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Mental Health under the COVID-19 Pandemic Remote Work Condition: A Study of the Effects of Work-Family Conflicts on Emotional Exhaustion

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Abstract: With the emergence of coronavirus at the beginning of 2020 and its lasting impact still on, many people have experienced or are still experiencing remote work to some degree. Many employees have to go through changes in their workplace from organization to home. Under the situation of a worldwide pandemic that causes a lot of changes and stress, employees' mental health is an important issue to study. This paper explores this area and builds a model of work-family conflicts (WFC) and emotional exhaustion in linear regression with two other variables, self-efficacy and perceived organizational support (POS) based on the Resource Drain Theory. This model is based on the data collected using a questionnaire containing some variable scales and distributed on the Wenjuanxing platform in China. The sample of this study is 210 employees who have experienced working from home because of the COVID-19 pandemic in China. SPSS software was utilized to analyze the data. The present study finds the impact of WFC on Emotional exhaustion in employees with self-efficacy being a moderator and POS being a partial mediator. In both directions of WFC (both WIF and FIW), people whose self-efficacy is at a higher level tend to experience a higher influence of WFC on emotional exhaustion than people with low self-efficacy.

Keywords: COVID-19, work-family conflicts, emotional exhaustion, self-efficacy, organizational support, Resource Drain Theory

1. Introduction

At the beginning of 2020, the emergence of the coronavirus caused the world to go through the COVID-19 pandemic, which changed people's work and lifestyles. Many governments and organizations dealt with the pandemic by making policies for people working from home. Although now it's 2022 and the pandemic has begun to decrease its effect on people's lives, many employees in the world have still experienced working from home during this year because of the quarantine policies and even many organizations have decided to switch to remote work despite the status of the pandemic after the pandemic began. Under this situation, it's important to look through people's work lives and their mental health which could be impacted by the life changes under the influence of the COVID-19 pandemic. Emotional exhaustion is defined as "a chronic state of physical and emotional depletion that results from excessive job demands and continuous hassles" [1]. Past studies in this field have found that emotional exhaustion could cause a high rate of turnover intentions, a low level of work performance, and a decrease in organizational citizenship behaviors [1, 2, 3]. Therefore, it's

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important to understand what could cause emotional exhaustion and in what specific condition emotional exhaustion could be brought up.

Although previous studies have found the factors causing emotional exhaustion, the impacts under the specific condition of remote work have not been fully explored. According to a systematic review study, high job demands could lead to emotional exhaustion [4]. Another study found that emotional dissonance in the workplace could also contribute to emotional exhaustion [5]. However, working from home could be so different from working in the workplace since the perceived level of work-family conflicts (WFC) could be higher if people stay much longer at home. By definition proposed by Greenhaus and Beutell, WFC is "a form of interrole conflict in which the role pressures from the work and family domains are mutually incompatible in some respect" [6]. To be specific, WFC include two direction effects of the conflict, one is work interfering with family (WIF) and the other is family interfering with work (FIW), in which WIF can be explained as "requirements in the work domain that impede performance in the family domain" [7] while FIW is defined as "family demands that impede performance in the work domain" [7]. Research about WFC under the COVID-19 pandemic found that work stress and turnover intention were increased by WFC with a decrease in the quality of life [8, 9]. Besides, people being quarantined and only staying at home might cause more stress than working in the workplace in terms of reduced social interaction and support. In consideration of this fact, this study is meaningful in exploring the factors leading to emotional exhaustion under the condition of working from home, which could also be a useful implication in other quarantine conditions or just remote work settings.

To fill the gaps that have been discussed before, this study explored the question of how WFC affect emotional exhaustion when people work from home by collecting questionnaires from 210 employees in China who have experienced working from home. The role of self-efficacy as a partial mediator and the moderating role of POS were also uncovered. Overall, this study contributes theoretically to the impact of WFC on emotional exhaustion under the COVID-19 pandemic in which employees work from home with the exploration of the mediation and moderation affecting the relationship. This study's practical implications can be seen in future times when any conditions such as climate catastrophe require employees to work from home.

2. Theory and Hypotheses

Resource Drain Theory states that stress, fatigue, and burnout could emerge when one's resources in a domain become insufficient due to the shift of a limited number of resources from this domain to another [10]. To apply the theory to this study, when switching to working from home, employees may lose the resources they could gain from working at the workplace, such as energy and time, and they will experience a drain on their available resources. Then, burnout (emotional exhaustion) will likely appear.

2.1. The Impact of Work-Family Conflicts on Emotional Exhaustion

WIF implies that one has some impediments to dealing with family issues because of demands on work [7]. In this case, one may feel emotionally drained and cannot get energy or support from their family on time, which will lead to emotional exhaustion. Besides, when one's work interferes with his/her family, he/she may argue or fight with their family members a lot, which leads to a negative impact on his/her feelings. Finally, if one is experiencing WIF, it might take his/her a lot of time to deal with work issues because of excess work demands and he/she will feel exhausted by doing this. The three reasons listed above can combine to cause emotional exhaustion in workers under the influence of WIF.

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Similar ideas can be applied to the impact of FIW on emotional exhaustion. With FIW, one may lose energy and become very upset when dealing with family issues. According to Resource Drain Theory [10], this will lead to stress and emotional exhaustion. Besides, when one's family interferes with his/her work, he/she may argue with their supervisor or coworkers a lot, which leads to negative feelings and even emotional exhaustion. Finally, it takes one a lot of time to deal with family issues when he/she experiences FIW and they may feel stressed out and overwhelmed by it, which leads to exhaustion eventually.

Hypothesis 1a: WIF will be positively related to emotional exhaustion.

Hypothesis 1b: FIW will be positively related to emotional exhaustion.

2.2. The Mediating Role of Perceived Organizational Support

Perceived organizational support (POS) is defined as "the extent to which the organization values their contributions and cares about their well-being" [11]. When experiencing WFC, employees may not fully pay attention to the organization that they work in since their resources are getting depleted according to Resources Drain Theory [10]. In this situation, they will probably perceive little or no organizational support at all. However, if employees have a perfect balance between work and family, which is the condition that these two factors do not have a negative influence on each other and they do not overwhelm the employees, the employees may have a good mood and energy to perceive the support provided by their organization.

According to previous studies, POS has some impacts on emotional exhaustion. One study on nurses working during the SARS pandemic illustrated that increasing POS can significantly reduce emotional exhaustion [12].

Therefore, we expect a mediating role of POS in the relationship between WFC and emotional exhaustion by combining the negative relationship between WFC and POS and the negative relationship between POS and emotional exhaustion.

Hypothesis 2a: POS will perform a mediation effect on the relationship between WIF and emotional exhaustion.

Hypothesis 2b: POS will perform a mediation effect on the relationship between FIW and emotional exhaustion.

2.3. The Moderating Role of Self-efficacy

According to a study of nurses, it was found that nurses whose self-efficacy is at a high level tended to have high outcome expectations [13]. From it, we can expect that employees whose self-efficacy is at a high level have high expectations of themselves and their lives. But under a high level of WFC, they can't fully utilize their strengths and can't achieve their goals. Therefore, the further distance between their expectations and reality makes them feel more upset and disappointed than people whose self-efficacy is at a low level, which will be more likely to cause more emotional exhaustion in these employees.

Hypothesis 3a: Self-efficacy will perform a moderating effect on the relationship between WIF and emotional exhaustion, such that, compared to people whose self-efficacy is at a low level, people whose self-efficacy is high will experience a greater influence of WIF on emotional exhaustion.

Hypothesis 3b: Self-efficacy will perform a moderating effect on the relationship between FIW and emotional exhaustion, such that, compared to people whose self-efficacy is at a low level, people whose self-efficacy is high will experience a greater influence of FIW on emotional exhaustion.

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3. Method

3.1. Procedure

The items in the questionnaire were originally from a couple of previous scales stated in English, which were translated into Chinese by us. The questionnaire was distributed on Wenjuanxing which was a crowdsourced survey platform in China, and then data was collected. There were sixty questions in total, including participants' basic information, work-family experience during the COVID-19 pandemic, emotions during that period of time, and one question for attention check. 210 valid responses in total were collected and the consolidated data was analyzed using SPSS software.

3.2. Participants

343 Chinese residents who have experienced working from home because of the pandemic were given a questionnaire for this study. After removing some invalid responses, 210 responses were included for data analysis and the response rate was 61.22%. These participants had an average age of 28.940 years (SD = 4.647), and more females (60%) than males (40%) (SD = 0.490) participated in this study. Among these participants, 73% were married and the rest were not. The average number of children these participants had in their household was 1.800 (SD = 0.596) with a minimum of 1 child and a maximum of 3 children. These participants share a wide variety of professions, including teachers, engineers, and designers; with 32.4% being ordinary staff members, 40.4% being line managers, 24.5% being middle managers, and 2.7% being top managers. The participants were from twenty-five provinces in China, distributed in China's east (29.62%), south (15.87%), central (17.31%), north (25.86%), southwest (4.87%), northeast (3.95%), and northwest (2.52%) areas.

3.3. Measures

3.3.1. Work Interfering with Work and Family Interfering with Work

WIF and FIW were measured together by the Bi-directional Scale of WFC proposed by Carlson et al. [14]. There were eight questions in total on a five-point scale (1 = strongly disagree, 5 = strongly agree, $\alpha = 0.761$ for WIF, $\alpha = 0.675$ for FIW), the first four for WIF, and the last four for FIW [14]. Sample questions included "Often feel tired at work due to family matters".

3.3.2. Emotional Exhaustion

The scale developed by Watkins et al. was utilized here to measure emotional exhaustion [15]. This scale was a three-item scale on a seven-point scale (1 = strongly disagree, 7 = strongly agree, $\alpha = 0.868$. Questions like "I feel emotionally drained from my work" were included here.

3.3.3. Perceived Organizational Support

The scale developed by Shen and Benson was utilized here to measure POS [16]. There were eight questions on a five-point scale (1 = strongly disagree, 5 = strongly agree, $\alpha = 0.871$). Sample questions like "my organization cares about my opinions" were included in the scale.

3.3.4. Self-efficacy

The measurement of self-efficacy was accomplished by utilizing the scale invented by Ng et al. [17] which consisted of thirteen questions on a seven-point scale (1 = strongly disagree, 7 = strongly agree, $\alpha = 0.873$). The sample question is "I have confidence in my ability to solve problems creatively" [17].

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3.4. Model

The overall research model is depicted in Figure 1. The arrows from WFC towards POS and from POS towards emotional exhaustion reflect the mediating effect of POS on the relationship between WFC and emotional exhaustion. Since this is a partial mediation, there is also an arrow from WFC towards emotional exhaustion directly. The arrow from self-efficacy towards the arrow between WFC and emotional exhaustion demonstrates the moderating effect on this relationship.

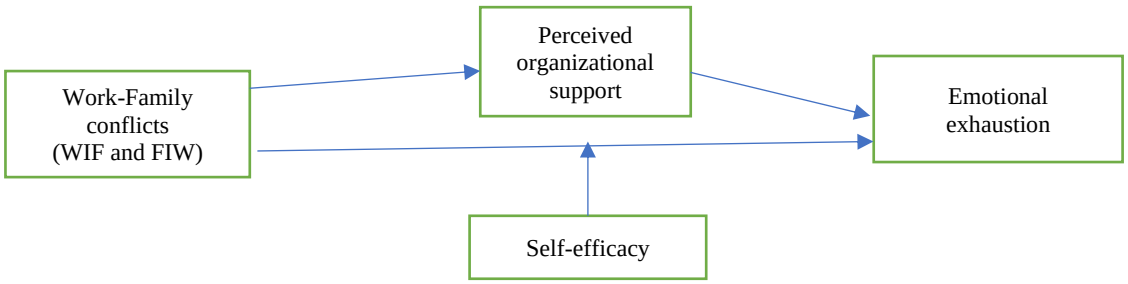

Figure 1: WFC and Emotional Exhaustion model.

4. Results and Analyses

The participants' age, the number of children, and gender were control variables in this study. Table 1 contains the descriptive statistics, correlations, and reliability coefficients. Both WIF ($r = 0.633$, $p < 0.001$) and FIW ($r = 0.524$, $p < 0.001$) had a positive relationship with emotional exhaustion.

Table 1: Descriptive statistics, reliability coefficients, and correlations.

Variables	Mean	SD	1	2	3	4	5	6	7	8
1. Age	28.940	4.647								
2. Children	1.800	.596	.391**							
3. Gender	.400	.490	.116	-.016						
4. WIF	3.030	.935	.002	-.032	-.005	.761				
5. FIW	2.818	.822	-.174*	-.101	.028	.546**	.675			

Table 1: (continued).

6. POS	3.700	.741	.100	.173*	.011	-.347**	-.243**	.871		
7. Self-efficacy	5.030	.805	.222**	.222**	.218**	-.160*	-.160**	.523**	.873	
8. Emotional exhaustion	3.822	1.581	-.093	-.154*	.025	.571**	.434**	-.513**	-.292**	.868

(Note: * represents $p < 0.05$. ** represents $p < 0.01$. Gender was dummy coded (female = 0). Cronbach's Alpha reliability coefficients are reported on the diagonal. N = 210.)

Besides, we can see that from Model 2b and 2e in Table 2, the line regressions of emotional exhaustion with WIF ($\beta = 0.568$, $p < 0.001$, $R^2 = 0.335$, $\Delta R^2 = 0.323$) and with FIW ($\beta = 0.427$, $p <$

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0.001, R^2= 0.186, ΔR^2 = 0.174) were significant; Hypothesis 1a and 1b were supported, which reflects that both WIF and FIW had positive relationship with emotional exhaustion.

Table 2: Linear regressions of perceived organizational support and emotional exhaustion.

Variables	**Perceived organizational support**			**Emotional exhaustion**						
	Model 1a β (s.e.)	*Model 1b β (s.e.)*	*Model 1c β (s.e.)*	*Model 2a β (s.e.)*	*Model 2b β (s.e.)*	*Model 2c β (s.e.)*	*Model 2d β (s.e.)*	*Model 2e β (s.e.)*	*Model 2f β (s.e.)*	*Model 2g β (s.e.)*
Constant	-.716 (.435)	.399 (.459)	.317 (.524)	.655 (.436)	.649 (.358)	.468 (.358)	.463 (.338)	.185 (.402)	-.131 (.393)	-.037 (.362)
Controls										
Age	.008 (.016)	.099 (.015)	.000 (.016)	-.009 (.016)	-.011 (.013)	-.010 (.013)	-.011 (.012)	.006 (.015)	.008 (.014)	.003 (.013)
No. of Children	.266* (.125)	.243* (.118)	.252* (.122)	-.230 (.126)	-.192 (.103)	-.111 (.101)	-.081 (.096)	-.204 (.114)	-.070 (.113)	-.035 (.104)
Gender	.019 (.141)	.013 (.133)	.040 (.138)	.057 (.142)	.066 (.116)	.153 (.114)	.093 (.109)	.016 (.129)	.160 (.127)	.081 (.117)
Independent variables										
WIF		-.367*** (.069)			.568*** (.056)	.502*** (.056)	.422*** (.056)			
FIW			-.277*** (.083)					.427*** (.063)	.376*** (.062)	.313*** (.058)
Mediator										
Perceived organizational support							-.311*** (.064)			-.404*** (.066)
Moderators										
Self-efficacy						-.181** (.058)	-.030 (.064)		-.255*** (.064)	-.044** (.068)

Table 2: (continued).

Self-efficacy × WIF						**.151** (.052)**	**.137** (.049)**		**.157** (.054)**	**.139 (.050)**
Self-efficacy × FIW										
R^2	.017	.132***	.063***	.012	.335***	.389***	.450***	.186***	.259***	.371***
ΔR^2		.115***	.046***		.323***	.054***	.061***	.174***	.073***	.112***

(Note: * represents p < 0.05. ** represents p < 0.01. *** represents p < 0.001. Gender was dummy coded (female = 0). WIF = Work interfering with family conflict. FIW = Family interfering with work conflict.)

The results shown in Table 2 Model 1b and 1c indicated a statistically significant negative relationship between WIF and POS (β = -0.367, p < 0.001, R^2= 0.132, ΔR^2 = 0.115), and FIW and POS, (β = -0.277, p < 0.001, R^2= 0.063, ΔR^2 = 0.046). Besides, we can also see from Model 2d in Table 2 that, as WIF being an independent variable, the effect of POS was significant (β = -0.311, p < 0.001, R^2= 0.450, ΔR^2 = 0.061), whereas the effect of WIF was also significant (β = 0.422, p < 0.001). This indicts that there was a partial mediating effect of POS on the relationship between WIF and emotional exhaustion, which means that Hypothesis 2a was supported. Model 2g in Table 2

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demonstrated that, with FIW being an independent variable, the effect of POS was significant ($\beta = -0.404$, $p < 0.001$, $R^2 = 0.371$, $\Delta R^2 = 0.112$) and also the effect of FIW itself (2g: $\beta = 0.313$, $p < 0.001$). Therefore, POS also partially mediated the relationship between FIW and emotional exhaustion, which means Hypothesis 2b was supported.

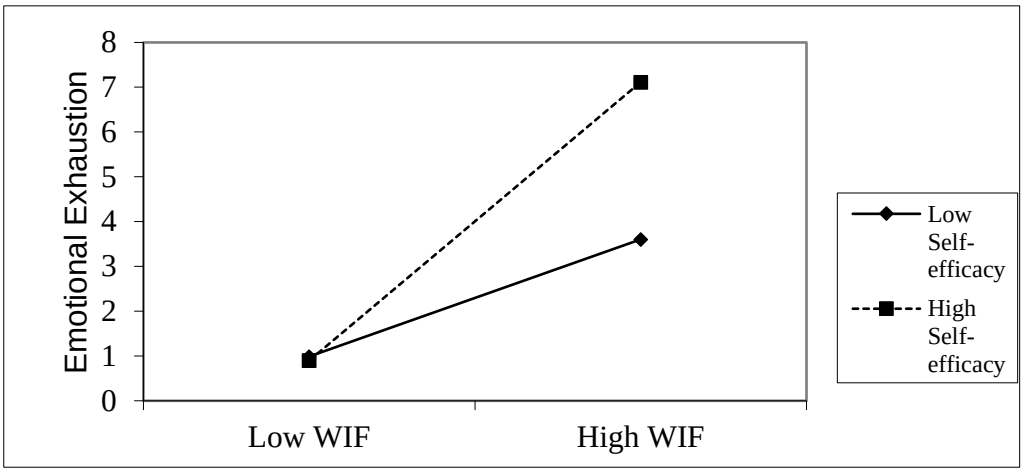

Figure 2. WIF and Emotional exhaustion: Self-efficacy as the moderator.

The result in Model 2c in Table 2 indicated a moderating effect performed by self-efficacy because the result of the interaction of self-efficacy and WIF was significant ($\beta = 0.151$, $p < 0.01$, $R^2 = 0.389$, $\Delta R^2 = 0.054$). According to this result, Hypothesis 3a was supported. We can see from Figure 2 that people whose self-efficacy was at a high level experience a stronger influence of high WIF compared to people who had relatively low self-efficacy on their perceived level of emotional exhaustion. Similarly, Model 2f in Table 2 suggested there was also a moderating role of self-efficacy in the relationship between FIW and emotional exhaustion as the result of the interaction of self-efficacy and FIW was significant ($\beta = 0.157$, $p < 0.01$, $R^2 = 0.259$, $\Delta R^2 = 0.073$). Therefore, Hypothesis 3b was supported. Figure 3 demonstrated this moderating role by demonstrating that people who had high self-efficacy received a stronger influence of high FIW compared to people who did not have much self-efficacy on their perceived level of emotional exhaustion.

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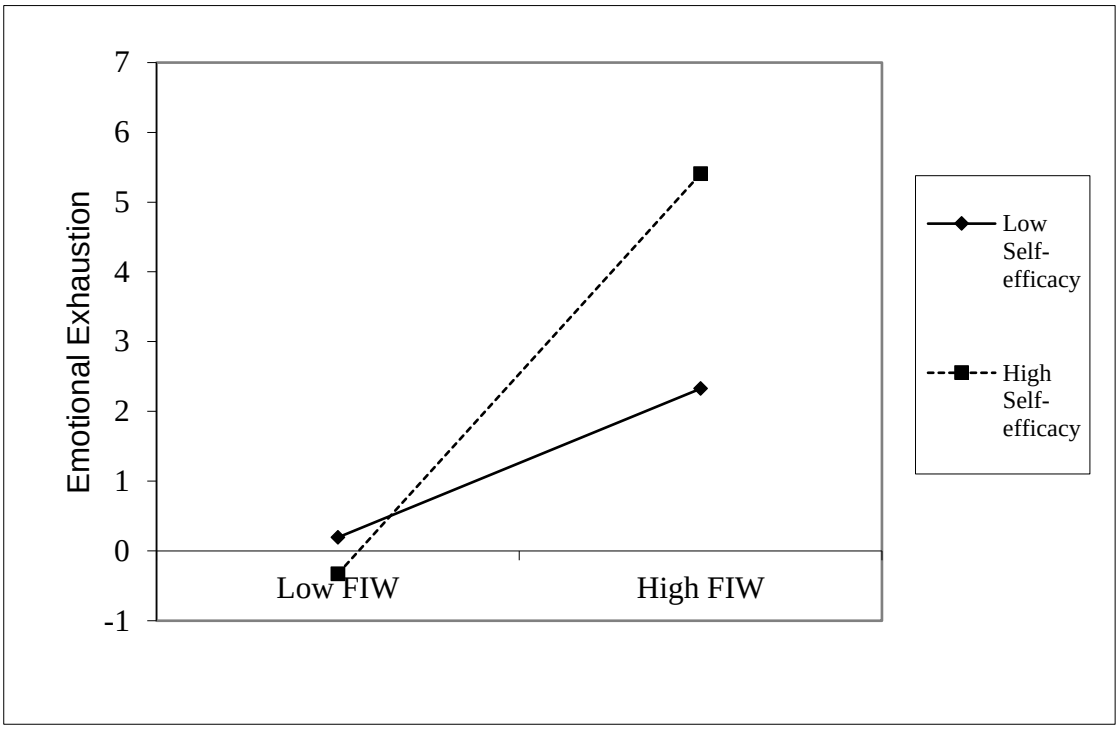

Figure 3: FIW and Emotional exhaustion: Self-efficacy as the moderator.

Combining these results together, we found the correlational relationship between WFC (in both directions, WIF and FIW) on emotional exhaustion. POS mediates this relationship in a partial manner and self-efficacy moderates this relationship. This result implies that organizations should pay attention to providing sufficient organizational support in either verbal or action to decrease their employees' potential emotional exhaustion. It also suggests that self-efficacy can affect an employee's mood a lot in high WFC conditions, worse for employees whose self-efficacy is high. Therefore, the organizations may need to provide organizational support or other adjustment measures to prevent employees from emotional exhaustion, which, in turn, could benefit the organization.

5. Conclusion

By collecting data on employees working from home under the effect of the COVID-19 pandemic, this study explored the impact of WFC (both WIF and FIW) on emotional exhaustion. A positive relationship between WFC and emotional exhaustion was found with the restrictive effect of POS as a mediator and self-efficacy as a moderator in this model. But this study was not perfect, and it might lack generalizability worldwide since the subjects in this study were only 210 employees in China. With this in mind, future research could be conducted in different countries and recruit more participants to test if they could get similar results.

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