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The effect of physical activity on healthcare professionals' work motivation and burnout levels during the covid-19 pandemic: An Istanbul example

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ABSTRACT

The study aimed to examine the work motivation and burnout levels of healthcare professionals who do physical activity in leisure to protect their physical and psychosocial health in the hard times of the Covid-19 pandemic. The study sample consisted of 152 healthcare professionals working at regular office hours in a public hospital in Istanbul. The data collection instruments included a personal information form, *The Maslach Burnout Scale*, and *Work Motivation Scale*. The data obtained from the instruments were evaluated with the SPSS package program, and frequency analysis was performed for demographic information. Besides, simple linear regression analysis, One Way Variance Analysis (ANOVA), and independent-sample t-test analysis was carried out. The significance level was set at $p < 0.05$. As a result of the study, it was found that especially the nurses' emotional burnout scores ($X = 3.32$) were higher than other healthcare professionals ($X = 2.92$). It was also concluded that healthcare professionals with high levels of emotional burnout experienced depersonalization and decreases in personal achievement, and external motivations resources such as wages and rewards also increased. It is an actual result to indicate that weekly exercise frequency did not affect the healthcare professionals' burnout levels but positively affected work motivation.

Keywords: Covid-19, physical activity, burnout, motivation.

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INTRODUCTION

Employees in the field of health worldwide are always the most dynamic individuals in society. Healthcare professionals have responsibilities such as protecting and improving community health and providing quality care to patients. While fulfilling those responsibilities, they encounter daily stressful events at work, making their job different from other work environments (Yıldız et al., 2003).

Especially during the tough times of the new Coronavirus (Covid-19), certain factors such as intense workload, treatment of fatal patients, and emotional support to patients and their relatives when necessary have been sources of stress and tension healthcare workers. Besides, the high number of patients increased mortality rates, and lack of health personnel during the critical days have led to many harmful and destructive outcomes such as burnout and low work motivation. In a study conducted by Maslach et al. (2001), they reported that burnout is experienced when an individual loses original meaning and purpose in his/her profession and become insensitive to the people he served in addition to the mental dysfunction outcomes of burnout such as low self-esteem and depression (Maslach et al., 2001).

There are several definitions of burnout. Maslach and Jackson (1981) defined burnout as a syndrome in which the person becomes insensitive to the people around them while working, and emotionally exhausted, and experiences a decrease in the sense of personal accomplishment. In a different definition, burnout is not a finding of work stress, but a result of excessive work

stress (Spooner-Lane and Patton, 2005).

Today, the most common instrument of burnout is the *Maslach Burnout Scale* developed by Maslach and Jackson. The scale investigates the emotional exhaustion, depersonalization, and decreased personal achievement (Sarıkaya, 2007). Emotional exhaustion refers to the depletion of emotional resources and feeling overloaded and exhausted. In depersonalization, the person ignores others and feels the lack of personal achievement and skills, and a sense of capability (Kocabıyık and Çakıcı, 2008).

Motivation is generally an essential function, regardless of the business sector. It becomes more critical considering the healthcare services in which people recover due to healthcare professionals' efforts. Thus, it should be known that the factors that motivate healthcare professionals such as physicians, nurses, technicians, laboratory assistants, and caregivers vary from person to person, and individual differences should be considered.

Motivation is the driving force that prompts a person to behave or act in a certain way (Kast and Rozenzweig, 1985). It consists of internal and external dynamics. Although internal motivation is based on volunteering, it is essential for the individual. Acting by an inner satisfaction is called internal motivation. External motivation is an interest in the activity itself to obtain specific results (Engin, 2004). Internal motivation behaviors represent self-value, finding opportunities to use skills, receiving positive feedback. In contrast, external motivation is generally more concrete and includes factors such as wage equality, adequate resources in the work environment, promotion opportunities, additional benefits, and employment security (Dündar et al., 2007; Mottaz, 1985).

Leisure activities are crucial for healthcare professionals to minimize burnout and increase work motivation levels in these challenging days. The metanalysis results showed that physical exercises relieved the depression symptoms (Fabricatore et al., 2011). Physical exercise is one of the factors that contribute to the relief of stress and burnout. Physical exercise protects both physical and mental health. In doing exercises, a person feels that he is doing something right and positive. Activities such as running, walking, swimming, meditation, cycling, and relaxation exercises are also beneficial for health (Işıkhan, 2016). The relief of depression symptoms was proved by metanalysis results (Fabricatore et al., 2011). A recent study suggested that mild and moderate aerobic exercises three days a week for at least 4 to 6 weeks decreased the symptoms of fatigue and depression and improved life quality (Häuser et al., 2010). Thus, it is understood that it will be beneficial for healthcare workers who frequently face stress and challenging situations in life to engage in sports activities that do not create a new source of stress or health problem for them in order to cope with the increasing level of burnout.

In light of the recent events and the benefits of exercises, the main focus of the study was to examine the work motivation and burnout levels of healthcare professionals who did a physical activity in leisure to protect their physical and psychosocial health in the challenging days of the Covid-19 pandemic. Besides, the study aimed to explore the effects of regular physical activity on burnout and loss of motivation.

MATERIALS AND METHODS

The method section presents the research model and sample, data collection path and tools, and the data analysis.

Research model

The research was designed a relational screening model that describes the presence or degree of change between two or more variables.

Research group

The sample consisted of 152 healthcare professionals (e.g., doctor, nurse, anesthesia technician, office staff) doing physical activity 1-4 days a week in leisure and working in regular working hours at a pandemic hospital in Istanbul.

Data collection tools

A personal information form, the Maslach Burnout Scale, and Work Motivation Scale were used to collect the data.

Personal information form

The form includes questions about the participants' socio-demographic information such as age, gender, marital status, child status, educational status, professional experience, frequency of weekly physical activity, and position title.

Maslach burnout scale

Maslach and Jackson (1981) developed the instrument to determine burnout levels of healthcare professionals, and the validity and reliability study in Turkey was made by Yıldırım and İçerli (2010). There are 22 items and three sub-dimensions on the scale: emotional exhaustion, depersonalization, and a decreased sense of personal achievement. In the 5-point Likert scale, "1" refers to

"Strongly Disagree" and "5" means "Strongly Agree".

Work motivation scale

In the second part of the study, the work motivation scale of which validity and reliability were proved by Doğuç (2017) in the master's thesis and that was compatible with the study's purpose was used.

There are 24 items in the tool that measure internal and external motivation. The items between 1 and 9 are the dimensions of intrinsic motivation, and 10 to 24 measures external motivation. The instrument involves expressions such as: "1. The management is positive and does not reject my request for permission.", "2. Physical conditions are suitable in the working environment." and "3. There are favorable services to fulfill food and drink needs in the work environment". Similarly, the participants were asked to rate on a 5-point Likert scale (1: Strongly disagree, 2: Disagree, 3: Neutral, 4: Agree, and 5: Strongly agree).

Cronbach's alpha coefficient measured the reliability of the work motivation and burnout scale items. The Work Motivation Scale's total reliability coefficient was 0.81; it was 0.79 for the Internal Motivation subscale, and 0.77 for the External Motivation subscale. The Cronbach's Alpha reliability coefficient of the Burnout Scale was found 0.76.

Scale adaptation process

The questionnaires were applied after all the necessary consents were obtained from the hospital management and the Istanbul University-Cerrahpaşa Social and Human Sciences Ethics Committee. The researcher distributed the questionnaires during working hours, considering the healthcare professionals' severe working conditions. Since participation was entirely voluntary, the healthcare professionals who did not want to participate were not included in the study.

Data analysis

The research data were analyzed with the SPSS package program. Demographic information and participants' answers to the questionnaire were recorded as the variables of the study (Table 1). The data related to the demographic information was analyzed with frequency analysis (Table 2). Besides, simple linear regression analysis, One Way Variance Analysis (ANOVA), and independent-sample t-test analysis was used. The significance level was set as $p < 0.05$.

Table 1. Demographic information of the participants.

	N	Minimum	Maximum	Mean	Std. Dev.
Age	152	20.00	60.00	35.618	9.182
Valid N (listwise)	152				

Table 2. The frequency of demographic information.

		Frequency	Percent	Valid percent	Cumulative percent
Gender	Female	85	55.9	55.9	55.9
	Male	67	44.1	44.1	100.0
	Total	152	100.0	100.0	
Marital status	Single	62	40.8	40.8	40.8
	Married	90	59.2	59.2	100.0
	Total	152	100.0	100.0	
Child status	Available	86	56.6	56.6	56.6
	Unavailable	66	43.4	43.4	100.0
	Total	152	100.0	100.0	
Educational status	High school and lower	25	16.4	16.4	16.4
	Associate degree	18	11.8	11.8	28.3
	Bachelor's degree	63	41.4	41.4	69.7
	Master's degree/ Ph.D.	46	30.3	30.3	100.0
	Total	152	100.0	100.0	

Table 2. Continues.

Professional experience	0-3 years	44	28.9	28.9	28.9
	4-9 years	42	27.6	27.6	56.6
	10-20 years	39	25.7	25.7	82.2
	21 years and higher	27	17.8	17.8	100.0
	Total	152	100.0	100.0	

RESULTS

A simple linear regression analysis was carried out to examine whether the Burnout Scale subscale scores predicted motivation (Tables 3 and 4). The motivation scores (Internal and External total scores) were the dependent variables, while the Burnout Scale subscale scores were the independent variables in the analysis.

When all the independent variables were included, the simple linear regression model was found to significantly predict the internal motivation scores [F (3, 148) = 7.411, p < .01]. The model explained 13% of the variance in Internal Motivation scores (R^2 = .131). According to the standardized regression coefficients, Emotional Burnout scores in the model were negatively (β = -.291, p <.01), and the Decreased Personal Achievement scores (β = .260, p <.01) positively predicted the Internal Motivation scores (Table 3).

The simple linear regression results suggested that it significantly predicted the external motivation scores [F (3, 148) = 17.739, p < .01] (Table 4). The model explained 26% of the variance in External Motivation scores (R^2 = .264). Considering the standardized regression coefficients, Emotional Burnout (β = -.545, p < .01) scores in the model negatively and the Decreased Personal Achievement (β = .158, p < .05) and Depersonalization scores (β = .305, p < .01) positively predicted the External Motivation scores.

One-Way Variance Analysis (ANOVA) was applied to determine the differences between The Maslach Burnout Scale and Motivation Scale subscale scores according to healthcare personnel titles (Table 5). According to the analysis results, Emotional Exhaustion subscale scores were significantly different [F (149, 2) = 3.584, p < .05]. After Post-Hoc analysis (LSD), Emotional Exhaustion scores of nurses (X = 3.32) were seen to be significantly higher than other healthcare employees' scores (X = 2.92).

According to the analysis results, there was no significant difference in the title (p > .05) (Table 6).

According to the frequency of doing sports, the differences between the Work Motivation and Maslach Burnout Scale scores were analyzed with independent sample t-test (Table 7). The analysis results suggested that the Organizational Commitment scores of those doing sports three times a week or more (X = 3.96) were significantly higher than the ones doing sports twice a week or less (X = 3.45) [t (56) =2.359, p<.05]. It was determined that the Physical Conditions of the Work Environment scores of those doing sports three days a week or more (X = 3.60) were significantly higher than those doing sports twice a week or less (X = 3.03) [t (56) = 2.469, p <.05]. Also, the external motivation total scores of those who exercised three times a week or more (X = 3.37) were significantly higher than the ones exercising twice a week or less (X = 2.91) [t (56) = 2.362, p <.05]. There was no significant difference in other comparisons (p > .05).

Table 3. Simple linear regression analysis results about the predictive role of burnout scores on internal motivation scores.

	B	β	t	p	Dual r	Partial r
Stable	3.299		7.497	.000		
Emotional exhaustion	-.296	-.291	-3.374	.001	-.267	-.259
Depersonalization	.081	.089	1.026	.307	.084	.079
Decreased personal achievement	.367	.260	3.330	.001	.264	.255

Dependent Variable: Internal Motivation R = .361 R^2 = .131 R^2_{adj} = .113, F (3.148) = 7.411, p:.000.

DISCUSSION AND CONCLUSION

Saving lives in a deadly pandemic assigns a privileged value in coping with the heavy emotional burden. However, healthcare workers fight disease on the front lines by risking their lives in all pandemics, and they are the most affected individuals who are at risk of harm in all outbreaks such as the Covid-19 pandemic (Wang et al., 2020). Similarly, healthcare professionals' physical and psychosocial health is endangered and severely damaged in the Covid-19 outbreak. Thus, the research's focus was to examine the work motivation and burnout

Table 4. Simple linear regression analysis results about the predictive role of burnout scores on external motivation scores.

	B	β	t	p	Dual r	Partial r
Stable	3.332		9.109	.000		
Emotional exhaustion	-.501	-.545	-6.873	.000	-.492	-.485
Depersonalization	.250	.305	3.802	.000	.298	.268
Decreased personal achievement	.202	.158	2.206	.029	.178	.156

Dependent Variable: External Motivation R= .514 R^2= .264 R^2_{adj}= .250, F (3,148) = 17.739, p: .000.

Table 5. Comparison of the Maslach burnout scale scores by titles.

	Title	N	Mean	Std. Dev.	*F* (p)	Difference (LSD)
Emotional exhaustion	Doctor[1]	46	3.070	.891	3.584 (.030)	3<2
	Nurse[2]	60	3.337	.694		
	Other[3]	46	2.920	.877		
Depersonalization	Doctor	46	2.817	.881	.210 (.811)	-
	Nurse	60	2.760	.893		
	Other	46	2.691	1.033		
Decreased personal achievement	Doctor	46	3.546	.413	2.333 (.100)	-
	Nurse	60	3.595	.536		
	Other	46	3.353	.779		

*Other healthcare: staff nurse, anesthesia technician, office staff.

Table 6. Comparison of work motivation scale scores by titles.

		Profession	N	Mean	Std. Dev.	*F* (p)	Difference (LSD)
Internal Motivation	Self-value	Doctor	46	4.013	.738	.338 (.714)	-
		Nurse	60	4.046	.650		
		Other	46	4.165	1.352		
	Organizational Commitment	Doctor	46	3.869	.912	2.057 (.131)	-
		Nurse	60	3.495	.922		
		Other	46	3.625	1.003		
	Total	Doctor	46	3.949	.766	.475 (.623)	-
		Nurse	60	3.801	.681		
		Other	46	3.925	1.081		
External Motivation	Wages-Rewards	Doctor	46	2.782	1.002	1.323 (.269)	-
		Nurse	60	2.453	1.056		
		Other	46	2.613	1.036		
	Teamwork	Doctor	46	3.659	.843	1.501 (.226)	-
		Nurse	60	3.383	.803		
		Other	46	3.554	.849		
	Physical Condition of Work Environment	Doctor	46	3.442	.804	.653 (.522)	-
		Nurse	60	3.311	.818		
		Other	46	3.224	1.128		
	Total	Doctor	46	3.289	.696	1.273 (.283)	-
		Nurse	60	3.053	.754		
		Other	46	3.176	.824		

Other healthcare: staff nurse, anesthesia technician, office staff.

Table 7. Comparison of the work motivation and maslach burnout scale scores according to the frequency of doing sports.

		Frequency of doing sports	N	Mean	Std. Dev.	t (p)
Internal Motivation	Self-value	Twice a week	32	4.107	1.574	.286 (.776)
		Three times a week	26	4.193	.589	
	Organizational commitment	Twice a week	32	3.451	.880	2.359 (.022)
		Three times a week	26	3.960	.762	
	Total	Twice a week	32	3.816	1.096	1.203 (.224)
		Three times a week	26	4.090	.612	
External Motivation	Wages-rewards	Twice a week	32	2.300	.894	1.702 (.094)
		Three times a week	26	2.768	1.148	
	Teamwork	Twice a week	32	3.339	.760	1.817 (.075)
		Three times a week	26	3.718	.812	
	Physical condition of work environment	Twice a week	32	3.038	.834	2.469 (.017)
		Three times a week	26	3.604	.893	
	Total	Twice a week	32	2.915	.705	2.362 (.022)
		Three times a week	26	3.379	.772	
Burnout Scale	Emotional exhaustion	Twice a week	32	3.265	.869	-.938 (.352)
		Three times a week	26	3.055	.825	
	Depersonalization	Twice a week	32	2.615	.863	.944 (.349)
		Three times a week	26	2.837	.913	
	Decreased personal achievement	Twice a week	32	3.370	.495	1.817 (.067)
		Three times a week	26	3.679	.714	

levels of the healthcare professionals doing exercise in leisure to protect their physical and psychosocial health during the hard times of the Covid-19 pandemic.

The three dimensions of burnout can explain the participants' internal motivation changes: depersonalization decreased personal achievement, and emotional exhaustion. It is possible to underline the changes in professionals' internal motivation, considering the significant burnout scores. In this sense, low emotional exhaustion and high personal achievements can be regarded as a sign of high internal motivation, or vice versa.

A significant result of the study suggested that the increase in external motivation among the participants led to high depersonalization, low personal achievement, and profound emotional exhaustion. If we detail the finding, it is seen that the healthcare workers with a high level of emotional exhaustion tend to feel decreased personal achievement and to ignore the negative remarks around them, stemming from high depersonalization. Thus, their motivation for external resources such as wages rewards also increases, which is a natural result. The factors such as high depersonalization, emotional exhaustion, and burnout levels experienced by healthcare workers under stressful and tiring conditions led them to perceive themselves as unsuccessful and desire to earn more or get a promotion.

Similar findings are valid for internal motivation. Even if depersonalization is not meaningful here, it gives a consistent framework. However, the healthcare workers with a low level of emotional exhaustion have a sense of increased personal achievement, and internal motivation as depersonalization can be a reference for their internal motivation resources.

When the burnout sub-dimension scores of the participants according to their titles in the hospital, a statistically significant difference was found in the emotional exhaustion sub-dimension. Therefore, the nurses' emotional exhaustion scores (X = 3.32) were significantly higher than those of other health workers (X = 2.92). The emotionally exhausted individuals lose interest and care to patients' needs and feel

unsuccessful, which is not surprising, considering the pandemic's challenging and destructive conditions. In another study conducted with employees working in Covid-19 services in China, it was observed that the nurses had more psychological symptoms than doctors, and females more than males (Huang et al., 2020).

Sasangohar et al. (2020) found that increased working hours and frequent interactions with patients, the burden of protective clothing and equipment resulted in the emotional exhaustion and burnout symptoms (Sasangohar et al., 2020).

Hence, healthcare professionals need to protect their physical and mental health and psychosocial well-being. Another parameter was the work motivations and burnout levels of healthcare professionals according to the frequency of exercising in leisure. The results suggested that the frequency of weekly exercises did not impact participants' burnout levels, but it positively affected work motivations. Those who exercised three times a week or more had higher motivation than those doing exercise twice a week or less.

In line with the research results, the factors such as increased working hours, rise in death rates, frequent contact with emotionally exhausted people, and fear of being infected, in addition to the high contagious rate of the SARS-CoV-2 virus, resulting in stress, depression, burnout and decline in motivation among healthcare professionals (Cao et al., 2020; Chung et al., 2020). Thus, healthcare professionals should be supported to enhance the resistance to burnout and motivation, and appropriate and functional working conditions and environments should be prepared. Besides, considering the importance and ambiguity of the current situation and high stress at work, well-organized and practical pandemic management protocols should be established to improve healthcare professionals' motivation and well-being.

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