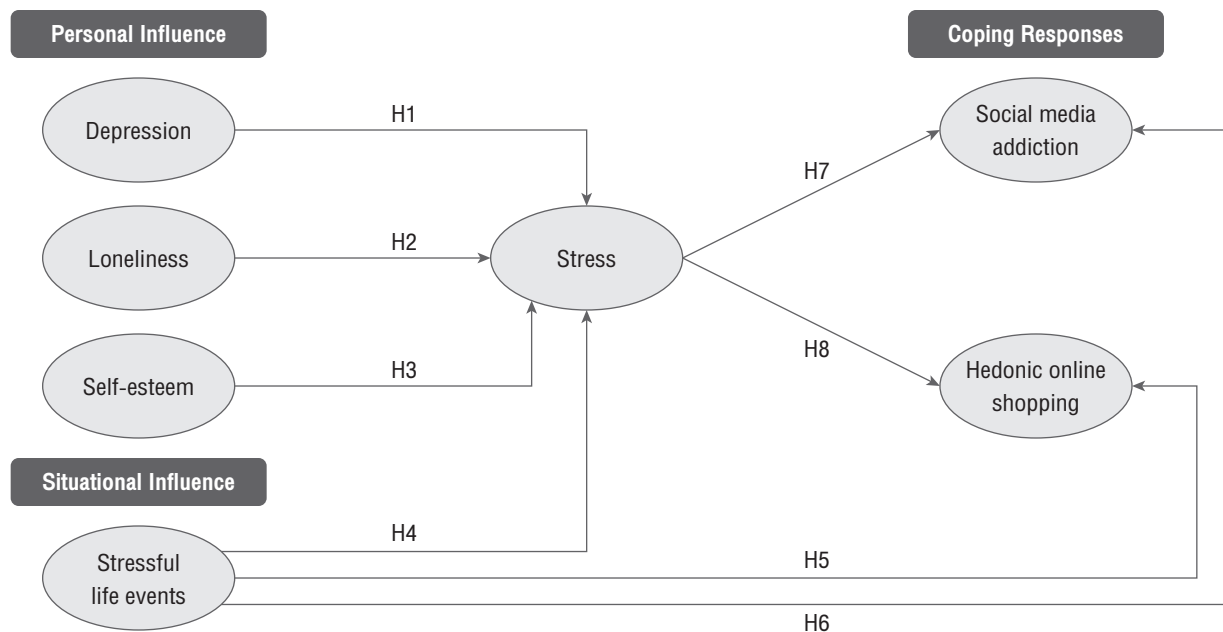
Figure 1: Conceptual Framework

Methodology

This study employed online and paper-based surveys as the research method. The data were collected from working adults in Bangkok, Thailand. The sampling methods used were purposive and convenience sampling. In the data collection process, the respondents were invited to complete a questionnaire. Of the 500 questionnaires which were distributed, 403 were returned. Respondents who had not participated in any shopping activities during the past 3 months and those who did not use any type of social media were screened out. This was to ensure that participating respondents had recent experience of either offline or online shopping and they were familiar with social media usage. The questionnaires were divided into 49.9% online and 50.1% paper-based to avoid any potential drawbacks from each data collection method.

The questionnaire was designed based on standardized scales and questions and it was comprised of 5 parts: screening questions, social media behavior, online shopping, psychological factors, and personal information. The measurements used for each variable are described below:

Stress was measured using the seven-item construct of the Depression, Anxiety and Stress Scale (DASS), which has previously been used in consumer and psychological tudies (e.g., Mathur et al., 2008; Burroughs and Rindfleisch, 2002). The questions were designed to ascertain how stressful the respondents' lives had been in the past month with responses measured on a four-point Likert scale, ranging from "not at all = 0, somewhat = 1, quite a lot = 2, a lot = 3." The alpha reliability coefficient of this scale was 0.628 (M = 1.34, SD = 0.44).

The measure for *depression* was adopted from the Depression Anxiety Stress scale (Lovibond, S.H. & Lovibond, P.F., 1995). The scale has been commonly used by hospitals and psychologists as a self-report evaluation for depression disorders. In this study, only the depression dimension was employed to evaluate this negative emotional state by using a four-point Likert scale, from "never = 0, sometimes = 1, quite often = 2, most of the time = 3." by using. With the alpha value for reliability test of 0.67 (M = 0.98, SD = 0.46), it shows acceptable result.

Loneliness was measured on a 5-points Likert scale adopted from the work of De Jong Gierveld and Van Tilberg (2006). This section included five items, such as "I feel alone and lonely", "I feel rejected by others", "I have someone I can talk to when I have a problem (R)". The reliability test results gave an value of 0.56 (M = 2.61, SD = 0.58). Reversed items can cause lower reliability due to the mixing of positive and negative word items (Herche, J., & Engelland, B., 1996).

Self-Esteem was measured by asking the respondents to evaluate their level of self-esteem on a seven-point Likert scale for a single item (1 = lowest, 7 = highest) which was adopted from the work of Brown (2008). The mean and standard deviations were equal to 5.80 and 0.99 respectively. A value of Cronbach's Alpha reliability should not be calculated for a single item as it is inappropriate to make inferences based upon a single-item question (Gliem, J.A., & Gliem, R.R, 2003).

The measure for *life events* was adapted from a similar list used in the work of Mathur et al. (2008), such as getting divorced, losing a spouse, or losing a job. The respondents were asked to indicate whether they had experienced any of the negative life events from the list in their lives. The index was calculated by summing up the number of events the respondents had experienced.

The *hedonic shopping* measure was adopted from the gratification shopping dimension by Arnold & Reynolds (2003). It consisted of three items: "1) "When I am in a low mood, I go shopping to make myself feel better"; 2) "To me, shopping is a way to relieve stress" and 3) "I go shopping when I want to treat myself to something special." The alpha reliability (0.77) showed acceptable results (M = 3.50, SD = 0.92).

Social media addiction was measured with a 4-point Likert scale within the range of 1 = Not at all and 4 = Very often. Higher scores indicate a higher tendency towards social media addiction. The questions were adapted from the Social Media Addiction Scale (Şahin & Yagci, 2017; Sahin, 2018), the

Bergen Social Media Addiction Scale (Addreassen et al., 2012; 2016), and the Social Media Disorder (SMD) Scale (Eijnden et al., 2016).

The reliability test results returned an alpha value of 0.56 (M = 2.61, SD = 0.58).

Data Analysis and Results

Of the 403 respondents, 71.7% were female and 28.3% were male, while the average age was 36.04 years old. The marital status was 68% single and 28% married. In terms of their level of education, most of the respondents had completed a bachelor's degree (51.6%) or master's degree (46.4%). The average income was in the 50k-70k Baht range. The occupations of the respondents included company employees (58.6%), business owners (25.1%), and government employees (8.9%).

Confirmatory Factor Analysis

Before testing the hypotheses in structural equation modeling (SEM), a confirmatory factory analysis (CFA) was performed to reveal the validity and reliability of the model's constructs (Hair, Black, Babin, Anderson, & Tatham, 2006). This study used IBM SPSS Amos structural equation modeling software to process the confirmatory factor analysis. There were three measurement models for this study, namely personal influence, stress and coping responses. The confirmatory factor analysis of the measurement model is presented in Table 1.

Table 1: CFA Results for Latent Variables in the Measurement Model

Latent Variables	Standardized Loadings	Sum of Square of Standardized Loadings	Composite Reliability	AVE
Depression		2.35	0.85	0.59
- Q23.2	0.78			
- Q23.3	0.62			
- Q23.5	0.78			
- Q23.6	0.86			
Loneliness		1.24	0.68	0.42
- Q20.1	0.56			
- Q20.2	0.58			
- Q20.5	0.77			

Table 1: CFA Results for Latent Variables in the Measurement Model (Cont.)

Latent Variables	Standardized Loadings	Sum of Square of Standardized Loadings	Composite Reliability	AVE
Stress		1.65	0.74	0.41
- Q22.1	0.57			
- Q22.2	0.64			
- Q22.4	0.75			
- Q22.7	0.59			
Hedonic Shopping		1.86	0.81	0.62
- Q16.1	0.94			
- Q16.2	0.92			
- Q16.3	0.36			
Social Media Addiction		1.49	0.74	0.50
- Q8.2	0.75			
- Q8.4	0.83			
- Q8.5	0.49			

Previously, all latent variables of each construct were used to collect the data. Confirmatory factor analysis was applied to adjust the model; consequently, some latent variables were cut off from the measurement model fit indices in Table 1 (Niemand, T. & Mai, R., 2018). Due to the CFA results, some reversed and irrelevant items were removed, which caused changes in the Cronbach's Alpha (Herche, J., & Engelland, B., 1996). The value of Cronbach's Alpha after the model adjustment as illustrated in Table 2 showed acceptable levels with an Alpha value > 0.6, (Griethuijsen et al., 2014).

The construct validity of personal influence showed that the indicator variables related to its latent variables were at a 0.01 significance level. The standardized loadings were scaled from 0 to 1 and indicated the strength of the relationship between the indicator variables and their latent variables (Hair, Black, Babin, Anderson, & Tatham, 2006).

In analyzing reliability, a good indicator of the reliability construct was determined by the value of construct reliability (greater than 0.70) and average variance extracted (AVE) (greater than 0.50). Both results revealed a satisfactory level as illustrated in Table 2. Even though the AVE of stress and loneliness are lower than 0.5, they are still acceptable at 0.4 since the composite reliability is higher than 0.6. The

convergent validity is acceptable (Fornell & Larcker, 1981). Therefore, the measurement models were confirmed.

Table 2: Results for Cronbach's Alpha, Composite Reliability and AVE

Variables	Cronbach's Alpha	Sum of Square of Standardized Loadings	Composite Reliability	AVE
Depression	0.84	2.35	0.85	0.59
Loneliness	0.67	1.24	0.68	0.42
Stress	0.73	1.65	0.74	0.41
Hedonic Shopping	0.77	1.86	0.81	0.62
Social Media Addiction	0.70	1.49	0.74	0.50

Discriminant Validity Analysis

A discriminant validity analysis was conducted to assess the distinctiveness of the latent variables. This was used to compare the value of discriminant validity and the correlation of the indicator variables. The discriminant validity should be higher than the correlation of the latent variables with other variables. Table 3 shows that 9 out of 10 items satisfied the criteria and only 1 inter-construct exceeded the correlation score.

Table 3: Discriminant Validity

	Depression	Loneliness	Stress	Hedonic Shopping	Social Media Addiction
Depression	0.77				
Loneliness	0.34	0.64			
Stress	0.83	0.26	0.64		
Hedonic Shopping	0.02	-0.12	0.13	0.79	
Social Media Addiction	0.23	0.06	0.38	0.33	0.71

Structural Equation Modeling

The structural relationships proposed in the model were analyzed in the conceptual framework, consisting of personal influence, situational influence, stress, and coping responses. Therefore, the conceptual framework was applied for the structural model analysis. The structural model analysis yielded a good overall fit (CMIN = 215.95, p < 0.00; RMSEA = 0.06; NFI = 0.92; CFI = 0.96; IFI = 0.96). Therefore, this conceptual model can be used for interpretation.

The SEM results (Figure 2) demonstrate that personal influences, including depression, loneliness, and self-esteem, have a significant impact on stress. In addition to this, stress has a significant impact on coping responses, including social addiction and hedonic online shopping behavior. However, it was found that situational influences, in the form of stressful life events, have an insignificant impact on stress and coping responses, including social media addiction and hedonic online shopping. However, stressful life events show insignificant results towards stress, social media and hedonic shopping.
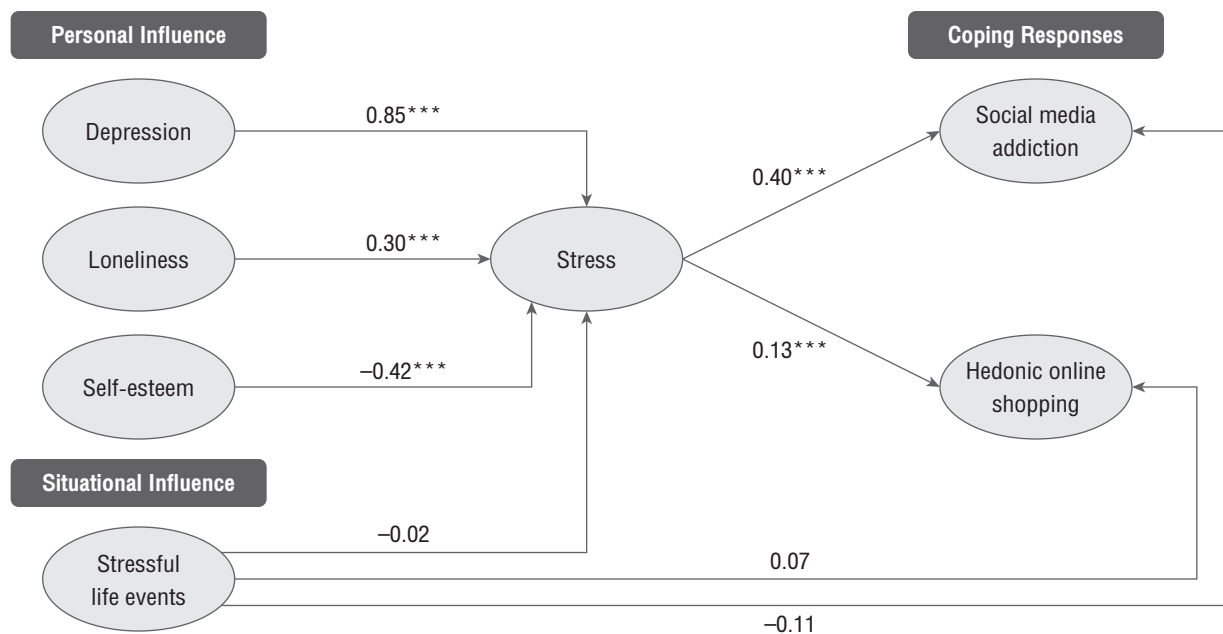
Figure 2: Structural Model – Path Coefficients and Significance Test

Note: ** = Significant level 0.05, *** = Significant level 0.01

(CMIN = 272.38, p < 0.00; RMSEA = 0.05; NFI = 0.90; CFI = 0.95; IFI = 0.95)

Hypothesis Testing Results

Hypothesis 1 posits that depression has a significant impact on stress. The results indicate that the null hypothesis was rejected at a significance level of 0.05. Therefore, depression was found to have a positive relationship with stress at a p-value of less than 0.01.

Hypothesis 2 states that loneliness has a significant impact on stress. The results indicate that the null hypothesis was rejected at a significance level of 0.05. Therefore, loneliness was found to have a positive relationship with stress at a p-value of less than 0.01.

Hypothesis 3 suggests that self-esteem has a significant impact on stress. The results indicate that the null hypothesis was rejected at a significance level of 0.05. Therefore, self-esteem was found to have a negative relationship with stress at a p-value of less than 0.01.

Hypothesis 4 speculates that stressful life events have a significant impact on stress. The results indicate that the null hypothesis was not rejected at a significance level of 0.05. Therefore, stressful life events were found to have an insignificant impact.

Hypothesis 5 suggests that stressful life events have a significant impact on hedonic online shopping. The results indicate that the null hypothesis was not rejected at a significance level of 0.05. Therefore, stressful life events were found to have an insignificant impact on hedonic online shopping at a p-value of more than 0.05.

Hypothesis 6 posits that stressful life events have a significant impact on social media addiction. The results indicate that the null hypothesis was not rejected at a significance level of 0.05. Therefore, stressful life events were found to have an insignificant impact on social media addiction.

Hypothesis 7 states that stress has a significant impact on social media addiction. The results indicate that the null hypothesis was rejected at a significance level of 0.05. Therefore, stress was found to have a positive relationship with social media addiction at a p-value of less than 0.01.

Hypothesis 8 posits that stress has a significant impact on hedonic online shopping. The results indicate that the null hypothesis was rejected at a significance level of 0.05. Therefore, stress was found to have a positive relationship with hedonic online shopping at a p-value of less than 0.05.

Table 4: Hypotheses Testing Results

Hypothesis	Relationship	Standardized Coefficient	Evidence	Hypothesis Confirmed
H1	Depression → Stress	0.85***	P < 0.01	Yes
H2	Loneliness → Stress	0.30***	P < 0.01	Yes
H3	Self-esteem → Stress	−0.42***	P < 0.01	Yes
H4	Stressful life events → Stress	−0.02	P = 0.79	No
H5	Stressful life events → Hedonic online shopping	0.07	P = 0.24	No
H6	Stressful life events → Social media addiction	−0.11	P = 0.11	No
H7	Stress → Social media addiction	0.40***	P < 0.01	Yes
H8	Stress → Hedonic online shopping	0.13**	P < 0.05	Yes

Note: ** = Significant level 0.05, *** = Significant level 0.01

Conclusion and Discussion

This study attempts to extend the understanding of social media addiction and hedonic shopping by employing stress theory and testing the effect of stress as a mediator on the conceptual model. With this theoretical framework the study is able to investigate various effects of consumption-coping responses on two consumption behaviors. There is supporting evidence for applying stress theory to explain media addiction and hedonic consumption.

The results reveal that through stress, personal influence in the form of depression, loneliness, and self-esteem have significant effects on producing coping responses, including social media addiction and hedonic online shopping. The higher stress levels that stem from higher levels of depression and loneliness yield a higher tendency to become addicted to social media and to participate more in online shopping. On the other hand, stressful life events do not affect the two coping responses positively with or without different levels of stress.

The test results for Hypotheses 1, 2, and 3 proved to be consistent with several research papers and theories, which yields interesting academic contributions. Firstly, the test results for Hypothesis 1 revealed that depression has a significant impact on stress, which is consistent with the findings from many previous studies, such as Lee & Ko (2017); Southwick, S. M., Vythilingam, M., & Charney, D. S. (2005); Lee & Kang (2014); Lee & Kim (2006); Thapar, Kerr, & Harold (2009); Yanik, Erel, & Kati (2004); and Wang, Snyder & Kaas (2001). Secondly, the results from Hypothesis 2, which showed that loneliness has a significant impact on stress, are also aligned with studies by Hawkley & Cacioppo (2003); Campagne

(2019); Brown, Gallagher & Creaven (2017); Segrin, McNelis & Pavlich (2017); and Segrin & Burke (2013). Thirdly, the test results for Hypothesis 3 indicated the significant impact of self-esteem on stress, which is also consistent with the findings from Orth et al. (2014); Lee & Kang (2014); Çelik & Odacı (2020); Lee (2016); Moksnes, Moljord, Espnes & Byrnee (2010); and Choi (2010).

However, the results from Hypotheses 4, 5, and 6 were found to be inconsistent with previous research. The test results for Hypotheses 4, 5, and 6 did not support the direct impact of stressful life events on stress, social media addiction, and hedonic shopping respectively. Therefore, the results from Hypothesis 4 are contradictory with the studies by Cohen (1988) and Balkwell (1985), while the test results for Hypothesis 5 are inconsistent with studies by Li, Wu, Jiang & Zhai (2018) and Li et al. (2016), and the test results for Hypothesis 6 are not aligned with the research by Hand et al. (2009). These differences in the results may be explained by factors such as limitations in terms of the population and samples that were used in this study, and the measurements for stressful life events. Different types of negative life events can cause various degrees of stress and different types of reactions. The index calculations can make the life events insignificant to stress and consumption behaviors. Moreover, this study was limited to only 8 negative life events and the total unweighted score of such events can make the impact vary and difficult for respondents to answer. Analyzing a single event in a specific time frame may improve understanding of the occurrence of stress and consumption behavior in the model (Mathur, Moschis, & Lee, 2001). It is possible that the combination of measurements can overlook the specific nature of stress and produce insignificant results in this study. There is strong evidence to suggest that personal characteristics (i.e., depression, loneliness and self-esteem) can affect stress, leading to social addiction and shopping.

Lastly, another set of findings for Hypotheses 7 and 8, which indicate that stress has a significant impact on coping behaviors including social media addiction and hedonic shopping, were found to support several previous studies, such as Leung (2006) and Brailovskaia et al. (2019) for Hypothesis 7, and Keskin & Günüç (2017) and Zhao et al. (2016) for Hypothesis 8. The results for both Hypothesis 7 and 8 are also consistent with the findings from a study by Kim, Kang & Kim (2005). which confirmed that the consumption experience and the use of social media can reduce stress levels.

The overall structural model (Figure 2) therefore has made an interesting academic contribution to the study of the relations between working adults' psychological factors, including depression, loneliness, self-esteem, and stress, and coping behaviors such as social media addiction and hedonic online shopping. The important role of stress has been found to have significant impact on the relationships among these two groups of variables. This provides a more profound understanding of how different psychological factors affect coping behaviors through stress, which emphasize the prediction in the stress theory. However, the impact of stressful life events shown in this study not consistent with the stress theory as well as many previous studies, which may stem from many factors as stated above. Therefore,

it is worth exploring these relationships both for mediating effects and direct effects further in future studies.

Managerial Implications

The results indicate that depression and loneliness are among the key drivers of stress and eventually social media addiction. Potentially, these negative psychological factors arising during large unfavorable events, such as the COVID-19 pandemic period, might further accelerate the overall degree of social media addiction of Thai working-age adults. From a policy-maker perspective, the importance of timely, trustworthy social media communications should be emphasized in most aspects. At the same time, public mental health initiatives can be encouraged to cope with lasting periods of a negative events in society.

From a business perspective, the Thai working-age adults in this study spent time on social media and online shopping as their coping mechanisms to overcome depression, loneliness, and stress during difficult times in their lives. This can represent business opportunities to drive awareness, adoption, and transactions of online businesses, especially e-commerce platforms and their online suppliers or partners. On the other hand, businesses should be mindful not to focus simply on revenue generation objectives. Companies with sustainable perspectives should rather use negative events as an opportunity to create long-term customer values and sincere brand relationships with their customers. As such, the constructive use of branded contents via social media and other online space can be considered as one of the CRM initiatives that goes beyond a mere short-term sales focus.

Limitations and Recommendations for Future Research

There are a number of limitations with the results of this study. First, different cultural contexts should be explored to expand the findings as this study was conducted entirely among educated urban Thai respondents. Secondly, the participants of this study were working adults (aged 20 years old to 46 years old); future research could add more variety to the age groups. Thirdly, this study's testing variables were limited to five different variables; thus incorporating other factors such as norms and values is highly recommended. In addition, the hypotheses revolved around stress theories. Therefore, it is possible that there are some other relationships among the testing variables, yet these have not been investigated. Such relationships may include, for example, the direct impact or relationships between depression, loneliness, and self-esteem on coping behaviors, without the influences of stress. Finally, no specific product category was tested in this study in relation to hedonic shopping. Deeper studies into category-specific levels would produce more relevant insights for marketers in their respective product categories.

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