



**How can subjective well-being of nurses be predicted?  
Understanding the mediating effect of psychological  
distress, psychological resilience, and emotional exhaustion**

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3 1 **How can the subjective well-being of nurses be predicted? Understanding the mediating**  
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5 2 **effect of psychological distress, psychological resilience, and emotional exhaustion**  
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10 4 **Abstract**

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12 5 This paper examines the relationships among work-family conflict (WFC), cognitive emotion  
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14 6 regulation (CER), psychological resilience (PR), psychological distress (PD), emotional  
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16 7 exhaustion (EE), and subjective well-being (SWB) in a complex model based on the Job  
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18 8 Demands-Resources theory. Also, the mediating role of PR, PD, and EE are analyzed. Data  
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20 9 for this study were collected from 158 full-time nurses working in two hospitals in North  
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22 10 Cyprus. PLS-SEM was used to test the theoretical model. Our findings revealed that CER  
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24 11 reduces employees' WFC, which in turn has a negative effect on employees' SWB directly  
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26 12 and through the mediating role of EE. However, the role of PR in the relationship between  
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28 13 CER and PD was not significant. The study adds the original views for hospitals and service  
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30 14 providers to recognize the factors which exert detrimental effects on employees' mental  
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32 15 health, as well as the factors which help them to tackle harsh situations specifically in times  
33  
34 16 of crisis. Theoretical and practical implications are provided.

35  
36 17 **Keywords:** Cognitive emotion regulation, Psychological resilience, Work-family conflict,  
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38 18 Psychological distress, Emotional exhaustion, Subjective well-being

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43 19 **Introduction**

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46 20 The hospital setting has always been known as a stressful and hectic environment, which  
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48 21 affects nurses psychologically since they are not just in contact with patients and their  
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50 22 families but they are also witnessing the pain of patients, or even their death (Foureur et al.,  
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52 23 2013; Mo et al., 2020; Wu et al., 2020). These features of the hospital setting create the  
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54 24 incidence of work-family conflicts among employees (AlAzzam et al., 2017; Cooklin et al.,  
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56 25 2014) which, over time, may create mental distress and emotional exhaustion (Allen,  
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3 26 Holland, & Reynolds, 2015). However, this issue is more severe in times of pandemic  
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5 27 (Chislieri et al., 2021; Zhang et al., 2021). Epidemics and pandemics always have a huge  
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8 28 impact on humans and afflicted individuals' lives (Samal, 2014). The COVID-19 pandemic,  
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10 29 for instance, has had a tremendous impact not just on the world economy but also on people's  
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12 30 emotional and physical health and well-being (Dewey et al., 2020; Greenberg et al., 2020).

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14 31 The lack of balance between work-family life and mental and physical pressures in the  
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16 32 hospital setting leads to more distress and exhaustion both physically and mentally  
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18 33 (Sagherian et al., 2020; Ahorsu et al., 2020; Alharbi et al., 2020; Kameg, 2020). Work-family  
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20 34 conflict (WFC) as a demand, based on the job demands-resources theory (Bakker &  
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22 35 Demerouti, 2007), depletes the individual's resources and causes distress and anxiety among  
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24 36 nurses, as well as deterioration in their mental well-being (Foureur et al., 2013; Sagherian et  
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26 37 al., 2020; Zhang et al., 2020; Zurlo et al., 2020; Halbesleben et al., 2012; Karatepe, 2013).  
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29 38 However, in this regard, individuals' differences in personal resources and characteristics  
30  
31 39 generate varied consequences (Bayighmore et al.,2021). It is supposed that those who possess  
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33 40 more personal resources tend to experience less distress and anxiety (Losada-Batlar et  
34  
35 41 al.,2021; Chiesi et al.,2022). Cognitive emotion regulation (CER) as the individual's ability  
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37 42 to reappraise the thinking process and psychological resilience (PR) as a component of  
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39 43 psychological capital might help individuals to overcome the conditions which are caused by  
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41 44 the conflict between work and family life and thus avoid negative impacts on their mental  
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43 45 health.

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45 46 Addressing the aforementioned issues, the service industry, specifically the hospital  
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47 47 setting, however, lacks sufficient studies to evaluate the impact of this phenomenon (i.e.  
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49 48 WFC) on employees' mental health and well-being, while considering the intervening role of  
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51 49 some crucial variables – namely, psychological resilience (PR), psychological distress (PD),  
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3 50 and emotional exhaustion (EE) (Finsterwalder,2021; Selzer et al., 2021; Tulucu et al., 2022;  
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5 51 Kotera et al., 2021).

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8 52 Over time, vocations with a primary focus on service activities have grasped the critical  
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10 53 point that it is impossible to achieve organizational goals and boost productivity without  
11  
12 54 sustaining employees' mental health (Hilton et al., 2010; Bubonya et al., 2017). Scholars tried  
13  
14 55 to identify and evaluate the factors that threaten the mental health of employees in order to  
15  
16 56 increase organizational productivity by minimizing the factors that affect the health and well-  
17  
18 57 being of employees (Stupak, and Dobroczyński,2021; McAllister et al., 2014). As different  
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20 58 organizations deal with diverse issues regarding job stresses, the hospital setting is one of the  
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22 59 organizations where employees face significant levels of work-related and psychological  
23  
24 60 stress.

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28 61 From this introduction, the present research raises these questions: Is there a significant  
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30 62 relationship between family and work conflict and people's sense of well-being and mental  
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32 63 health? What are the mediating factors between work-family conflict and people's  
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34 64 perceptions of their subjective well-being? In the meantime, this study discusses the relation  
35  
36 65 between psychological distress and emotional exhaustion by examining whether mental well-  
37  
38 66 being is threatened by increased distress and increased emotional exhaustion. These are  
39  
40 67 questions that are less addressed in the research literature of service organizations (Cambra-  
41  
42 68 Fierro et al., 2022; Tulucu et al., 2022). Another point that this research refers to is the role of  
43  
44 69 psychological factors in reducing work-family conflict, which raises further questions: Are  
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46 70 there psychological factors such as cognitive regulation involved in reducing work-family  
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48 71 conflict? Can psychological resilience reduce the psychological distress that results from  
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50 72 work-family conflict?; Are there psychological factors such as cognitive regulation in  
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52 73 reducing work-family conflict? Can psychological resilience reduce the psychological  
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3 74 distress that results from work-family conflict? can emotional-cognitive regulation increase  
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5 75 resilience?  
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8 76 To answer these questions, the present study has designed a model that adds a new  
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10 77 contribution and value to service organizations, particularly healthcare organizations such as  
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12 78 hospitals. To this end, the current study, based on the job demands-resources model, aims to  
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14 79 fill this gap in various ways. *First*, we aim to discover the effect of WFC on the employee's  
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16 80 subjective well-being (SWB). In this vein, prior studies (e.g., Borgmann et al., 2019; Molina,  
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18 81 2021; Yildiz et al., 2021), demonstrated that conflict between work and life arises when  
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20 82 employees find that their roles in the workplace and in the family overlap and disturb each  
21  
22 83 other. Nevertheless, not all stress is negative and harmful and is part of the nature of work.  
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24 84 However, a review of the literature shows that an integrative analysis of the relationship  
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26 85 between WFC and employees' SWB is lacking (Matthews et al., 2014; Matysiak et al., 2016)  
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28 86 Although WFC and its consequences has been studied in the hospital setting, it has not been  
29  
30 87 considered as one of the anticipators of SWB (e.g., Labrague et al., 2021; Nayeri et al., 2018;  
31  
32 88 Yildiz et al., 2021; Zandian et al., 2020). Moreover, the studies in question investigated the  
33  
34 89 role of work-family conflict in other settings and among different samples (Rahman et al.,  
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36 90 2019; Hu et al., 2018; Wu et al., 2016). Additionally, studies on WFC, particularly in the  
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38 91 hospital setting, are limited, since most have been conducted in other settings such as the  
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40 92 university and hospitality contexts (Arefin et al., 2020; Jerge-Bretzke et al., 2020; O'Neill &  
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42 93 Follmer, 2020). To achieve a deeper understanding of this relationship, we developed a  
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44 94 model that tests the association between WFC and SWB in the hospital setting.  
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51 95 *Second*, an integrated relation between WFC, employee mental health (i.e. PD and  
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53 96 EE), and SWB has been overlooked in the service industry, including the hospital setting  
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55 97 (e.g., Shimazu et al., 2010; Wu et al., 2019). To fill this gap, we present a model to test the  
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57 98 effect of WFC on employees' SWB through the mediating role of both psychological distress  
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3 99 (PD) and emotional exhaustion (EE). This study also contributes to the service and hospital  
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5 100 literature by testing the psychological distress as a mediator between WFC and SWB. Many  
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7 101 employees believe that the conflict between work and life seriously damages the family and  
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9 102 work environment, which can endanger a person's physical and mental health. Of course, this  
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11 103 does not mean that stress alone exacerbates mental illness. However, excessive stress can  
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13 104 lead to depression, anxiety or anger, disrupting brain function and, ultimately, weakening the  
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15 105 immune system. In other words, too much stress can lead to moral weakness, absenteeism,  
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17 106 and reduced productivity (Anasori et al., 2021; Green et al., 2013).

21 107 Another novel contribution of this study is that it fills a gap in the service industry  
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23 108 literature by examining the impact of personal resources on employees' mental health and  
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25 109 distress in the hospital context particularly in times of crisis (e.g., Bayighmore et al., 2021;  
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27 110 Lin et al., 2020; Tulucu et al., 2022). The current study evaluates the effect of cognitive  
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29 111 emotion regulation to abate the work-family conflict among nurses. Although cognitive  
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31 112 emotion regulation including positive reappraisal and refocus of planning is helping  
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33 113 individuals to moderate their stress levels and consequently helps people to reappraise their  
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35 114 emotions to maintain a healthy balance between work and family (Wu et al., 2019) to the best  
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37 115 of our knowledge, no study has tested the effect of CER on hospital employees' work-family  
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39 116 conflict.

44 117 The current study also investigated the role of cognitive emotion regulation in nurses'  
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46 118 psychological resilience which has been overlooked in the hospital setting (Yao and Hsieh,  
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48 119 2019). Among other factors, the ability to regulate one's cognition might exert a constructive  
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50 120 influence on the person's mind and how they react to stressors (Zhang et al., 2021). To  
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52 121 address this issue, this study aims to evaluate the degree to which CER might have an impact  
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54 122 on one's WFC, distress, and strain to react to the stressors. Although the hospital setting is a  
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56 123 stressful work environment because of its work culture (Shen et al., 2020), an association  
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3 124 between CER (cognitive emotion regulation) to alleviate the effects of this stressful work  
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5 125 environment on employees' PR (psychological resilience) and WFC (work-family conflict)  
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8 126 and, subsequently, SWB (subjective well-being) has been largely overlooked. Also, the study  
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10 127 fills the gap in the service literature by exploring the role of resilience in mitigating  
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12 128 psychological distress created by work-family conflict.

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15 129 Consequently, the objectives of this paper are to (a) assess the structural associations  
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17 130 between CER, PR, WFC, PD, EE, and SWB, (b) evaluate the mediating role of both PD and  
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19 131 EE in the connection between WFC and SWB, and (c) examine the mediating impact of PR  
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21 132 in the link between CER and PD. Taken collectively, this study contributes to theory and  
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23 133 practice in various ways. This research contributes to the extant literature on the job-demands  
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25 134 resources theory by providing broader understanding and insights on the research model and  
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27 135 its linked associations between the studied latent constructs within the service industry  
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29 136 setting. Furthermore, the results of this article add to the existing literature on human mental  
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31 137 health and well-being by developing and empirically investigating a comprehensive structural  
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33 138 framework through testing the direct and indirect paths between a number of substantial  
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35 139 variables within the hospital context. Additionally, the outcome of the research model is  
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37 140 employees' well-being that is of utmost importance for organizations as it boosts employee  
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39 141 productivity (Waldrop et al., 2017; Ochieng, 2020; Uysal et al., 2020). Moreover, the  
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41 142 findings of the current work produce valuable practical guidelines and beneficial managerial  
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43 143 implications for managers of service-related sectors in general, and hospitals' managers in  
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45 144 particular, by indicating the extent to which employees SWB could be impacted by some  
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47 145 variables (i.e. WFC, CER, PR, PD, and EE), taking into consideration the intervening roles of  
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49 146 PR, PD, and EE.

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58 148 **Theoretical framework and hypotheses development**  
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3 149 ***Theoretical framework***  
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5 150 The current model describes the relationships among work-family conflict (WFC),  
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8 151 psychological distress (PD) and subjective well-being (SWB) through the buffering effect of  
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10 152 cognitive emotion regulation (CER) among full-time nurses in two private hospital based on  
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12 153 the Job Demands-Resources (JD-R) theory, as depicted in Figure 1.  
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14  
15 154 **Figure 1 [at back] here**  
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17 155 The JD-R theory (Bakker & Demerouti, 2007) considers how work demands and  
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19 156 assets have distinctive and multiplicative impacts on work-related stress and motivation. In  
20  
21 157 this model, psychological distress is a reaction to an imbalance between a work request job  
22  
23 158 demand between workplace and home environment (Broeck et al., 2011) and a job resource.  
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25 159 Demands are the physical, social, or institutional features of the workplace that require  
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27 160 physiological or mental costs to maintain physical and mental security. On the other hand, job  
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29 161 resources (e.g., cognitive emotion regulation and psychological resilience) are the physical,  
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31 162 social, and hierarchical structures of the workplace that help an employee reduce job  
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33 163 demands and their consequences. High rates of psychological distress indicate that employees  
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35 164 have inadequate resources to effectively handle their job burdens, which leads to reduced  
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37 165 subjective well-being (Taris, 2006). Based on Schaufeli and Bakker's (2004) model, job  
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39 166 resources (e.g., cognitive emotion regulation) may diminish work-family conflict. We  
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41 167 supposed that employees who are affected by job demands (WFC) have increased levels of  
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43 168 distress, which can affect their subjective well-being. Organizational resources such as  
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45 169 cognitive emotion regulation may help to reduce this effect of WFC on employees' job  
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47 170 outcomes.  
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53 171 Work-life and family-life balance and its effect on individuals' mental health and well-  
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55 172 being has always been a challenging issue for employees, particularly healthcare employees  
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3 173 (Zhang et al., 2021). Mental well-being, also known as well-being, refers to how people  
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5 174 experience and evaluate different aspects of their lives (Diener et al., 2018).  
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8 175 Since its inception in the mid-1980s, mental well-being has become increasingly common  
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10 176 as a measure of overall life satisfaction, happiness, and well-being. It is often used as a  
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12 177 benchmark in psychological research and as an indicator of individual health (Diener et al.,  
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14 178 2018; Tan et al., 2020; Batz et al., 2018; Yildirim et al., 2020).  
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17 179 Psychological distress affects the mental health and performance of nurses by destroying  
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19 180 people's sense of well-being (Corcoran et al.,2018; Tescon et al.,2018; Tejada-Gallardo et  
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21 181 al.,2018). Therefore, by examining whether this relationship can be significant or not, we can  
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23 182 identify more predictive factors (e.g., job insecurity, work-family conflict) for psychological  
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25 183 distress and ultimately the psychological well-being of individuals and prevent the  
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27 184 destructive effect of these factors  
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31 185 Maintaining SWB in times of crisis is challenging and demands different versions of  
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33 186 personal and mental resources from individuals (Brand et al., 2020). During times of crisis  
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35 187 people need to acquire and upgrade their mental resources to cope with unprecedented  
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37 188 challenges which they have never experienced before (Veer et al., 2020). As an unpredictable  
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39 189 event with a global reach, the COVID-19 pandemic generated major changes in people's  
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41 190 lives, and particularly in the lives of healthcare and hospital employees (Spoorcy et al., 2020;  
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43 191 Vizeh et al., 2020). Hospital employees needed extremely high levels of coping strategies to  
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45 192 maintain their work-life and family-life balance, as well as their mental well-being (Vinkers  
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47 193 et al., 2020). WFC defines the struggle triggered by demands and stresses originating from  
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49 194 the work area which limit individuals' personal abilities to handle their family duties (Frone  
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51 195 et al., 1992). In this regard, findings from the study of Hu et al. (2016) among school  
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53 196 principals show that work-family life conflict could directly influence SWB. Scholars also  
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55 197 consistently find that WFC is negatively related to SWB (Matthews et al., 2014; Hu et al.,  
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3 198 2018; Cheng et al., 2018; Shang et al., 2018; Leung et al., 2020; Hu et al., 2021). In Leung et  
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6 199 al.'s (2020) study, conflicts between work life and family life mediated the link between  
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8 200 family support and SWB. WFC deteriorates SWB through PD and emotional and mental  
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10 201 exhaustion (Matthews et al., 2014; Galletta et al., 2019; McDowell et al., 2019). According to  
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12 202 Zhou et al. (2018), people who experience WFC more frequently are susceptible to  
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14 203 depression, while Jacobsen et al. (2014) claimed that individuals who suffer from work–  
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16 204 family conflict have reported sleep deficiency. The reason might be that, over time, the PD  
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18 205 created by work-family conflict leads to emotional exhaustion among employees (Anasori et  
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20 206 al., 2020; Thompson et al., 2020; Zou et al., 2016) which in turn causes employees' SWB to  
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22 207 deteriorate (Qu & Wang, 2015). Work-family conflict increases emotional exhaustion among  
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24 208 nurses (Galletta et al., 2019). Wang et al. (2019) studied 238 service worker and managers  
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26 209 from hotels and demonstrated that WFC has a positive relationship with EE. Galletta et al.  
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28 210 (2019) also implied that WFC needs to be studied more in a hospital setting and among  
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30 211 healthcare staff since the nature of the job is demanding and poses mental and emotional  
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32 212 challenges for nurses. Another significant point that the present study addresses is the effect  
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34 213 of psychological distress in individuals on their emotional exhaustion. Although both these  
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36 214 factors affect the individual's well-being, its vacancy can be seen in research related to the  
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38 215 service industry, in this regard have been conducted in other settings (e.g, Thompson et al.,  
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40 216 2020 among couples, Anasori et al., 2019 in the hotel setting). Although a few studies  
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42 217 examined this effect in hospital settings (Arvidsdotter et al., 2016; Zou et al., 2016) these were  
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44 218 not conducted in times of crisis. Psychological distress, which is a combination of feelings of  
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46 219 depression, anxiety, and related behaviors, comes at the cost of emotional trauma in the long  
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48 220 run (Okwaraji, 2014). This is very important in a hospital setting, particularly in times of  
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50 221 crisis, as emotional exhaustion leads to a decrease in optimal job performance in individuals  
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52 222 as well as an increase in the tendency of individuals to quit their jobs (Green et al., 2013; Lv  
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3 223 et al.,2012). Because this issue might have serious consequences for patients (e.g., level of  
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5 224 care received), , we investigate whether psychological distress has a significant effect on  
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8 225 increasing employee exhaustion. A few studies in this regard have been done by past  
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10 226 researchers, but they were conducted before the outbreak of the pandemic (Green et al., 2013;  
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12 227 Lv et al., 2012; Zou et al.,2 016, Arvidsdotter et al., 2016). Based on this literature, it is  
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14 228 understood that past studies that have measured the impact of family conflict on individual  
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16 229 well-being are not sufficient. It is also important to note that only a few studies in the field of  
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18 230 services have assessed hospital staff and, most importantly, in the time of the pandemic crisis.  
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20 231 Given that the conflict between home and work is a complex issue, these limited studies fail  
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22 232 to resolve the issue and ignore the morale and psychological conflict of employees, which has  
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24 233 a tremendous impact on patients and the quality of hospital services (Smith, 2014; Moss et  
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26 234 al., 2016). Therefore, the present study addresses this gap in the service industry literature.  
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29 235 Furthermore, hospital staff face additional pressures that are much greater than in other  
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31 236 service industries (Tulucu et al., 2022).

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35 237 Therefore, based on the above-mentioned literature, we present the following hypotheses:  
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37 238 **H1:** Work-family conflict directly and negatively affects individuals' subjective well-being.  
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39 239 **H2:** Psychological distress mediates the relationship between work-family conflict and  
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41 240 subjective well-being.  
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43 241 **H3:** Emotional exhaustion mediates the relationship between work-family conflict and  
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45 242 subjective well-being.  
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47 243 **H4:** Psychological distress increases the emotional exhaustion level.  
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### 52 53 245 **Cognitive emotion regulation and psychological resilience**

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56 246 Based on the JD-R model, chronic job demands take away a person's physical and  
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58 247 psychological energy and cause distress and burnout (Bakker & Demerouti, 2007). However,  
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3 248 job resources that can be organizational, social, or individual may help employees to reduce  
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5 249 the impacts of job demands (Taris, 2006). Based on this theory, we claim that cognitive  
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8 250 regulation and resilience as personal resources might help the individuals to handle the  
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10 251 adversity in the hospital settings that hospital staff are required to deal with. We also posit  
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12 252 that as this stressful environment has been significantly impacted by the COVID-19 outbreak,  
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14 253 the hospital staff are required to utilize more of these resources. Therefore, the thinking style  
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17 254 of the individuals in dealing with adversity and the ways in which they regulate their thoughts  
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19 255 play key roles in how they handle conflicts between their work life and family life (Anasori et  
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21 256 al., 2021). Cognitive and emotional regulation refers to “all the extrinsic and intrinsic  
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24 257 processes responsible for monitoring, evaluating, and modifying emotional reactions,  
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26 258 especially their intensive and temporal features” (Thompson, 1994, p. 27). Cognitive  
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28 259 regulation might affect people’s adaptability to the stressful event. It might affect the  
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30 260 individual's ability to deal with stress and recover from stress (Kane et al., 2018; Söğüt et al.,  
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33 261 2021). Cognitive regulation also affects employee resilience (Min et al., 2013). The  
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35 262 individual's ability to bounce back from stress has been called ‘psychological resilience’ (Chi  
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37 263 et al., 2016). Resilience refers to the personal and psychological resources and abilities  
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39 264 employed in overcoming tensions (Maidaniuc-Chirila, 2015; Chi et al., 2016). Resilience in  
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41 265 the literature is regarded as a personality trait which is stable over time or as a dynamic  
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44 266 feature which is a personal response to the environment and situations (Rutter, 1985;  
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47 267 Egeland, Carlson, & Sroufe, 1993; Connor & Davidson, 2003; Tugade & Fredrickson, 2007).

48  
49 268 PR is a necessity for organizations and healthcare workers to assist them in dealing with  
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51 269 tensions and adversity (King et al., 2016). Jackson et al. (2007) and Garcia and Calvo (2011)  
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54 270 revealed that resilience abates nurses' susceptibility to severe situations in the workplace. Min  
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56 271 et al. (2013) indicated that cognitive regulation helps to build resilience for those who suffer  
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3 272 from anxiety or depression. Also, a study by Mestre et al. (2017) on adolescents emphasized  
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5 273 the role of cognitive emotion regulation in building resilience.  
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8 274 Therefore, based on the above arguments, we propose that:  
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10 275 **H5:** Cognitive emotion regulation alleviates the level of WFC.  
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12 276 **H6:** Psychological resilience mediates the relationship between cognitive emotion regulation  
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14 277 and psychological distress.  
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16  
17 278 **H7:** Psychological resilience alleviates psychological distress level.  
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## 21 280 **Methodology**

### 22 281 **Sample and procedures**

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25 282 Data for the current study were collected from full-time nurses working in hospitals in  
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27 283 North Cyprus. The respondents were healthcare employees from two private hospitals in  
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29 284 North Cyprus. A total of 800 people worked in the hospitals (500 in one hospital and 250 in  
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31 285 the other). Purposive sampling was utilized to examine the perceptions of the frontline  
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33 286 medical staff. Data were collected from 164 out of 207 nurses during the summer of 2020.  
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35 287 The two private hospitals' directors were contacted by phone and asked to participate in the  
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37 288 study. The questionnaires were distributed among respondents in an envelope with a cover  
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39 289 letter outlining the research purpose and guaranteeing the participants confidentiality and  
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41 290 privacy of their responses. This procedure was applied to prevent common method variance  
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43 291 and social desirability bias (Podsakoff et al., 2012; Karatepe et al., 2020).  
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### 51 293 **Measurements**

52  
53 294 Hopkins' 10-item Mental Health Scale Symptoms Checklist (HSCL-10) from Kleppang  
54  
55 295 and Hagquist (2016) was used to evaluate employee PD. To measure healthcare staff  
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57 296 resilience, six items from Luthans, Youssef and Avolio (2007) were used. Eight items  
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3 297 adopted from Maslach and Jackson (1981) were used to operationalize emotional exhaustion.  
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5 298 Cognitive regulation was assessed by eight items (positive reappraisal and refocus of  
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7  
8 299 planning) adopted from Garnefski and Kraaij (2007). Five items taken from Netemeyer et al.  
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10 300 (1996) were used to measure work–family conflict. SWB items were adopted from Diener et  
11  
12 301 al. (1985) Items of resilience were anchored on a six-point scale, while emotional exhaustion,  
13  
14 302 PD and SWB were anchored on a five-point scale.

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16  
17 303 Common method bias (CMB) may exist if the independent and dependent variables used  
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19 304 in the same survey and/or items are measured with the same response method (Kock et al.,  
20  
21 305 2021). The full collinearity assessment approach was applied to control for CMB. All  
22  
23 306 variance inflation factor (VIF) values are below 3.3. Hence, CMB was not observed (Kock &  
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25 307 Lynn, 2012).

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### 309 **Participants**

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33 310 A suitable sample size was calculated by G\*POWER 3.1.9.2 (Faul et al., 2007). The  
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35 311 minimum sample size was determined as 77 (Power=.80,  $f^2=0.15$ ,  $\alpha=0.05$ ).207  
36  
37 312 questionnaires were distributed but 164 returned. Nine surveys, however, were eliminated  
38  
39 313 due to missing values exceeding 5% and/or straight lining or inconsistent responses (Hair et  
40  
41 314 al., 2017). Hence, 158 usable questionnaires were obtained. Of the 158 respondents, 77.8%  
42  
43 315 were female, and 36.1% and 18.4% fell within the age ranges of 25-30 and 31-37,  
44  
45 316 respectively. Most of the participants (70.9%) were single and 91.8% had a Bachelor's  
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47 317 degree. Furthermore, 46.8% and 21.5% had an organizational tenure of 10 or more years and  
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49 318 three to six years, respectively.

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### 53 54 55 320 **Data analysis**

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3 321 PLS-SEM was conducted to test our hypotheses. PLS-SEM is a widely used method in  
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5 322 the literature (Hair et al., 2014; Usakli & Küçükergin, 2018). It was used for several reasons  
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7 323 in this study. First, the sample size of this research is relatively small. PLS-SEM is a very  
8  
9 324 good tool when the sample size is small (Hair et al., 2017). Second, as Sarstedt et. al. (2020)  
10  
11 325 highlights PLS-SEM is a superior approach to examine mediation Factor-based SEM and  
12  
13 326 regression analyses with PROCESS have some limitations while estimating “complex  
14  
15 327 mediation models” (p. 295). In the research model three hypotheses were developed for  
16  
17 328 mediation tests. Bootstrapping methods can be applied, and bias-corrected confidence  
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19 329 intervals can be calculated in PLS-SEM (Hair et al., 2017).  
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## 25 26 331 **Results**

### 27 28 332 **Outer model**

29  
30 333 PLS-SEM analysis was conducted in two stages. In the first stage, outer model results  
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32 334 were examined. All indicators were measured reflectively. Therefore, we followed Hair et  
33  
34 335 al.’s (2017) guidelines for reflective measurements. One item of EE and three items of PD  
35  
36 336 were removed, because their loadings did not exceed 0.40. Some items’ loadings ranged  
37  
38 337 between 0.40 and 0.70; however, they did not affect the reliability. Therefore, they were  
39  
40 338 retained in the model. Other values were higher than 0.70. Accordingly, indicator reliability  
41  
42 339 was met (Hair et al., 2017). Average variance extracted (AVE) values were used to assess  
43  
44 340 convergent validity. Since all AVE values were found to be higher than 0.50, convergent  
45  
46 341 validity was ensured. Composite reliability (CR) values were between 0.904 and 0.952 and  
47  
48 342 all Cronbach alpha (CA) values were higher than 0.70, which indicated composite reliability  
49  
50 343 (see Table 1). Discriminant validity was examined with the heterotrait-monotrait ratio  
51  
52 344 (HTMT) approach (see Table 2). All HTMT values are below 0.90 reflecting discriminant  
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54 345 validity (Henseler et al., 2015).  
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3 346 **Table 1 [at back]: To be inserted here**

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5 347 **Table 2 [at back]: To be inserted here**

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8 348 **Inner model**

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10 349 In the second stage, the inner model was evaluated. VIF values were lower than 5  
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12 350 indicating that no multi-collinearity existed. All  $Q^2$  values were higher than 0 which  
13  
14 351 established predictive relevance of the model (omission distance fixed at 7). The significance  
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16 352 of paths was evaluated according to p values and bias corrected-confidence intervals (Hair et  
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18 353 al., 2017, 2019).

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21 354 **Table 3: To be inserted here**

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24 355 Direct effects are displayed in Table 3. Accordingly, the table shows that WFC had a  
25  
26 356 negative and significant effect on SWB ( $\beta=-0.256$  [-0.444; -0.028];  $p<0.05$ ). Hence,  $H_1$  was  
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28 357 supported. PD positively affected EE ( $\beta=0.255$  [0.053;0.437];  $p<0.05$ ) supporting  $H_4$ . As  
29  
30 358 expected, CER had a negative effect on WFC ( $\beta=-0.283$  [-0.409; -0.137];  $p<0.05$ ); thus,  $H_5$   
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32 359 was supported. The effect of PR on PD was found to be non-significant ( $\beta=-0.040$  [-  
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34 360 0.130;0.063];  $p<0.05$ ). Therefore,  $H_7$  was not statistically supported.

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38 361 **Table 4 [at back]: To be inserted here**

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40 362 Mediation analysis was conducted following Zhao et al.'s (2010) guidelines. The indirect  
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42 363 effect from WFC via PD to SWB was not significant and its direct effect was significant, so  
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44 364 non-mediation was found. Thus,  $H_2$  was not supported. Because both the indirect effect of  
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46 365 WFC via EE to SWB and its direct effect were significant, complementary mediation was  
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48 366 found. Therefore,  $H_3$  was supported. When the relationships among CER, PR, and PD were  
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50 367 examined, neither an indirect nor a direct effect was found to be significant. Hence,  $H_6$  was  
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52 368 not supported.

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59 370 **Discussion**

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3 371 Based on JD-R theory, the current study sought to fill the gap in the service literature (i.e.  
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5 372 the hospital context) by developing and empirically investigating a comprehensive structural  
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7 373 model of the crucial factors affecting employees' SWB. This includes the assessment of  
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9 374 direct paths between CER, PR, WFC, PD, EE, and SWB. In addition, it examines the  
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11 375 intervening role of PR between CER and PD as well as the mediating role of PD and EE in  
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13 376 the link between WFC and SWB.

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17 377 The findings of the current study revealed that SWB is negatively and significantly  
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19 378 impacted by WFC, supporting the findings of prior related studies; as an example, Hu et al.  
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21 379 (2016) who found that WFC negatively influences SWB among employees. The studies of  
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23 380 Matthews et al. (2014) and Sirgy et al. (2016) also showed that WFC mitigates the feeling of  
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25 381 well-being among respondents. Additionally, according to the findings of Sirgy et al. (2020),  
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27 382 coping strategies impacted the ways in which employees respond to the stressors and WFCs.  
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29 383 Our study also investigated different aspects of coping strategies (i.e. CER) to see how and to  
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31 384 what extent these factors might impact individuals to cope with stressors; but also, how they  
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33 385 may act as barriers or filters to the negative impacts of stressors on employees' work life and  
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35 386 family life and subsequent consequences. The results of this study have shown that CER has  
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37 387 a negative impact on WFC. In other words, CER could enhance the ways in which healthcare  
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39 388 staff deal with the stress coming from the conflict between work life and family life. This  
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41 389 finding is in line with previous research (e.g., Matzka et al., 2016; Bacchi & Licinio, 2017;  
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43 390 Sommerfield & Ungern-Sternberg, 2020; Sogut et al., 2021), revealing that CER alleviates  
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45 391 the effects of stressors on people's work-life and family-life balance. However, the impact of  
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47 392 PR on PD was not significant. This is contrary to previous findings where employees with  
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49 393 higher levels of resilience could avoid the effect of job stressors on their mental health  
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51 394 (Garcia & Calvo, 2011; King et al., 2016). This might happen since the condition of the crisis  
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53 395 is different and imposes an extra burden on healthcare staff so just being resilient and flexible  
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3 396 cannot help the hospital workers prevent the stressors' effects on their work-life and family-  
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5 397 life balance. However, the results of our study revealed that the procedures people employ to  
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8 398 regulate their minds and emotions exert a positive impact on individuals to retain a positive  
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10 399 balance between their work and their family.

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12 400 What is equally critical is the regulating of thought among individuals. The findings of  
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14 401 this study demonstrated that mental regulation helps nurse to deal with stress. This is mainly  
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17 402 significant in hospital contexts where employees are able to work under the stress of  
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19 403 satisfying the needs and strains of mentally and emotionally susceptible patients  
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21 404 (Stelmaschuk, 2010; Allen & Holland, 2014).

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24 405 This study demonstrated that EE plays a mediating role in the connection between WFC  
25  
26 406 and SWB. CER helps individuals to boost their flexibility and ability to bounce back from  
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28 407 stress during the COVID-19 pandemic. Consequently, this leads to less EE and higher levels  
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30 408 of SWB among healthcare employees.

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### 34 35 410 **Theoretical implications**

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37 411 The present work has various theoretical implications as follows. To begin with, this  
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39 412 study depends on the JD-R theory (e.g., Bakker & Demerouti, 2007; 2017) to investigate a  
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41 413 novel structural framework that is examining the direct and indirect paths between specified  
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43 414 variables related to mental health and well-being of employees within the hospital setting. In  
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45 415 this respect, some prior studies have used this model among different disciplines and areas to  
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47 416 predict various factors such as connectedness (e.g., Lewig et al., 2007), commitment, job  
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49 417 enjoyment (Bakker et al., 2010), outcomes of sickness absenteeism (e.g., Clausen et al., 2012;  
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51 418 Schaufeli et al., 2009), job burnout (e.g., Demerouti et al., 2001), and performance (e.g.,  
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53 419 Bakker et al., 2008). That said, the findings of this work do expand the existing knowledge in  
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55 420 relation to this theory by presenting empirical evidence and understanding concerning the  
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3 421 current research model and the associations between the studied variables included in this  
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5 422 model. In other words, the current work adds to theory by using the JD-R model to predict  
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8 423 the well-being of hospital employees.

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10 424 Moreover, this research adds to the extant literature on mental health and well-being  
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12 425 within the service sector field, particularly in the hospital context. This could be reflected in  
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14 426 the structural associations between the variables of WFC, CER, PR, PD, EE, and SWB. First,  
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17 427 as far as we know, the current study is one of the first attempts to predict employees' SWB at  
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19 428 hospitals through assessing the effect of certain variables – namely WFC, CER, PR, and PD  
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21 429 – on SWB within an integrated structural model. Next, to the best of our knowledge, no  
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23  
24 430 known work has explored the effect of WFC on SWB through the mediating role of PD and  
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26 431 EE within the hospital sector. To be more specific, WFC and its outcomes have been  
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28 432 examined in the hospital context, but not as one of the SWB predictors (e.g., Labrague et al.,  
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30 433 2021; Nayeri et al., 2018; Yildiz et al., 2021; Zandian et al., 2020). Further, the connection  
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33 434 between WFC and SWB has been rarely studied in previous research (e.g., Matthews et al.,  
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35 435 2014; Matysiak et al., 2016). Moreover, the findings of our work provide beneficial  
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37 436 contributions to academicians through illustrating and articulating the direct and indirect  
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39 437 associations between substantial latent constructs which are included in an integrated  
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41 438 structural framework, taking into consideration employees' perspectives within the hospital  
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44 439 context. For instance, our findings add empirical evidence to the existing body of knowledge  
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46 440 demonstrating that the CER of frontline employees reduces employees' PD and helps them  
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48 441 with their WFC. In addition, the empirical results of this research revealed that EE could  
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50 442 notably and significantly mediate the connection between WFC and SWB. This represents an  
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53 443 obvious theoretical insight regarding this structural association in the hospital setting.  
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3 444 Besides, it can be argued that the present work is considered one of the limited attempts  
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5 445 to investigate these structural connections between the identified latent variables in service-  
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7 446 related sectors, involving hospitals, particularly in North Cyprus.  
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### 11 12 448 **Managerial implications**

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14 449 This study also offers some managerial implications. First, hospital employees need to  
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16 450 strengthen their mental regulations by participating in different activities. Hospitals can  
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18 451 introduce different programs and systems to help people with their mental and cognitive  
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20 452 regulation. In this vein, the findings of our paper suggest that hospitals need to create  
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22 453 programs in which frontline employees, such as nurses, could cultivate their mental capacity  
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24 454 to deal with distress and stressors and feel more satisfied with life and themselves,  
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26 455 specifically during times of crisis (Dewey et al., 2020). Thus, hospital managers are requested  
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28 456 to provide financial, physical, and human resources to effectively produce and adopt such  
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30 457 programs and systems and their outcomes in work environments. Moreover, it is crucial to set  
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32 458 an action plan including all details concerning the relevant activities to reinforce the mental  
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34 459 regulations of their employees (i.e. nurses).  
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40 460 Additionally, our findings propose that cognitive regulation helps healthcare workers  
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42 461 react to stress and anxiety with more awareness and that they are able to adjust their minds  
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44 462 and emotions to respond to the stress in a more constructive way. This mitigates the effect of  
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46 463 stressors on employees' work life and family life and helps them avoid conflicts. As a result,  
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48 464 hospital managers must establish courses that teach staff about their mental processes and  
49  
50 465 cognitive errors. They can accordingly reevaluate their responses to difficulties and perceive  
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52 466 their concerns or problems in new light. These initiatives, especially amidst the COVID-19  
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54 467 crisis, could include cognitive-behavioral training and work-life balance policies, as well as  
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56 468 the implementation of work-rotation systems to alleviate the ' anxiety or fear of possible job  
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3 469 loss' and ensure well-being. Moreover, hospital managers might implement policies to offer  
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5 470 financial and non-financial incentives to the healthcare employees to help them improve their  
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8 471 objectives and SWB. In addition, hospitals can set up a mentoring scheme to help employees  
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10 472 when they experience setbacks and challenges.

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12 473 A further managerial contribution of our study is how, during harsh circumstances,  
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14 474 employees' mental regulation and resilience might help them to overcome and handle the  
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17 475 stressors which are not under their control. This suggests that those nurses who have  
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19 476 managed to develop emotional and physical capabilities to deal with demanding and stressful  
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21 477 conditions are able to divide their energy and mind between work life and family life so that  
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24 478 they do not feel exhausted or psychologically damaged during times of crisis such as the  
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26 479 COVID-19 pandemic.

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### 30 481 **Limitations and future research**

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33 482 Some limitations of this study need to be underlined. First, this study used the self-  
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35 483 report questionnaire which may produce common method variance. Second, the cross-  
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38 484 sectional design of the study does not show the causality among variables; therefore, there is  
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40 485 a need for a longitudinal study which illustrates the causality effects among the variables.  
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42 486 Third, the results of this study cannot be generalizable to the whole service industry, as we  
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44 487 focused on the hospital settings, also considering the private hospital. Also, future research  
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47 488 can be carried out on a larger scale to include more hospitals.

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49 489 Our study opens up several avenues for future research. First, forthcoming research  
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51 490 interested in replicating this study may consider implementing a longitudinal research design.  
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54 491 This can considerably reduce the common method variance and consider the causal effect  
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56 492 that time will play in this relationship. Second, we encourage scholars to focus on work-  
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58 493 family conflict and mental health in the hospital industry. Specifically, future research in this  
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3 494 respect should be conducted in other geographical areas, among other types of service  
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5 495 providers, to advance the literature. Third, we recommend extending this model by testing  
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7 496 other factors on work-family conflict and psychological distress instead of cognitive emotion  
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9 497 regulation to contribute more to the literature.  
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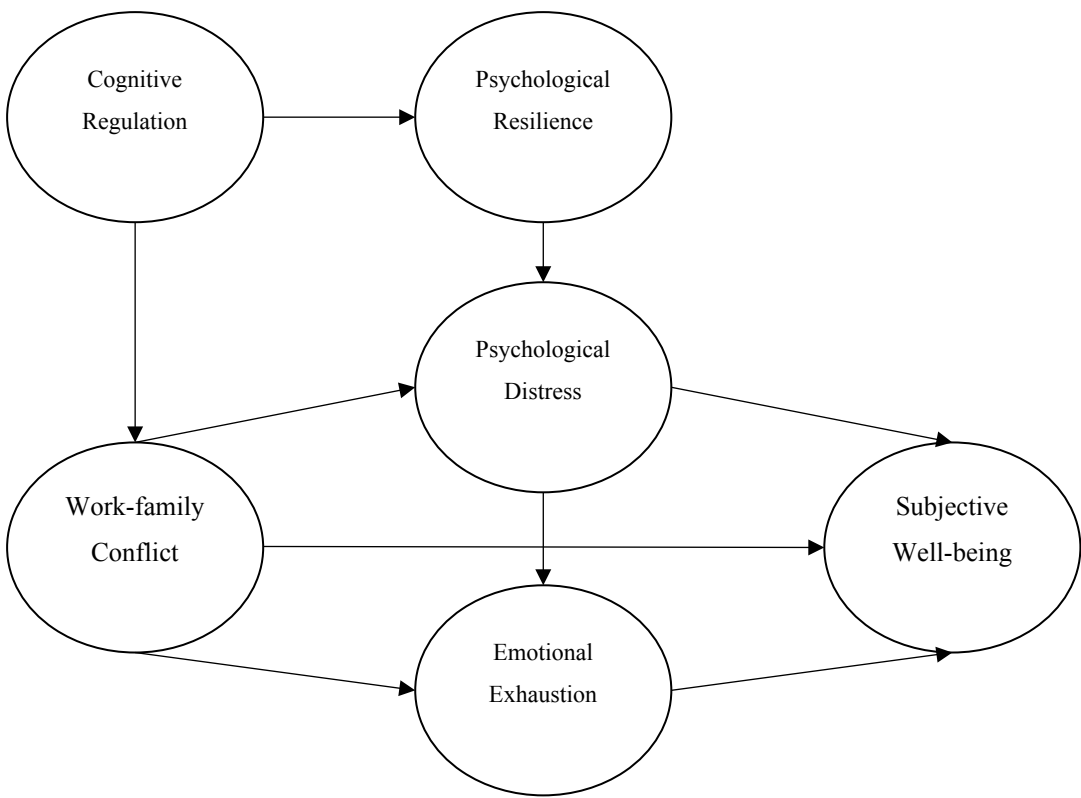
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**Figure-1 Research Model**

**Table 1** Outer Model

<b>Dimensions</b>	<b>Loadings</b>	<b>AVE</b>	<b>CR</b>	<b>CA</b>
<b><i>Emotional Exhaustion</i></b>				
I feel fatigued when I get up in the morning and have to face another day on the job.	0.851			
Working with people all day is really a strain for me.	0.841			
I feel burned out from my work.	0.863			
Working directly with people puts too much stress on me.	0.866	0.693	0.940	0.926
I feel frustrated with my job.	0.818			
I feel used up at the end of the workday.	0.752			
I feel like I am working too hard on my job.	0.832			
<b><i>PD</i></b>				
Suddenly scared for no reason.	0.634			
Feeling fearful.	0.783			
Feeling tense or keyed up.	0.813			
Blaming yourself for things.	0.768	0.575	0.904	0.874
Feeling blue.	0.770			
Feeling of worthlessness.	0.867			
Feeling everything is an effort.	0.644			
<b><i>Psychological Resilience</i></b>				
When I have a setback at work, I have trouble recovering from it, moving on. (R)	0.656			
I usually manage difficulties one way or another at work.	0.872			
I can be "on my own," so to speak, at work if I have to.	0.865	0.701	0.933	0.913
I usually take stressful things at work in my stride.	0.874			
I can get through difficult times at work because I've experienced difficulty before.	0.871			
I feel I can handle many things at a time at this job.	0.863			
<b><i>Cognitive Regulation</i></b>				
I think of what I can do best.	0.887			
I think about how I can best cope with the situation.	0.364			
I think about how to change the situation.	0.386			
I think about a plan of what I can do best.	0.899			
I think I can learn something from the situation.	0.902	0.663	0.935	0.911
I think that I can become a stronger person as a result of what has happened.	0.927			
I think that the situation also has its positive sides.	0.935			
I look for the positive sides to the matter.	0.938			
<b><i>SWB</i></b>				
In most ways my life is close to my ideal.	0.835			
The conditions of my life are excellent.	0.939			
I am satisfied with my life.	0.903	0.798	0.952	0.936
So far I have gotten the important things I want in life.	0.880			
If I could live my life over, I would change almost nothing.	0.906			



**WFC**

The demands of my work interfere with my home and family life.	0.834			
The amount of time my job takes up makes it difficult to fulfill family responsibilities.	0.866			
Things I want to do at home do not get done because of the demands my job puts on me.	0.807	0.688	0.916	0.885
My job produces strain that makes it difficult to fulfill family duties.	0.892			
Due to work-related duties, I have to make changes to my plans for family activities.	0.738			

**Table 2** Discriminant Validity (HTMT)

	<i>Cognitive Regulation</i>	<i>PD</i>	<i>Psychological Resilience</i>	<i>SWB</i>	<i>Emotional Exhaustion</i>	<i>WFC</i>
<i>Cognitive Regulation</i>						
<i>PD</i>	0.263					
<i>Psychological Resilience</i>	0.249	0.288				
<i>SWB</i>	0.476	0.344	0.409			
<i>Emotional Exhaustion</i>	0.286	0.547	0.225	0.587		
<i>WFC</i>	0.317	0.896	0.301	0.440	0.558	

Note: 95% bootstrap confidence intervals in brackets (5000 subsample).

**Table 3** Inner Model

Hypotheses	$\beta$	p	VIF	$f^2$
H <sub>1</sub> : WFC→SWB	-0.256[-0.444;-0.029]	0.02	2.834	0.034
H <sub>4</sub> : PD→EE	0.255[0.053;0.437]	0.01	2.705	0.034
H <sub>5</sub> : CR→WFC	-0.283[-0.409;-0.137]	0.00	1.000	0.087
H <sub>7</sub> : PR→PD	-0.040[-0.130;0.063]	0.41	1.113	0.004
<b>R<sup>2</sup> SWB=0.326;EE=0.282;WFC=0.080;PD=0.632</b>				
<b>Q<sup>2</sup> SWB=0.239;EE=0.179;WFC=0.050;PD=0.334</b>				

Note: 95% bootstrap confidence intervals in brackets.

**Table 4** Mediation Analysis

Hypothesis	Effect	Indirect Effect [95% BC CI]	Direct Effect [95% Bc CI]	Type of Mediation
H <sub>2</sub>	WFC→PD→SWB	0.099[-0.071;0.249]	-0.256[-0.444;-0.029]	Non-Mediation
H <sub>3</sub>	WFC→EE→SWB	-0.147[-0.240;-0.058]	-0.256[-0.444;-0.029]	Complementary Mediation
H <sub>6</sub>	CR→PR→PD	-0.009 [-0.037;0.013]	0.007[-0.071;0.091]	Non-Mediation