

Posting Articles for Occupational Stress Reduction in Social Networking Sites: A View of Social Cognitive Theory

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ABSTRACT: *This study aims to explore how online users post articles for occupational stress reduction in social networking sites. Drawing on social cognitive theory, this study examined the effects of subjective norms, personal outcome expectations, and self-efficacy on posting behavior, which in turn reduces occupational stress. A structural equation modelling was used and 262 savvy Facebook users were investigated. The results revealed that subjective norms, personal outcome expectations, and computer self-efficacy are positively associated with posting behavior, and posting behavior is positively associated with occupational stress reduction. Moreover, the relationship between personal outcome expectations and posting behavior is significant for men, not for women. In contrast, the relationship between subjective norms and posting behavior is significant for women, not for men.*

KEYWORDS: *Social Cognitive Theory, Occupational Stress, Social Networking Sites, Facebook.*

1. Introduction

Occupational stress is a growing phenomenon occurring in the workers for the job pressure (King & Gardner, 2006). It can be defined as a taxing when the person appraises the relationship with the work environment (Lazarus & Folkman, 1984). As thus, occupational stress usually is yielded by organizational demands (Cotton & Hart, 2003). Although not all of the outcomes of occupational stress are negative, such as caring nurses work in a demanding work environment (Simmons & Nelson, 2001), but indeed many occupational stresses come from the disorder of the workers to the organization (Nelson & Cooper, 2005). Occupational stress may include work demands and lack of control at work (Karasek, 1979), poor person-environment fit (French, Caplan & Van Harrison, 1982), work-role conflict, role ambiguity or role overload (Kahn, Wolfe, Quinn, Snoek & Rosenthal, 1964), and other factors. For dealing with the stress, people tend to find the stress-reduction ways to relieve the pressure. There are two common approaches to cope with feelings of stress (Burke, 1993; McCarty, Zhao & Garland, 2007). One is positive coping strategies, such as strengthen relations with family members or establish a plan of action to deal with stressful events at work. The other is destructive coping strategies,

such as isolate themselves from friends or family members, increase smoking, or increase consumption of alcohol. However, social support also serves as a buffer against the pressure (Ganster, Fusilier & Mayes, 1986). Talking with friends is another way to cope with the stress. Thus, Internet becomes a suitable outlet for stressors to vent negative emotions. Through the Internet, people can easily post articles regarding the unpleasant work experience to friends for relaxing, especially in social networking sites (SNS), such as Facebook, Twitter, micro-blog, etc.

In literature, social cognitive theory (SCT) has been used for assessing personal behaviors in many different types of research models (Hsu, Ju, Yen & Chang, 2007; Huang & Liaw, 2005; Shih, 2006). According to SCT, personal outcome expectations and self-efficacy are two major factors influencing consumer behavior (Bandura, 1986). Personal outcome expectations refer that people tend to do the work that they believe will result in a better outcome, whereas self-efficacy, also named self-expression in the blog research (Lu & Hsiao, 2009), is concerned with judgments of personal capability. These two factors can be classified as individual's motivations to do the behaviors (Shang, Chen & Shen, 2005). However, for exploring the stressed users to reduce occupational stress through posting articles in SNS, we may change "self-efficacy" as "computer self-efficacy" to represent the capability of using computer for mitigating the stress. On the other hand, subjective norms are classified as a major environmental factor affecting the behavior (Kankanhalli, Tan & Wei, 2005). Subjective norms, as proposed by the theory of reasoned action (TRA), can be defined as perceived social pressure (e.g., peer pressure or superior pressure) to do the behavior (Fishbein & Ajzen, 1975). Lu and Hsiao (2009) found that individuals may publish more information about themselves when they feel that their friends expect them to disclose or publish their information in the blogs. Thus, subjective norms are an important determinant influencing the bloggers to share information. Although we have fully understood the causal relationship for information sharing or purchase intention on the Internet by using the SCT model in information system literature (George, 2004; Lu & Hsiao, 2007; 2009), there are few studies explored stress management to the users through posting behavior in SNS. Indeed, stressed users posting articles in SNS for occupational stress reduction are not only information sharing, but also a psychological behavior (e.g., self-relaxation). That is, excepting for information sharing, SNS may also be a suitable platform for the stressed users to post articles for mitigating the stress. For a stressed user, SNS provides a specific interface to communicate with friends so that he/she can express his/her own emotions or feelings through the platform. In particular, when he/she is depressed, frustrated, or helpless, the user may expect the greetings from the friends or disclose the event by himself on the pages of SNS for venting unpleasant emotions or feelings of stress (Wetzer, Zeelenberg & Pieters, 2007). Thus, it is assumed that users posting behavior in SNS for occupational stress reduction can be influenced by

both environmental factors -- subjective norms, and individual factors -- personal outcome expectations and computer self-efficacy. This study therefore developed an extended framework, incorporating occupational stress reduction into the SCT model, to examine the impacts of subjective norms, personal outcome expectations, and computer self-efficacy on posting behavior, which in turn reduces occupational stress for the users in SNS.

Moreover, stress is subjective and affected by individuals (Gardner & Fletcher, 2009). Research on gender differences in occupational stress has been conducted in the literature (Martocchio & O’Leary, 1989; McDonald & Korabik, 1991). Previous studies suggested that men and women differ in their coping strategies when dealing with stressful situations. For example, McDonald and Korabik found that male workers tend to use the avoidance or withdrawal strategies, while female workers are more likely to talk to others and seek social support than male workers. Burke and Belcourt (1974) argued that women tend to discuss problems with their friends and family more often than men. Thus, it is assumed that the motivations to mitigate occupational stress by posting articles will differ by gender. That is, gender is considered as a moderator in which it may influence the causal relationship of the motivations, posting behavior, and occupational stress reduction.

Therefore, we may ask “Do subjective norms, personal outcome expectations, and self-efficacy influence occupational stress reduction through posting behavior in SNS for the stressed users?” and “Is the causal relationship of the motivations, posting behavior, and occupational stress reduction varied between men and women?” The field has not yet provided direct investigation.

To fill the research gap, we investigated the behaviors of a selected group of stressed users of SNS in Taiwan. It thereby contributes a few significant theoretical results to the field: extending the previous understanding of stress management in the context of SNS; and formulating a united framework to explain the causal relationships for occupational stress reduction across gender. Moreover, it can also help practitioners to extend social functions for users venting feelings of stress in SNS.

2. Literature review and hypotheses development

2.1 Subjective norms affecting posting behavior

Subjective norms refer that an individual believes the person who are important to him/her expect him/her to perform the behavior in question (Fishbein & Ajzen, 1975). Based on the theory of planned behavior (TPB), an extension of TRA, subjective norms are informed by normative beliefs and motivation to comply (Ajzen, 1991). For example, a

worker may feel the need to use technology because of the mandate from the organization. Venkatesh and Davis (2000) noted that people may choose to perform a behavior, if they believe the important referents think they should do. Moreover, prior research regarding the adoption of SNS has demonstrated that subjective norms positively affect an individual's IT usage (Hsu & Lu, 2007; Venkatesh & Morris, 2000), and also positively influence the intention to share information (Bock, Zmud, Kim & Lee, 2005; Hsu et al., 2007; Kankanhalli et al., 2005). Bloggers post articles frequently because of peer pressure to blog (Lu & Hsiao, 2009). In a similar way, a worker with occupational stress may be influenced by his/her friends for relaxing the stress. Battacherjee (2000) indicated that subjective norms include external influences such as news reports, the popular press, and mass media. Indeed, SNS provides attractive social features that facilitate users to communicate with others. Thus, when a user finds that SNS members likely post articles for venting negative emotions, he/she may comply with the group norms, and in turn share his/her own experience to the community. Subjective norms, such as peer pressure, can induce users to post articles in SNS for occupational stress reduction. That is, subjective norms will positively influence posting behavior in SNS. This study brings forth the following hypothesis (H1).

H1: Subjective norms are positively associated with posting behavior in SNS.

2.2 Personal outcome expectations affecting posting behavior

Personal outcome expectations refer to the expectations of change in image, status, or rewards (Lu & Hsiao, 2009). Based on SCT, people tend to engage in a behavior if they expect to be rewarded (Lu & Hsiao, 2007). Compeau, Higgins and Huff (1999) found that better outcome expectations significantly influence continued usage of information systems. Wasko and Faraj (2005) confirmed that personal outcome expectations significantly affect the intention of using information systems and knowledge sharing. Thus, people likely continue to share information on the Internet if they expect praise or rewards (Lee, Cheung, Lim & Sia, 2006). However, for a stressed worker, the best reward of posting articles in SNS may possibly be greetings, suggestions, or recognition from the friends he/she knew. That is, posting behavior in SNS will be encouraged if a stressed user has a more positive expectation to do that. This study brings forth the second hypothesis (H2):

H2: Personal outcome expectations are positively associated with posting behavior in SNS.

2.3 Computer self-efficacy affecting personal outcome expectations

Computer self-efficacy refers to the confidence in one's ability of using computer on the Internet. Based on SCT, people obtain the confidence in posting articles and

raise self-efficacy when they use computer to share information with others (Lu & Hsiao, 2007). According to this model, self-efficacy positively influences personal outcome expectations, since it is difficult for individuals to separate the consequences of the behavior from their expectations of the outcome (Bandura, 1986). For example, if I believe I will be able to use computer with great skill, I am more likely to expect positive outcomes from my computer use than if I doubt my capabilities (Compeau et al., 1999). Similarly, a user who regularly writes articles in SNS will be an expert with the skill of expressing his/her opinions or feelings to others, and thus have higher outcome expectations than the users who are inability or unfamiliar with the skill. Therefore, self-efficacy, called “computer self-efficacy” in the study, will enhance personal outcome expectations for the users in SNS. This study brings forth the third hypothesis (H3):

H3: Computer self-efficacy is positively associated with personal outcome expectations in SNS.

2.4 Computer self-efficacy affecting posting behavior

Computer self-efficacy also can be recognized as a self-motivational force for the users share the information to others (Jung, Youn & McClung, 2007; Trammell, Tarkowski, Hofmokl & Sapp, 2006). Through posting behavior in SNS, an individual can make himself/herself known to others (Taylor & Altman, 1987). Thus, people tend to use SNS to build relationships or communicate with others through sharing the information or knowledge (Jung et al., 2007). Indeed, computer self-efficacy is a primary motivation in the use of SNS (Lu & Hsiao, 2009; Trammell & Keshelashvili, 2005). It is possible that a stressed user posting articles in SNS may just only express the unsatisfied experience about the work to the public or he/she likes to announce the experience to let others know him/her. Like to tell the parents when a child has been bullied, people tend to tell close friends about the unpleasant experience of the work for releasing the emotion. Thus, it is assumed that computer self-efficacy will positively influence posting behavior for the users in SNS. This study brings forth the fourth hypothesis (H4):

H4: Computer self-efficacy is positively associated with posting behavior in SNS.

2.5 Posting behavior affecting occupational stress reduction

Based on TPB, a person’s performance of a certain behavior is determined by his/her intent to perform that behavior (George, 2004). According to the theory, motivation to comply with the views of important others, and attitudes about the services, will influence intent to make the purchases (Azjen, 1991). Thus, posting behavior in SNS can be a trigger for the users to vent the emotions. The behavior is similar to smoking or listening music, which can release the pressure for the users. It is expected that the relationship between posting behavior and occupational stress reduction will be tightly connected if the

users believe that posting behavior can be helpful to mitigate occupational stress. Thus, it is assumed that posting behavior positively affects occupational stress reduction in SNS. This study brings forth the fifth hypothesis (H5):

H5: Posting behavior is positively associated with occupational stress reduction in SNS.

2.6 The moderating effect of gender

In literature, the moderating effect of gender has been considered because there are differences between men and women in terms of communication styles and usage behavior of the internet (Herring & Paolillo, 2006; Stowers, 1995). For example, Gefen and Straub (2000) found that women tend to use electronic communication for building the rapport, but men tend to use it for reporting. Also, Herring (1996) indicated that requesting and providing information are more common for women than for men. Lu and Hsiao (2009) found that personal outcome expectations more strongly determined usage intention for men than for women, but self-efficacy has a more salient effect on usage intention for women than for men. Regarding stress management research, scholars found that women and men have different coping strategies in dealing with stress (McCarty et al., 2007). For example, Davidson and Cooper (1983) argued that women managers dealing with stress are more likely to talk to someone they knew than male managers. Folkman and Lazarus (1988) noted that when individuals encounter stressful situations, men tend to engage in problem-focused coping more often than women. Lim and Teo (1996) found that female IT personnel are more likely to seek social support than male IT personnel in dealing with stress. In contrast, male IT personnel are more likely to engage in an objective and unemotional manner to deal with stress. Thus, it is speculated that women are more social-oriented while men are more task-oriented in dealing with stress. Venting feelings of stress in SNS may result from different motivations across men and women. Therefore, it is expected that gender moderates the causal relationship of the motivations, posting behavior, and occupational stress reduction in SNS. In other words, subjective norms, personal outcome expectations, and self-efficacy may have different impacts on posting behavior, which in turn influences occupational stress reduction between men and women. This study brings forth the sixth hypothesis (H6):

H6: Gender moderates the causal relationship of the motivations, posting behavior, and occupational stress reduction in SNS.

3. Research method

3.1 Framework of the research

Figure 1 depicts the research framework of this study, in terms of the literature established before.

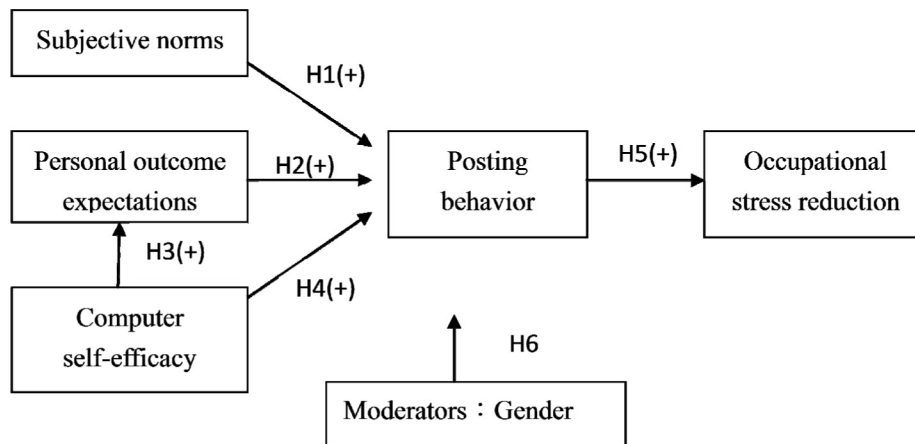


Figure 1 Research Framework of this Study

3.2 The instrument of the study

The design of the instrument is adopted from the previous results in the literature with appropriate modifications for Facebook users (e.g., the terminologies). The scale of subjective norms, personal outcome expectations, and self-efficacy were revised from Lu and Hsiao (2009), which includes two items, three items, and three items, respectively. The scale of posting behavior was revised from Wu (2006), which includes two items. The scale of occupational stress reduction was revised from McCarty et al. (2007), which includes eight items. All of the items were measured on a 7-point Likert-type scale, where possible answers ranged from strongly disagree (1) to strongly agree (7). The instrument of the study is shown in Appendix.

3.3 Subjects

As the sample of this study is from Taiwan, the questionnaire was translated by a language professional to ensure that the wording used in the Chinese and English versions were consistent. This study conducted a convenient sampling. Four assistants invited the respondents who have the experience of posting behavior in the page of Facebook for occupational stress reduction through their social networks in Facebook. To increase the sample return rate, this study offered gifts to the respondents for increasing the participation to the survey.

The questionnaires were collected for one month. A total of 277 respondents were received, of which 15 copies were deleted due to regular or incomplete data. The valid respondents totaled 262. The demography of the respondents is shown in Table 1. Females (53.1%) surpass males (46.9%). The largest age group is 20 ~ 29 years (44.7%), and the largest education group is undergraduate (62.6%). Regarding the frequency of using the internet, most of the respondents use the internet once a day (85.9%).

3.4 Reliability and validity test

This study employed Cronbach's alpha (α) for examining the internal consistency of the constructs (Nunnally, 1978; Robert & Wortzel, 1979). The α in Table 2 indicates the reliability of the measurement constructs: subjective norms are 0.89, personal expectations outcome is 0.90, computer self-efficacy is 0.80, posting behavior is 0.85 and occupational stress reduction is 0.93. These numbers satisfy the general requirements in the field (e.g., Nunnally) suggest a reliability coefficient above 0.7, and Robert and Wortzel want the number to be between 0.70 and 0.98. Therefore, we content that this study carried good reliability.

Confirmation factor analysis (CFA) was performed for scale validity assessment (Anderson & Gerbing, 1988). Convergent validity was measured by average variance extracted (AVE) in each construct. The criterion of AVE should be greater than 0.5 (Fornell & Larcker, 1981). As shown in Table 2, all constructs were satisfied. Thus, this study possessed adequate convergent validity.

Table 1 Demography of the Respondents

Variables	Items	N	Per cent (%)
Gender	Male	123	46.9
	Female	139	53.1
Age	20 ~ 29	117	44.7
	30 ~ 39	71	27.1
	40 ~ 49	48	18.3
	> 49	26	9.9
Education	Senior high school	49	18.7
	Undergraduate	164	62.6
	Graduate	49	18.7
Frequency of using the internet	Once a day	225	85.9
	Once a week	31	11.8
	Once a month	3	1.1
	Over one month	3	1.1

Note: valid samples = 262.

Table 2 Model of Research Construct

Construct and Observable Variable	Mean (SD)	SFL	CR	AVE	α
Subjective norms (SN)			0.89	0.81	0.89
SN1	4.79 (1.45)	0.92			
SN2	4.98 (1.43)	0.87			
Personal outcome expectations (POE)			0.90	0.76	0.90
POE1	4.55 (1.51)	0.80			
POE2	4.67 (1.59)	0.89			
POE3	4.39 (1.58)	0.90			
Computer self-efficacy (CSE)			0.78	0.54	0.80
CSE1	4.08 (1.77)	0.74			
CSE2	4.51 (1.58)	0.78			
CSE3	4.11 (1.54)	0.68			
Posting behavior (PB)		0.85	0.87	0.70	0.85
PB1	4.57 (1.56)				
PB2	4.51 (1.49)	0.91			
Occupational stress reduction (OSR)			0.93	0.64	0.93
OSR1	4.58 (1.62)	0.87			
OSR2	4.48 (1.50)	0.91			
OSR3	4.56 (1.52)	0.87			
OSR4	4.43 (1.50)	0.88			
OSR5	4.21 (1.64)	0.78			
OSR6	4.09 (1.58)	0.73			
OSR7	4.59 (1.75)	0.55			
OSR8	3.58 (1.66)	0.70			

Discriminate validity was also tested. The result shows that the AVE square root of each research variable is larger than the related coefficients of the variables, as shown in Table 3. This is a clear case of positive proof (Fornell & Larcker, 1981). Thus, this study had adequate discriminate validity.

3.5 Measurement invariance tests

In order to compare the causal relationship of the motivations, posting behavior, and occupational stress reduction between men and women, this study conducted multiple-group confirmatory factor analysis for testing measurement invariance across gender. The degree of invariance is frequently assessed by the differences in χ^2 between the models (Cheung & Rensvold, 2002). If $\Delta\chi^2$ is not statistically significant, then the invariance

Table 3 Correlation between Constructs

	CSE	SN	POE	PB	OSR
CSE	0.74				
SN	0.60	0.90			
POE	0.58	0.38	0.87		
PB	0.61	0.48	0.49	0.84	
OSR	0.62	0.50	0.52	0.72	0.80

Note: Diagonal elements in boldface represent the square root of AVE.

exists. Table 4 shows the results of measurement invariance tests. The evidence reveals that factorial invariance (i.e., same factor loadings across gender) and structural invariance (i.e., same factor loadings and factor covariance across gender) both are not significant between men and women ($\Delta\chi^2(14) = 10.097$, $p > 0.05$; $\Delta\chi^2(10) = 15.011$, $p > 0.05$), but error invariance (i.e., same factor loadings, factor covariance, and error variance across gender) are significant ($\Delta\chi^2(19) = 56.762$, $p < 0.05$). This result implies that factorial invariance model and structural invariant model are invariant, but error invariance model is non-variant. However, it is widely accepted that the test of error variance and their covariance represents an overly restrictive test of the data (Byrne, 2010, p. 199). Thus, we believe that measurement invariance does exist in this study.

4. Analysis of empirical results

4.1 Verification of the hypotheses

A structural equation modeling using AMOS 20.0 was conducted to test the postulated hypotheses. Figure 2 presented the estimation results. From the model fitness indexes, $\chi^2(146) = 374.970$, GFI = 0.942, AGFI = 0.915, CFI = 0.974, RMSEA = 0.052, showing the collected data fits the postulated model. The estimated structural coefficients were used to test each hypothesis. Results in Table 5 showed that the model explained 46.7% of the variance in personal outcome expectations, 54.5% of the variance in

Table 4 Results of Measurement Invariance Tests

Model	NPAR	χ^2	DF	$\Delta\chi^2$	ΔDF	p	ΔTLI	ΔCFI
Base model	91	1325.093	289					
Factorial invariance	77	1335.190	303	10.097	14	0.755	-0.012	-0.001
Structural invariance	67	1350.201	313	15.011	10	0.132	-0.006	0.001
Error invariance	48	1406.963	332	56.762	19	0.000	-0.005	0.006

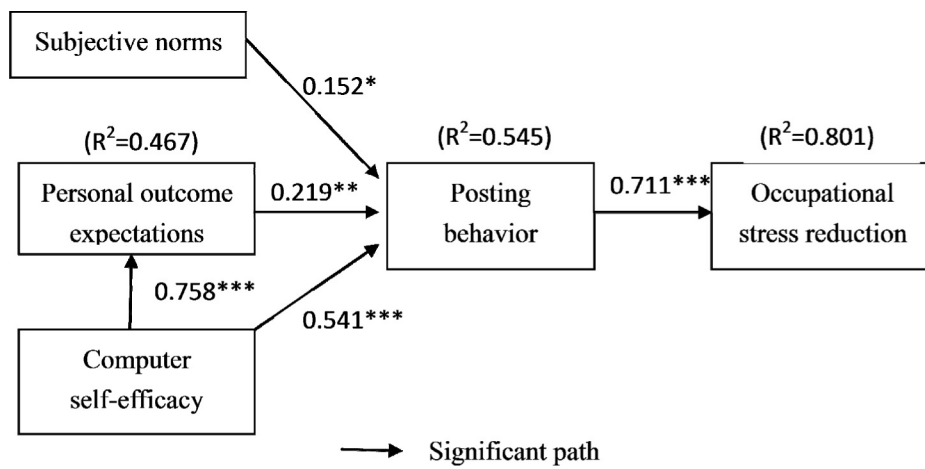


Figure 2 Results of Structural Modelling Analysis

* means significant at the level of 0.05; ** means significant at the level of 0.01; *** means significant at the level of 0.001.

Table 5 Results of Estimated Structural Coefficients

Relationship	Estimate	SE	CR	<i>p</i>	Result
H1. SN → PB	0.152	0.075	2.035	0.042	Support
H2. POE → PB	0.219	0.074	2.946	0.003	Support
H3. CSE → POE	0.758	0.085	8.884	***	Support
H4. CSE → PB	0.541	0.124	4.348	***	Support
H5. PB → OSR	0.711	0.054	8.739	***	Support

Note: Estimate is unstandardized.

*** means significant at the level of 0.001.

posting behavior, and 80.1% of the variance in occupational stress reduction. All paths in the research model were statistically significant at the level of 0.05. Subjective norms, personal outcome expectations, and self-efficacy are positively associated with posting behavior (Estimate = 0.152, SE = 0.075, CR = 2.035, *p* = 0.042; Estimate = 0.219, SE = 0.074, CR = 2.946, *p* = 0.003; Estimate = 0.541, SE = 0.124, CR = 4.348, *p* < 0.001). Moreover, self-efficacy is positively associated with personal outcome expectations (Estimate = 0.758, SE = 0.085, CR = 8.884, *p* < 0.001), and posting behavior is positively associated with occupational stress reduction (Estimate = 0.711, SE = 0.054, CR = 8.739, *p* < 0.001). Thus, H1, H2, H3, H4, and H5 are supported.

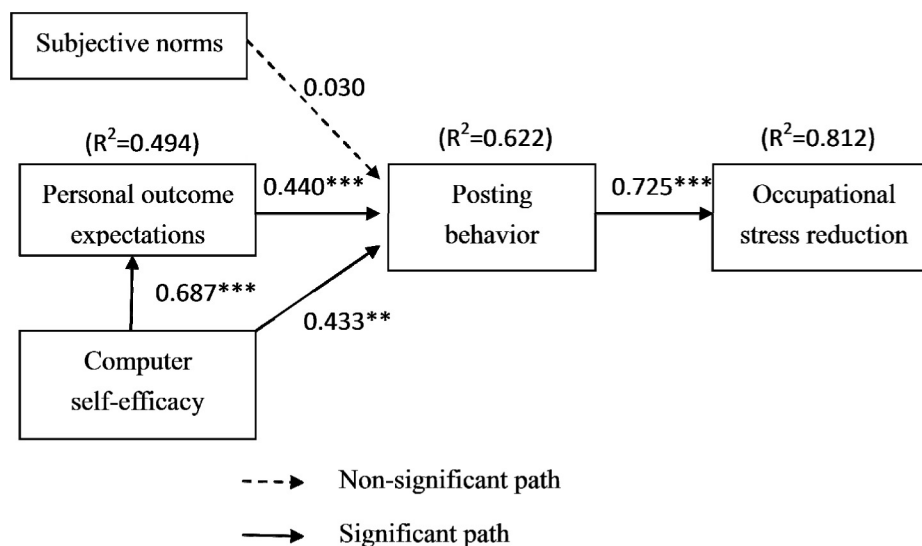
Multiple group structural equation modeling was conducted to test the differences of the causal relationships across two groups. Significant differences in two groups were determined by using a χ^2 difference test (e.g., Yang & Lee, 2010). Thus, Table 6 showed

Table 6 The Moderating Effect of Gender

Path	χ^2	DF	<i>p</i>
Full constrained model	12.832	5	0.025*
Path 1: SN → PB	4.598	1	0.032*
Path 2: POE → PB	6.508	1	0.011*
Path 3: CSE → POE	0.615	1	0.433
Path 4: CSE → PB	1.258	1	0.262
Path 5: PB → OSR	0.126	1	0.722

* means significant at the level of 0.05.

that full constrained model with limited the same path coefficients between men and women is significant ($\Delta\chi^2/5 = 12.832$, $p = 0.025$). Moreover, the path between subjective norms and posting behavior and the path between personal outcome expectations and posting behavior both are significant ($\Delta\chi^2/1 = 4.598$, $p = 0.032$; $\Delta\chi^2/1 = 6.508$, $p = 0.011$), but other paths are insignificant across men and women. For more details, Figure 3 and Figure 4 showed the results of estimated structural modeling analysis for male and female respectively. The path between subjective norms and posting behavior is stronger for women (Estimate = 0.225, SE = 0.094, CR = 2.393, $p = 0.017$) than for men (Estimate = 0.030, SE = 0.112, CR = 0.269, $p = 0.788$), as shown in Table 7. In contrast, the path between personal outcome expectations and posting behavior is stronger for men (Estimate = 0.440, SE = 0.104, CR = 4.222, $p < 0.001$) than for women (Estimate = 0.065, SE = 0.102, CR = 0.637, $p = 0.524$). Thus, H6 is supported.

**Figure 3** Results of Structural Modelling Analysis for Men

** means significant at the level of 0.01; *** means significant at the level of 0.001.

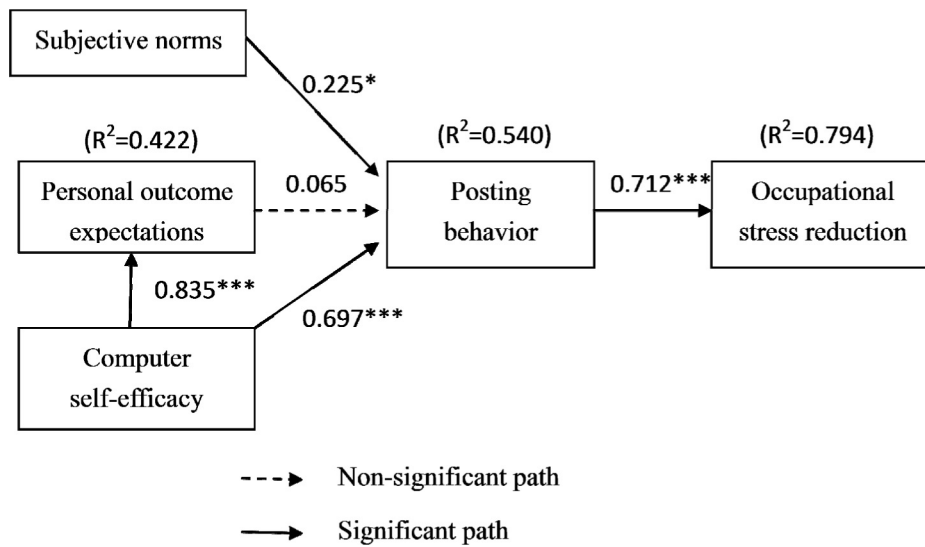


Figure 4 Results of Structural Modelling Analysis for Women

* means significant at the level of 0.05; *** means significant at the level of 0.001.

Table 7 Results of Estimated Structural Coefficients between Men and Women

Relationship	Estimate	SE	CR	<i>p</i>
Women (<i>N</i> = 139)				
Path 1: SN → PB	0.225	0.094	2.393	0.017*
Path 2: POE → PB	0.065	0.102	0.637	0.524
Path 3: CSE → POE	0.835	0.153	5.465	***
Path 4: CSE → PB	0.697	0.207	3.364	***
Path 5: PB → OSR	0.712	0.084	5.353	***
Men (<i>N</i> = 123)				
Path 1: SN → PB	0.030	0.112	0.269	0.788
Path 2: POE → PB	0.440	0.104	4.222	***
Path 3: CSE → POE	0.687	0.098	7.030	***
Path 4: CSE → PB	0.433	0.149	2.906	0.004**
Path 5: PB → OSR	0.725	0.066	7.590	***

Note: Estimate is unstandardized.

* means significant at the level of 0.05; ** means significant at the level of 0.01; *** means significant at the level of 0.001.

4.2 Discussion

The study has yielded several important findings. First, this study affirms that subjective norms, personal outcome expectations, and computer self-efficacy are positively associated with posting behavior, and computer self-efficacy is also positively associated with personal outcome expectations for occupational stress reduction. This result is in line with the study of Lu and Hsiao (2009) for frequent blog posting, but we also examined the effect of posting behavior on the status of occupational stress reduction. Subjective norms are important to the stressed workers for relaxing the stress through posting articles in SNS. Peer pressure will encourage users to do the posting behavior. SNS is a suitable outlet for venting emotions in that there are many active friends there. Subjective norms can make users likely comply with others' behavior, such as posting articles for stress reduction. That is, a user may likely post articles in SNS to mitigate occupational stress due to the norms from others. Moreover, personal outcome expectations are also important for users to post articles for occupational stress reduction. The higher the expected outcome is, the higher the probability of posting articles in SNS. That is, some people may likely post articles for occupational stress reduction because they expect the comfortable responses back from online friends, such as greetings, suggestions, and recognition. Thus, personal outcome expectations will positively affect posting behavior for occupational stress reduction in SNS. Furthermore, computer self-efficacy is another motivation to express feelings of stress to online friends for self-treatment. Maddux (1995) argued that if a person has higher self-efficacy in a particular job, this will make him/her more active participation in efforts to complete the task or the job. Thus, the higher a person's self-efficacy is, the higher the ability of self-efficacy to solve the problems (Shih, 2006). For example, when we are angry about something, we may likely tell to someone for venting the dissatisfaction. Computer self-efficacy not only can enhance outcome expectations, but also can strengthen posting behavior for occupational stress reduction.

Second, this study also finds that computer self-efficacy (Estimate = 0.541) and personal outcome expectations (Estimate = 0.219) affecting posting behavior are stronger than subjective norms affecting the behavior (Estimate = 0.152). Thus, posting articles in SNS for occupational stress reduction mainly result from individual's motivations, especially for computer self-efficacy. Obviously, most users posting articles in SNS for mitigating occupational stress may likely express themselves with the work-related experience to the friends. Like self-treatment, the users tend to post articles to online friends for self curing the stress. This action may not have any substantial rewards or obligation for the users. Relatively, personal outcome expectations and subjective norms play the second role of motivations to mitigate occupational stress for the users. This finding is not in line with the study of Lu and Hsiao (2009), which found that the effect of subjective norms on posting intention ($\beta = 0.3$) is stronger than the effects of personal

outcome expectations and self-efficacy on the intention ($\beta = 0.17$; $\beta = 0.17$). The reason is that bloggers who receive more subjective norms are likely to have more intention to publish frequently on blogs. Thus, we can conclude that a stressed user may likely post articles in SNS for mitigating occupational stress in terms of self-efficacy motivation, but a blogger posting articles for sharing knowledge may be subject to peer pressure. It is believed that the motivations to do the behavior will depend on the behavioral goals rather than the behavior itself (e.g., posting behavior).

Third, for testing the moderating effect of gender, our evidence reveals that the relationship between subjective norms and posting behavior is stronger for women than for men, but the relationship between personal outcome expectations and posting behavior is stronger for men than for women. This result is partially consistent with the study of Lu and Hsiao (2009), which found that the effect of subjective norms on posting behavior is no differences between men and women, but the effect of personal outcome expectations on posting behavior is significantly higher for men than for women, as well as the effect of self-efficacy on posting behavior is significantly higher for women than for men. In the present study, we found that subjective norms and self-efficacy are two main motivations for women to post articles for occupational stress reduction, whereas personal outcome expectations and self-efficacy are two main motivations for men. This result confirms the previous speculation that women are more social-oriented, but men are more task-oriented in dealing with stress. Therefore, it is believed that the motivations of posting articles in SNS for occupational stress reduction may differ by gender. That is, while mitigating occupational stress in SNS, men and women both likely have the self confidence to express their feelings of stress to the friends; additionally, men may also tend to have high expectations to the outcome from online friends by posting articles, but women may simultaneously comply with other's behavior to post articles.

5. Conclusion and suggestion

5.1 Conclusion

This study aims to explore posting behavior for occupational stress reduction in SNS. The contributions of this study start with a conceptual formulation of how subjective norms, personal outcome expectations, and computer self-efficacy affect posting behavior for occupational stress reduction in SNS. On this basis, the study examined the moderation of gender on the causal relationship of the motivations, posting behavior, and occupational stress reduction. An empirical study with 262 savvy Facebook users who have the experience of posting articles for occupational stress reduction affirms the causal relationship and clarified the ideas. The findings of this study could be helpful for

practitioners to provide social functions for stressed users to mitigate feelings of stress in SNS.

5.2 The implications for research and practice

This study provides both theoretical and practical benefits. From a research perspective, this study used SCT as the base model for exploring the effect of occupational stress reduction in SNS. Occupational stress reduction is predicted by posting behavior, and posting behavior is explained in terms of subjective norms, personal outcome expectations, and computer self-efficacy. This study affirmed the causal relationship of the motivations, posting behaviors, and occupational stress reduction for stressed users in SNS. Thus, this study extended the SCT model with the effect of occupational stress reduction in the context of SNS.

Moreover, this study also found that computer self-efficacy is the major determinant influencing posing behavior for occupational stress reduction. This result also supports Bandura's (1997) argument that self-efficacy is central to SCT. Computer self-efficacy is highly related to judgments of personal capability. Self-confidence to the capability of using computer is therefore, deemed to be tightly associated with posting behavior for occupational stress reduction in SNS.

From a practical perspective, this study found that computer self-efficacy is the primary motivation for users by posting articles to mitigate occupational stress. Thus, the practitioners shall develop social functions that help users to get closer connection with online friends easily. For example, Facebook launched "Checkin" service that allows people to use the GPS on their mobile phones to let friends know exactly where they are. People can utilize the service to express their status or feelings to friends for mitigating the stress.

Moreover, this study found that men have high outcome expectations by posting articles to reduce occupational stress in SNS more than women. Thus, the practitioners shall provide interactive functions that facilitate users to get the feedback from online friends more effectively. For example, Facebook offered "Chat" service that makes people to talk with online friends directly. On the other hand, the findings also revealed that women are more significant than men for posting articles by subjective norms. Thus, the practitioners shall provide sociable functions that effectively connect the persons who have the same interests. For example, Facebook provided "Improved friend lists" service that allows people to share a personal story with specific friend groups.

5.3 Limitation and suggestion of the study

This study contains some limitations. First, a bias may exist because of the convenient sampling through social networks in Facebook. Second, playing games on the Internet or mobile phones may be widely used as the other tool for venting the stress, but it is in a different way. Yee (2006) demonstrated that achievement, social, and immersion are the three motivations for play in online games. On the other hand, Reinecke (2009) found that work-related fatigue and exposure to daily hassles are both positively associated with the use of games for recovery. Thus, subsequent studies may extend the current framework of the study to explore the motivations substantially influence occupational stress reduction by playing online games. Third, this study used a cross-sectional data to analyze the causal relationships for occupational stress reduction in SNS. The results will only be inferred rather than proven (Fang, Chiu & Wang, 2011). Thus, subsequent studies may conduct a longitudinal approach to identify the dynamic change of the causal relationships for occupational stress reduction in SNS.

References

- Anderson, J.C. and Gerbing, D.W. (1988), 'Structural equation modeling in practice: A review and recommended two-step approach', *Psychological Bulletin*, Vol. 103, No. 3, pp. 411-423.
- Azjen, I. (1991), 'The theory of planned behaviour', *Organizational Behavior and Human Decision Processes*, Vol. 50, No. 2, pp. 179-211.
- Bandura, A. (1986), *Social Foundations of Thought & Action: A Social Cognitive Theory*, Prentice-Hall, Englewood Cliffs, NJ.
- Bandura, A. (1997), *Self-Efficacy: The Exercise of Control*, W.H. Freeman, New York, NY.
- Battacherjee, A. (2000), 'Acceptance of e-commerce services: the case of electronic brokerages', *IEEE Transactions on Systems, Man, and Cybernetics -- Part A: Systems and Humans*, Vol. 30, No. 4, pp. 411-420.
- Bock, C.W., Zmud, R.W., Kim, Y.G. and Lee, J.N. (2005), 'Behavioral intention formation in knowledge sharing: examining the roles of extrinsic motivators, social-psychological forces, and organizational climate', *MIS Quarterly*, Vol. 29, No. 1, pp. 87-111.
- Burke, R.J. (1993), 'Work-family stress, conflict, coping, and burnout in police officers', *Stress Medicine*, Vol. 9, No. 3, pp. 171-180.

- Burke, R.J. and Belcourt, M.L. (1974), 'Managerial role stress and coping responses', *Journal of Business Administration*, Vol. 5, No. 2, pp. 55-68.
- Byrne, B.M. (2010), *Structural Equation Modeling with AMOS*, Routledge, New York, NY.
- Cheung, G.W. and Rensvold, R.B. (2002), 'Evaluating goodness-of-fit indexes for testing measurement invariance', *Structural Equation Modeling: A Multidisciplinary Journal*, Vol. 9, No. 2, pp. 233-255.
- Compeau, D.R., Higgins, C.A. and Huff, S. (1999), 'Social cognitive theory and individual reactions to computing technology: a longitudinal study', *MIS Quarterly*, Vol. 23, No. 2, pp. 145-158.
- Cotton, P. and Hart, P.M. (2003), 'Occupational wellbeing and performance: a review of organizational health research', *Australian Psychologist*, Vol. 38, No. 2, pp. 118-127.
- Davidson, M. and Cooper, C. (1983), *Stress and the Woman Manager*, Martin Robertson & Company, Oxford, UK.
- Fang, Y.H., Chiu, C.M. and Wang, E.T.G. (2011), 'Understanding customers' satisfaction and repurchase intentions -- an integration of IS success model, trust, and justice', *Internet Research*, Vol. 21, No. 4, pp. 479-503.
- Fishbein, M. and Ajzen, I. (1975), *Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research*, Addison-Wesley, Reading, MA.
- Folkman, S. and Lazarus, R.S. (1988), 'An analysis of coping with stress', in Cooper, C.L. and Payne, R. (Eds.), *Causes, Coping and Consequences of Stress at Work*, John Wiley & Sons, Chichester, UK, pp. 223-263.
- Fornell, C. and Larcker, D.F. (1981), 'Evaluating structural equations with unobservable variables and measurement error', *Journal of Marketing Research*, Vol. 18, No. 1, pp. 39-50.
- French, J.R.P., Caplan, R.D. and Van Harrison, R. (1982), *The Mechanisms of Job Stress and Strain*, John Wiley & Sons, London, UK.
- Ganster, D.C., Fusilier, M.R. and Mayes, B.T. (1986), 'Role of social support in the experience of stress at work', *Journal of Applied Psychology*, Vol. 71, No. 1, pp. 102-110.
- Gardner, D. and Fletcher, R. (2009), 'Demands, appraisal, coping and outcomes: positive and negative aspects of occupational stress in veterinarians', *International Journal of Organizational Analysis*, Vol. 17, No. 4, pp. 268-284.

- Gefen, D. and Straub, D. (2000), 'The relative importance of perceived ease of use in IS adoption: a study of e-commerce adoption', *Journal of Association of Information Systems*, Vol. 1, No. 1, Article 8.
- George, J.F. (2004), 'The theory of planned behavior and Internet purchasing', *Internet Research*, Vol. 14, No. 3, pp. 198-212.
- Herring, S.C. (1996), 'Two variants of an electronic message schema', in Herring, S.C. (Ed.), *Computer-Mediated Communication: Linguistic, Social, and Cross-Cultural*, John Benjamins, Philadelphia, PA, pp. 81-106.
- Herring, S.C. and Paolillo, J.C. (2006), 'Gender and genre variation in weblogs', *Journal of Sociolinguistics*, Vol. 10, No. 4, pp. 439-459.
- Hsu, C.L. and Lu, H.P. (2007), 'Consumer behavior in online game communities: a motivational factor perspective', *Computers in Human Behavior*, Vol. 23, No. 3, pp. 1642-1659.
- Hsu, M.H., Ju, T.L., Yen, C.H. and Chang, C.M. (2007), 'Knowledge sharing behavior in virtual communities: the relationship between trust, self-efficacy, and outcome expectations', *International Journal of Human-Computer Studies*, Vol. 65, No. 2, pp. 153-169.
- Huang, H.M. and Liaw, S.S. (2005), 'Exploring users' attitudes and intentions toward the web as a survey tool', *Computers in Human Behavior*, Vol. 21, No. 5, pp. 729-743.
- Jung, T., Youn, H. and McClung, S. (2007), 'Motivations and self-presentation strategies on Korean-based Cyworld weblog format personal homepages', *CyberPsychology & Behavior*, Vol. 10, No. 1, pp. 24-31.
- Kahn, R.L., Wolfe, D.M., Quinn, R.P., Snoek, J.D. and Rosenthal, R.A. (1964), *Organizational Stress: Studies in Role Conflict and Ambiguity*, John Wiley & Sons, New York, NY.
- Kankanhalli, A., Tan, B.C.Y. and Wei, K.K. (2005), 'Contributing knowledge to electronic knowledge repositories: an empirical investigation', *MIS Quarterly*, Vol. 29, No. 1, pp. 113-143.
- Karasek, R.A. (1979), 'Job demands, job decision latitude, and mental strain: Implications for job redesign', *Administrative Science Quarterly*, Vol. 24, No. 2, pp. 285-308.
- King, M. and Gardner, D. (2006), 'Emotional intelligence and occupational stress among professional staff in New Zealand', *International Journal of Organizational Analysis*, Vol. 14, No. 3, pp. 186-203.
- Lazarus, R.S. and Folkman, S. (1984), *Stress, Appraisal and Coping*, Springer, New York, NY.

- Lee, M.K.O., Cheung, C.M.K., Lim, K.H. and Sia, C.L. (2006), 'Understanding customer knowledge sharing in web-based discussion boards: an exploratory study', *Internet Research*, Vol. 16, No. 3, pp. 289-303.
- Lim, V.K.G. and Teo, T.S.H. (1996), 'Gender differences in occupational stress and coping strategies among IT personnel', *Women in Management Review*, Vol. 11, No. 1, pp. 20-28.
- Lu, H.P. and Hsiao, K.L. (2007), 'Understanding intention to continuously share information on weblogs', *Internet Research*, Vol. 17, No. 4, pp. 345-361.
- Lu, H.P. and Hsiao, K.L. (2009), 'Gender differences in reasons for frequent blog posting', *Online Information Review*, Vol. 33, No. 1, pp. 135-156.
- Maddux, J.E. (1995), *Self-Efficacy, Adaptation, and Adjustment: Theory, Research, and Application*, Plenum Press, New York, NY.
- Martocchio, J.L. and O'Leary, A.M. (1989), 'Sex differences in occupational stress: a meta-analytic review', *Journal of Applied Psychology*, Vol. 74, No. 3, pp. 495-501.
- McCarty, W.P., Zhao, J.S. and Garland, B.E. (2007), 'Occupational stress and burnout between male and female police officers: are there any gender differences?', *Policing: An International Journal of Police Strategies & Management*, Vol. 30, No. 4, pp. 672-691.
- McDonald, L.M. and Korabik, K. (1991), 'Sources of stress and ways of coping among male and female managers', *Journal of Social Behavior & Personality*, Vol. 6, No. 7, pp. 185-199.
- Nelson, D. and Cooper, C. (2005), 'Stress and health: a positive direction', *Stress and Health*, Vol. 21, No. 2, pp. 73-75.
- Nunnally, J.C. (1978), *Psychometric Theory*, 2nd ed., McGraw-Hill, New York, NY.
- Reinecke, L. (2009), 'Games and recovery: the use of video and computer games to recuperate from stress and strain', *Journal of Media Psychology: Theories, Methods, and Applications*, Vol. 21, No. 3, pp. 126-142.
- Robert, M.L. and Wortzel, L.H. (1979), 'New life-style determinants of women's food shopping behaviour', *Journal of Marketing*, Vol. 43, No. 3, pp. 28-39.
- Shang, R.A., Chen, Y.C. and Shen, L. (2005), 'Extrinsic versus intrinsic motivations for consumers to shop on-line', *Information & Management*, Vol. 42, No. 3, pp. 401-413.
- Shih, H.P. (2006), 'Assessing the effects of self-efficacy and competence on individual satisfaction with computer use: an IT student perspective', *Computers in Human Behavior*, Vol. 22, No. 6, pp. 1012-1026.

- Simmons, B.L. and Nelson, D.L. (2001), 'Eustress at work: the relationship between hope and health in hospital nurses', *Health Care Management Review*, Vol. 26, No. 4, pp. 7-18.
- Stowers, G.N.L. (1995), 'Getting left behind? Gender differences in computer conferencing', *Public Productivity & Management Review*, Vol. 19, No. 2, pp. 143-159.
- Taylor, D. and Altman, I. (1987), 'Communication in interpersonal relationships: social penetration processes', in Roloff, M.E. and Miller, G.R. (Eds.), *Interpersonal Processes: New Directions in Communication Research*, Sage, Newbury Park, CA, pp. 257-277.
- Trammell, K.D. and Keshelashvili, A. (2005), 'Examining the new influencers: a self-presentation study of A-list blogs', *Journalism and Mass Communication Quarterly*, Vol. 82, No. 4, pp. 968-982.
- Trammell, K.D., Tarkowski, A., Hofmohl, J. and Sapp, A.M. (2006), 'Rzeczpospolita blogów [Republic of Blog]: examining Polish bloggers through content analysis', *Journal of Computer-Mediated Communication*, Vol. 11, No. 3, pp. 702-722.
- Venkatesh, V. and Davis, F.D. (2000), 'A theoretical extension of the technology acceptance model: four longitudinal field studies', *Management Science*, Vol. 46, No. 2, pp. 186-204.
- Venkatesh, V. and Morris, M.G. (2000), 'Why don't men ever stop to ask for directions? Gender, social influence, and their role in technology acceptance and usage behaviour', *MIS Quarterly*, Vol. 24, No. 1, pp. 115-139.
- Wasko, M.M. and Faraj, S. (2005), 'Why should I share? examining social capital and knowledge contribution in electronic networks of practice', *MIS Quarterly*, Vol. 29, No. 1, pp. 35-57.
- Wetzer, I.M., Zeelenberg, M. and Pieters, R. (2007), "'Never eat in that restaurant, I did!': exploring why people engage in negative word-of-mouth communication", *Psychology & Marketing*, Vol. 24, No. 8, pp. 661-680.
- Wu, S.I. (2006), 'A comparison of the behavior of different customer clusters towards Internet bookstores', *Information & Management*, Vol. 43, No. 8, pp. 986-1001.
- Yang, K. and Lee, H.J. (2010), 'Gender differences in using mobile data services: utilitarian and hedonic value approaches', *Journal of Research in Interactive Marketing*, Vol. 4, No. 2, pp. 142-156.
- Yee, N. (2006), 'Motivations for play in online games', *CyberPsychology & Behavior*, Vol. 9, No. 6, pp. 772-775.

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Appendix

The instrument of the study

Subjective norms (SN) (adapted from Lu & Hsiao, 2009)

SN1 My friends expect me to post articles in my page of Facebook.

SN2 People who I contact expect me to post articles in my page of Facebook.

Personal outcome expectations (POE) (adapted from Lu & Hsiao, 2009)

POE1 I expect that I can receive greetings from my friends in my page of Facebook.

POE2 I expect that I can get the solutions of the problems from my friends in my page of Facebook.

POE3 I expect that I can improve others' recognition of me in my page of Facebook.

Computer self-efficacy (CSE) (adapted from Lu & Hsiao, 2009)

CSE1 I don't mind providing my personal interests or habits in my page of Facebook.

CSE2 I would like to tell others my feelings of my experience in my page of Facebook.

CSE3 I want to post articles in my page of Facebook to let others know me.

Posting behavior (PB) (adapted from Wu, 2006)

PB1 I have posted articles regarding work-related experiences via Facebook.

PB2 I often posted articles regarding work-related experiences in my page of Facebook.

Occupational stress reduction (OSR) (adapted from McCarty, Zhao & Garland, 2007)

OSR1 I do not feel tired at work when I used in my page of Facebook.

OSR2 I do not be moody, irritable, or impatient over small problems when I used in my page of Facebook.

OSR3 I withdraw from the constant demands on my time and energy from work when I used in my page of Facebook.

OSR4 I do not feel negative, futile or depressed about work when I used in my page of Facebook.

OSR5 I am as efficient at work as I should be when I used in my page of Facebook.

OSR6 Using in my page of Facebook heightened my resistance to illness because of my work.

OSR7 Using in my page of Facebook heightened my interest in doing fun activities because of my work.

OSR8 I have easily concentrating on my job when I used in my page of Facebook.