

Using Smartphones for Work during Off-job Time and Burnout: Work-Life Conflict as a Mediator

Saharath Wongchompoo

Faculty of Psychology, Chulalongkorn University

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Abstract

Smartphones are being increasingly used as a tool for work-related purposes in various organizations, including for work-related communication, completing work-related tasks, etc. However, smartphones are not used only during work hours, they are used for work during non-working time as well. This research aimed to examine the association between using smartphones for work during off-job time and the burnout of employees in the modern work society. In addition, the mediating effect of work-life conflict was also investigated. A total of 215 Thai employees participated through an online-based questionnaire survey by convenient random sampling. To collect data for analysis, the researcher used Hierarchical regression analysis by Program R. The results showed that using smartphones for work during off-job time was positively related to burnout ($\beta = .137, p < .05$), and positively related to perceived work-life conflict ($\beta = .320, p < .001$). Work-life conflict was positively related to burnout ($\beta = .452, p < .001$). Further, examining the mediating effect showed the significant mediating role of work-life conflict between using smartphones for work during off-job time and burnout. These results revealed the impact of using smartphones for work during off-job time on the important variables in organizations and highlighted an important issue for organizational management regarding the use of smartphones for work.

Keywords: Smartphone, Burnout and Work-life conflict

1. Introduction

According to the progression of communication technology (i.e. instant messaging, email, etc.) and wireless access to smartphones being increasingly used as work tools, this can be characterized as “Always on” and access to information “anywhere anytime” (Major & Germano, 2006 and Boswell & Olson-Buchanan, 2007). Based on these features, employees use smartphones for enhancing their work, such as group communication, sending edited work files, and remotely completing duties. However, staying connected and getting immediate responses about work may cause the blurring of work and personal life of employees (Derks et al., 2014). Employees will be expected to be available and forced to respond about work

from managers, supervisors, and colleagues, as well as customers, even when they are free from working hours (Davis, 2002). It seems that employees need to work longer hours for the organization instead of having free time to participate in interesting activities or be with family members (Fenner & Renn, 2010).

The more frequently employees use smartphones or portable devices to access wireless internet for work during off-job time, the more likely they are to sharply increase their perception of work-life conflict as well as related negative outcomes, such as job dissatisfaction, negative emotion, stress, and burnout because of the blurring between working and nonworking domains (Perlow, 1998; Kossek & Lautsch, 2008 and Wright et al., 2014). In recent studies, many researchers have focused on work-life conflict in the organization because such conflict has been associated with negative consequences that contribute to low work productivity, decreased job satisfaction, high counterproductive behaviors (i.e. absenteeism), high perceived stress, burnout, and finally turnover intention (Burke & Greenglass, 1999; Frone, 2000 and Martins et al., 2002). The current study also showed that using smartphones for work during off-job time can cause work-life conflict for employees who use this technology to have contact with their managers, colleagues, or customers after regular business hours (Hayman, 2005; Boswell & Olson-Buchanan, 2007 and Golden & Geisler, 2007). Moreover, in modern work society, burnout among workers has been a main problem (Wright et al., 2014) that has become linked to employees' performance, physical health and mental health problems, as well as turnover rate among employees (Maslach & Schaufeli, 2017). Thus, the use of smartphones for work during off-job time and increased connectivity may potentially contribute to chronic stress and burnout (Peeters et al., 2005). From the above discussion, previous studies have not focused enough on the usage of smartphones for work during off-job time and burnout, specifically the association between work and life conflict may link using smartphones for work and burnout among employees during off-job time, including on vacations. Therefore, this research aimed to study the impact of using smartphones for work during off-job time on burnout by mediating the role of perceived work-life conflict among employees.

2. Objectives

- 1) To study the relationship between using smartphones for work during off-job time, work-life conflict, and burnout.
- 2) To study the use of smartphones for work during off-job time as a mediating role in the relationship between work-life conflict and burnout.

3. Literature Review

3.1 Smartphones for work

Due to smartphones being able to access the wireless internet for personal purposes at any place and at any time, individuals are able to use the features and applications on smartphones for personal purpose effectiveness. They use the smartphones for communication with others, keeping or creating social relationships, and exchanging information. Thus, with convenience availability, smartphones can be used for work in the organization (Davison et al., 2014). DiMicco et al (2009) stated that using communication technology such as smartphones can encourage personal social relationships with coworkers and support work/projects. Not only does this technology offer advantages for employees, but it also offers benefits for the organization, such as saving costs and greater flexibility for completing work (Wright et al., 2014). Nevertheless, the advantages of smartphones can offer negative effects as well. When a smartphone has been used for work-related purposes, it is not always used during work hours, but sometimes used after finishing work hours and outside the organization (Derks et al., 2014; Wright et al., 2014 and Marquart & Gross, 2018). The more employees frequently use work-related smartphone during off-job time with the organization's expectations for connectivity and immediacy, the more they will increasingly contribute to negative outcomes (i.e. work-life conflict, stress, burnout) and be interpreted as receiving work overload (Davis, 2002; Tomlinson, 2007 and Diaz et al., 2012). This study will show that using smartphones for work is an important issue which is linked to the impact of using smartphones during off-job time among employees and its effects in current work society in order to manage clear organizational policies as well as work processes between employers (managers, supervisors) and employees, including customers using smartphones for work effectiveness in a modern work society.

3.2 Smartphones for Work during Off-Job Time, Work-Life Conflict, and Burnout

Using smartphones for work during off-job time can maintain connectivity outside of the workplace, especially during abnormal working hours. However, this advantage may have an effect on the non-work domain of employees (Boswell & Olson-Buchanan, 2007). For employees, using a smartphone for work-related communication may feel like being on duty all the time, even when not in the workplace. They need to respond to calls while driving or having dinner, check emails, text via Line application or WhatsApp on weekends or vacations for work, instead of using for social life (Boswell & Olson-Buchanan, 2007; Orlikowski, 2007 and Berkowsky, 2013). Therefore, it can contribute to the perception of work-life conflict among employees.

Work-life conflict is defined as the conflict that the role demands of one domain interfere with the meeting of role demands in another domain (Higgins et al., 2006). Generally, work-life conflict has been associated with negative consequences such as stress,

emotional exhaustion, etc., and work-life conflict occurs in two different forms: first, work interferes with life/family responsibilities and the second, life/family responsibilities interfere with work (Wright et al., 2014). Several communication scholars have suggested that work-life conflicts are induced by communication interactions and can affect psychological functions (Schieman et al., 2003 and Shumate & Fulk, 2004). Researchers have also argued that organizations or managers/supervisors do not have a clear understanding of the rules and expectations about using communication technology like smartphones to work during off-job time. This can increase negative outcomes such as stress, dissatisfaction, and burnout (Shumate & Fulk, 2004; Ernst Kossek et al., 2010; Leonardi et al., 2010 and Wright et al., 2014). Although smartphones have provided a great opportunity to connect for the performance of our work-related responsibilities after work at anytime and anyplace, enabling work to be processed quickly (Fenner & Renn, 2004; Kossek & Lautsch, 2012 and Derks et al., 2014), it leads our boundary-blurring to increase between work and life domains. Besides, employees have become more involved in their work beyond the boundaries of the traditional workplace and workday (Gephart Jr, 2002 and Boswell & Olson-Buchanan, 2007).

The role of boundaries, a well-known Boundary theory, is applied to manage work and personal life. Bulger et al (2007) proposed that individuals are able to apply the role of boundaries for managing their work and life via processes of integrating the domains. According to the role of boundaries, individuals maintain different domains including work and personal life. A smartphone is helpful to allow work and life integration. However, the role of the boundary is blurred between work and life through the use of communication technologies (Boswell & Olsen-Buchanan, 2007; Derks et al., 2014). Whenever employees are off work or outside the workplace, they are still capable of working with their supervisors, customers, or colleagues via smartphones, such as by calling, Line, Skype, etc. It is an important side effect to use smartphones after work because of the blurring of the role of the boundary's work-life activated by using a smartphone, which may cause work-life conflict. Employees may feel their duties have interfered with their private time outside of office hours because of smartphones (Derks et al., 2014; Wright et al., 2014 and Butts et al., 2015). Clearly, using a smartphone for work during off-job time can be perceived as intruding on employees' personal lives (Butts et al., 2015). Further, frequent intrusions after working hours increases work-life conflict, as mentioned in the discussion.

H₁: Using smartphones for work during off-job time will be positively related to perceived work-life conflict.

Increasingly using smartphones for work during time will influence the perception of work-life conflict (i.e. Golden & Geisler, 2007), but it may also have an effect on burnout among employees. Burnout is defined as the draining of mental resources, causing unpleasantness, feelings of being unfulfilled, and a sense of meaninglessness that are raised

from chronic job stress, unpleasant changes, and negative work context (Schaufeli & Enzmann, 1998 and Maslach & Schaufeli, 2017). Maslach and Florian (1988) stated that burnout consists of three components: Emotional exhaustion, depersonalization, and reduced personal accomplishment. From previous research, it has been shown that increased use of smartphones for work during off-job time may cause stress and burnout among employees when they frequently use smartphones for work demands. Instead, they should be free to spend time with friends or family members (Edley, 2001; Peeters et al., 2005; Boswell & Olson-Buchanan, 2007 and Kossek & Lautsch, 2008).

H₂: Using smartphones for work during off-job time will be positively related to burnout.

3.3 Work-Life Conflict as a Mediator

Researchers have proposed that using smartphones for work during off-job time will be positively related to work-life conflict and burnout among employees. However, several pieces of research discovered the important role of work-life conflict as a mediator that linked the antecedent factors to burnout (Perlow, 1998 and Kossek & Lautsch, 2008). Several scholars argued that work-life conflicts may only be a partial mediator that interrupt employees' private time and directly influence burnout, in which work may interfere with personal life time along with stressors at home having effect on burnout (Geurts et al., 2003; Janssen et al., 2004 and Peeters et al., 2005). According to previous studies, work-life conflict may influence burnout, and work-life conflict may play a mediating role on the use of smartphones for work during off-job time and burnout among employees based on the following hypotheses:

H₃: Work-life conflict will be positively related to burnout.

H₄: Using smartphones for work during off-job time will be associated with burnout through work-life conflict as a mediator.

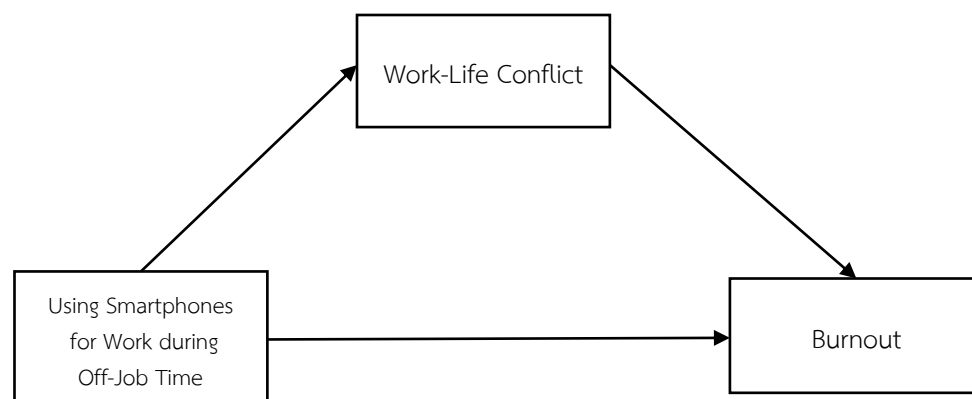


Figure 1 Research framework

4. Research Methodology

4.1 Sample and Procedure

The sample of this study consisted of 222 Thai employees from a local organization in Bangkok. A quantitative approach was used in this study and samples were asked to voluntarily consent before filling out the questionnaire through an online-based survey by using convenient sampling. The sample size was calculated based on Power = .80, effect size .131, and $\alpha = .05$ by using G*power version 3.1 (Champoux & Peters, 1987 and Faul et al., 2009). All participants were anonymous for confidentiality and participated on a voluntary basis; they did not receive any reward. The researcher recruited participants based on the criteria, including the possession of smartphones, and cut the missing data ($n = 7$). Thus, the final sample was 215. In this study, the majority of participants were female at 68.8 % ($n = 148$) and single at 83.7 % ($n = 180$). The mean age was 30.03 years ($SD = 8.08$). Of all participants, 71.2 % ($n = 153$) were undergraduates, 72.6 % ($n = 156$) were officer level, and 62.8 % ($n = 135$) were fixed-hours employees. The majority of organizational type was 63.7 % ($n = 137$) in the private sector.

4.2 Measures

Smartphones for work during off-job time was measured with 7 item adapted from Derks et al., (2014). All items were rated on a 7-point Likert scale (from 1 = *totally disagree* to 7 = *totally agree*) such as “When your social media application on smartphone had work-related notification after working hours, you need to respond” and “You always text or call about your work until you go to sleep” ($\alpha = .80$).

Work-Life Conflict was measured with 4 items on the work-life balance scale by Sae-ung et al (2013). All items were rated on a 7-point Likert scale (from 1 = *totally disagree* to 7 = *totally agree*) such as “Do you think you cannot participate in interesting activities because you need to complete work demands?” and “Do you think receiving work-related instant messages interfere with your private life?” ($\alpha = .79$).

Burnout was measured with 16 items on the work-life balance scale of Klebbua & Sutiwan (2009). All items were rated on a 7-point Likert scale (from 1 = *totally disagree* to 7 = *totally agree*) such as “After working hours, I try to distance myself from work” and “After working hours, I don’t think about work” ($\alpha = .88$).

4.3 Analysis

This research used Hierarchical Multiple Linear Regression (Muller et al., 2005) and resampling data with a Bootstrap-based test (Paparoditis & Politis, 2005) for testing the hypotheses with Program R.

5. Research Finding

Table 1 presents the means and standard deviations with the bivariate relationship among the study variables. For the bivariate relationship, Table 1 shows that using smartphones for work during off-job time had a significant relationship with work-life conflict ($r = .252, p < .01$) and burnout ($r = .151, p < .05$). In addition, work-life conflict had a positively significant relationship with burnout ($r = .628, p < .01$).

Table 1 Descriptive Statistics and Correlations among study variables

Variable	<i>n</i>	<i>M</i>	<i>SD</i>	1	2	3
1. Using smartphones for work	215	4.96	1.17	-		
2. Work-Life Conflict	215	4.28	1.49	.252**	-	
3. Burnout	215	3.79	1.07	.151*	.628**	-

* $p < .05$. ** $p < .01$.

According to the test of hypotheses, Table 2 presents Hierarchical Regression results for the influence of using smartphones for work during off-job time on burnout among employees, in which there is a mediating role of work-life conflict. For Hypothesis 1, using smartphones for work during off-job time was positively related to perceived work-life conflict based on Table 2, thus supporting Hypothesis 1. Using smartphones for work during off-job time was positively related to burnout, according to Table 2, thus supporting Hypothesis 2. Hypothesis 3 also supported that work-life conflict was positively related to burnout.

The researcher proposed that hypothesis 4 concerning work-life conflict will play the role of mediator on the relationship using smartphones for work during off-job time and burnout among employees. Table 2 shows the significant mediating role of work-life conflict on using smartphone for work during off-job time and burnout ($\beta = -.008, p = .86$) (see Figure 2). Work-life conflict had a complete mediator role on the study variables (Muller et al., 2005). Therefore, testing the mediating role of work-life conflict supported Hypothesis 4 (see Table 2).

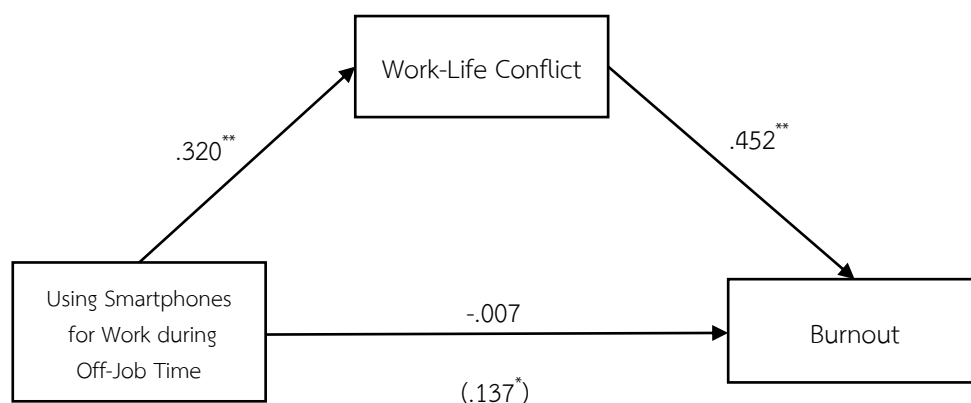
Table 2 Hierarchical Regression results for using smartphones for work during off-job time on burnout through work-life conflict as a mediator

Variable	B	95 % CI for B		SE	B	R ²	ΔR^2
		LL	UL				
Step 1 ^a						.023	.018*
Constant	3.112***	2.490	3.733	.315			
Using smartphones for work	.137*	.015	.259	.062	.151*		
Step 2 ^a						.394	.388***
Constant	1.892***	1.358	2.426	.271			
Using smartphones for work	-.007	-.111	.102	.055	-.008		
Work-life conflict	.452***	.367	.535	.043	.630		
Step 3 ^b						.063	.059***
Constant	2.697***	1.849	3.544	.430			
Using smartphones for work	.320***	.154	.487	.086	.252***		

Note: ^a Dependent variable = Burnout; ^b Dependent variable = Work-life conflict.

CI = confidential interval; LL = lower limit; UL = upper limit.

* $p < .05$. *** $p < .001$.



* $p < .05$. *** $p < .001$.

Figure 2 Mediating role of Work-life conflict (Direct and Indirect effects)

6. Conclusion and Discussion

6.1 Discussion

People connect to wireless access via smartphones, so they are capable of communicating with others as well as accessing information from home, public transportation, and personal vehicles, meaning it is possible anywhere at anytime (Major & Germano, 2006). With these facilitations of smartphones, employees typically use them for work effectiveness wherever or whenever that they are available. However, staying connected may cause forced expectations on employees who need work-related communication to complete their duties

all the time, even when they are outside of traditional work schedules (Davis, 2002; Marquart & Gross, 2018). In this research, the researchers would like to study the impact of work-related smartphone use during off-job time on the perception of work-life conflict among employees in a modern work society. Furthermore, using smartphones for work is one of the work stressors influencing employees in terms of the amount of stress and burnout (Peeters et al., 2005 and Kossek & Lautsch, 2008). Thus, this research focused on the impact of work-related smartphone use during off-job time on burnout among employees. Moreover, the usage of smartphones for work during off-job time and burnout is associated with work-life conflict as a mediating factor among employees. According to the findings, employees who use their smartphones for work-related tasks tend to perceive the conflict between work and personal life domains. They are also likely to feel burnout because of work-related smartphone usage. Increased usage of smartphones for work after working hours and perception of work-life imbalance are factors that may contribute to blurring the boundary between work and non-work, even though smartphones provide conveniences. This explanation and the results are congruence with previous studies (e.g. Peeters et al., 2005; Boswell & Olson-Buchanan, 2007 and Wright et al., 2014). For feelings of burnout among employees, using smartphones for work during off-job time increases connectivity and can potentially contribute to negative side effects on employees, such as chronic stress. Stress is found to be associated with three components of burnout, and burnout can result from extreme or prolonged work stressors including work-related smartphone use (McManus et al., 2002). Further, the consequences of burnout have been linked to employees' performance, physical health and mental health problems, as well as turnover rate among employees (Maslach & Schaufeli, 2017).

Therefore, prolonged use of smartphones for work during off-job time among employees may contribute to burnout, thus leading to negative consequences for employees and their organization. In work-life conflict, the results showed employees perceived that work-life conflict was positively related to burnout. Based on the boundary theory, work may spill over into personal life during free time, causing cumulative stress outside of the workplace and influencing work (Janssen et al., 2004). Previous discussions about burnout and prolonged work-related stress from the perception of work-life conflict may contribute to burnout among employees. Finally, the last assumption in this study is about work-life conflict playing a mediating role in the usage of smartphones for work during off-job time and burnout. The findings revealed that the perception of work-life conflict was significantly linked to using smartphones for work during off-job time and burnout among employees. Investigation of the mediating role of work-life conflict on burnout is congruent with previous studies (e.g. Janssen et al., 2004; Kossek & Lautsch, 2008 and Wright et al., 2014). Thus, work-related smartphone use during off-job time is a key factor that strongly influences burnout through the perception of work-life conflict, in which employees interpret work spilling over into their free time.

6.2 Conclusion

Smartphones are portable devices facilitating communication and information anytime and anywhere by accessing wireless internet. With the advantages of smartphones, they tend to be used continuously as a working tool in organizations. This tool provides some benefits for work organizations such as saving costs and enhancing work-related tasks. However, smartphones have blurred the role of the boundary between work and non-work among employees, especially when using them for work after regular work hours. Employees frequently use smartphones for work after working hours, which may have an effect on negative outcomes like perceiving work-life conflict, prolonged stress, and burnout for employees, as well as low job satisfaction, work engagement, and turnover intentions for organizations. The current study conveyed the impact of using communication technology such as smartphones. Thus, organizations and managers should consider and balance using smartphones for work effectiveness and usefulness while employees are outside of business time in a contemporary work society.

7. Research Suggestions

This study was not without limitations. The first limitation was its cross-sectional approach, meaning it was limited for interpretation among the study variables. Further study should be conducted by using a longitudinal approach to assure the other influential factors like frequency, duration, and degree of using smartphones for work during off-job time. Moreover, one should consider the next morning before going to work among employees as off-job time for further study. For the second limitation, this study focuses on the negative effects of work-related smartphones. However, this tool may have positive advantages as well. Thus, future studies should study the positive attitudes toward using smartphones for work such as group communication effectiveness. For the last limitation, this research was not controlled by job involvement, work engagement, workaholic, or flow variables, which may influence how employees manage and perceive work-life balance differently, especially employees who have a low level among variables. Therefore, future studies should control these variables in the research model.

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Contact Information

Saharath Wongchompoo
 Faculty of Psychology, Chulalongkorn University
 E-mail: saharath0202@gmail.com