

EFFECTS OF WORK-RELATED STRESSORS AND WORK ENGAGEMENT ON WORK STRESS: HEALTHCARE MANAGERS' PERSPECTIVE

Aydin, I.

Ipek Aydin / Dokuz Eylul University, Faculty of Sport Sciences, Department of Recreation, Turabiye Mah. Beyler Cad. No:4 Seferihisar / Izmir, Turkey. Email: ipek.aydin@deu.edu.tr

Abstract

This study identified the effects of Work-Related Stressors (WRSs) and Work Engagement (WE) on managers' Work Stress (WS). Data were collected from 109 healthcare managers (HMs) from public and private hospitals in Izmir, Turkey, using a structured questionnaire. Exploratory factor analyses were carried out to determine the construct validity of the WRS, WE, and WS scales. Two WRS factors were identified, Support and Control (SC), and Responsibility and Relationship (RR), and one factor each for the WE and WS scales. Correlation analyses indicated a significant positive relationship between the WRS factors and a negative relationship between WE and the other variables. Hierarchical regression analyses were conducted to evaluate the effects on WS of HM demographic variables, WRS dimensions, and WE. The first step showed that age and managerial experience affects WS. The second step showed that RR had a significant positive effect on WS, whereas SC had no effect. Additionally, WE significantly decreased WS.

Implications for Central European audience: The findings suggest that HMs can reduce WS by focusing on RR. In addition, HM willingness, enthusiasm, physical and mental fitness, and effort to achieve goals all affect their WS. Thus, HMs' perceptions of WE may reduce their perceptions of WS. Managers, therefore, need to consider job satisfaction, which is particularly associated with work stress, to increase WE. Managers should consider their needs and expectations both formally and informally by holding regular evaluations to listen to their employees' voices.

Keywords: work-related stressors; work engagement; work stress; healthcare managers; hospitals

JEL Classification: I10, J81

Introduction

Today, healthcare organisations are characterised by a dynamic organisational structure, rapid change, technological developments, and risks and uncertainties in treatment processes that lead to rising stress. Stress levels have thus increased because of environmental (external), organisational (external) and individual (internal) reasons. Most importantly, growing competition between organisations (Dhawan, 2013), more complex

organisational structures, change, and the organisations' resulting socio-economic complexity are external reasons for rising stress levels. The intensity of competition, high workloads, and interpersonal relationships are individual causes of stress.

Healthcare professionals are exposed to physical, psychological, and social stress (Frenk et al., 2010). Physical stress factors include prolonged standing, heavy lifting (Morse et al., 2008), and sleep deprivation. Psychological risk factors include excessive employee responsibilities (Weigl et al., 2012), the risks and uncertainties of healthcare service (Bochatay et al., 2017), and the quality of care of and communication with patients. Social stress factors include relationships with co-workers and imbalance between working and family life. In addition, stress factors like patients' anxiety (Cockburn & Pit, 1997; Matthys et al., 2009); and workplace violence caused by patients or relatives (Cannavò et al., 2019) should not be ignored. These workplace stressors have a significant impact on healthcare workers' health (Taouk et al., 2020).

The well-being of healthcare workers has become a prominent topic recently, particularly in relation to perceived stress. Working life is often characterised as stressful and harmful to health, especially in healthcare organisations (Wallace et al., 2009). Previous studies have demonstrated a relationship between healthcare workers' psychological well-being and job stress (Holman et al., 2018). However, perceived job stress has no significant effect on healthcare service quality, no matter how stressed healthcare workers are (Aydin & Özmutaf, 2020). In this study, we, therefore, investigated whether workplace stressors really affect healthcare workers' perceived stress. Specifically, we evaluated the effects on perceived work stress of work engagement, which is related to working selflessly and being mentally and physically alert at work.

1 Literature review

1.1 Work stress and work-related stressors

Stress can be caused by external factors, such as family life, work environment, and social life, as well as internal reasons related to illness or medical processes. Stress is an individual's reaction to a variety of situations perceived as threatening (Sutherland & Cooper, 1990) and the emotional and physical reactions of individuals to stressors (pressure, demands, and changes in their environment). Stress, which is often regarded as an experience caused by pressures or demands on an individual, is considered an epidemic (Blaug et al., 2007).

Work stress can be defined as negative physical and emotional psychological reactions resulting from an individual's inability to fulfil their expected roles and duties (Antonova, 2016). While some researchers have supported a risk assessment approach to managing work-related stress (Cox et al., 2003; Cox & Cox, 1993), others have questioned its effectiveness due to difficulties in identifying psychological harms and dangers (Rick & Briner, 2000).

Stressors are situations that can lead to strain in the work-related environment (Kahn et al., 1992). Although some assume that sudden organisational changes or traumatic events cause stress, most stressors result from general working conditions rather than sudden changes (Ford et al., 2014). Responsibilities and duties that require mental or physical

resources create stress if they require continuous effort without enough time (Demerouti & Bakker, 2011).

Stressors can be categorised as related to environmental, organisational, and individual resources. Environmental stressors include changes in socio-cultural life, economic life, technology, and legal and political life. Organisational stressors include poor organisational commitment, low performance, employee turnover, work absenteeism, and occupational accidents. Numerous studies have shown the negative effects of organisational stressors on physical health (Fishta & Backé, 2015; Huang et al., 2015) and mental health (Stansfeld & Candy, 2006). Other research has demonstrated the relationship between the quality of work conditions and well-being. Specifically, poor quality work conditions (Fishta & Backé, 2015), such as job insecurity, low job control, high job demands, and effort-reward imbalance, all reduce well-being (Nyberg et al., 2014; Stansfeld & Candy, 2006). High job demands and low job control may cause stress-related ill health (Karasek & Theorell, 1990). Individual stressors are generally related to effects on the mental, physical and social health of the individual.

Both organisational and individual characteristics contribute significantly to occupational health and work stress (Shaw et al., 1992). For example, an extroverted personality or optimism both relieve stress, although this mitigating effect of personality is not the best method to prevent work stress (Paunonen & Ashton, 2001). In particular, a deterioration in the quality of work-life and work stress are related to negative mental and physical health outcomes and low job satisfaction (Mark & Smith, 2012).

In general, although health institutions cannot eliminate environmental stress factors, they can view them as either threats or opportunities. Mackay et al. (2008) defined a work-related stressors taxonomy with six specific stressors: demand, support, control, role, workplace relationships, and organisational change. In healthcare, work stress can directly affect service delivery in that the treatment, care, or support services offered by the employee may be adversely affected due to occupational factors, such as excessive workload, long working hours, an uneasy working environment, lack of job security, or stress factors in their own personal and social life. Stress can cause financial and, more importantly, moral losses in the health sector due to its uniquely high sensitivity to errors and uncertainties. Thus, it is critical to identify and eliminate or minimise the factors that cause stress in health services.

1.2 Work Engagement

Work engagement is a desirable situation for any business. It is particularly important in healthcare, given the psychological dimension of the service provided. Unlike in the business that produces a standard product, healthcare workers should also be concerned with each patient's physiological and psychological condition. Therefore, healthcare services should be delivered with devotion, not only rationally.

Work engagement is enthusiasm to do the job and feeling proud of the work. It affects purposeful behaviours, requires a high level of mobility, provides sustainability to achieve goals, and increases intrinsic motivation. Ashforth and Humphrey (1995) conceptualise work engagement as a tool that motivates employees to work in a coordinated manner with

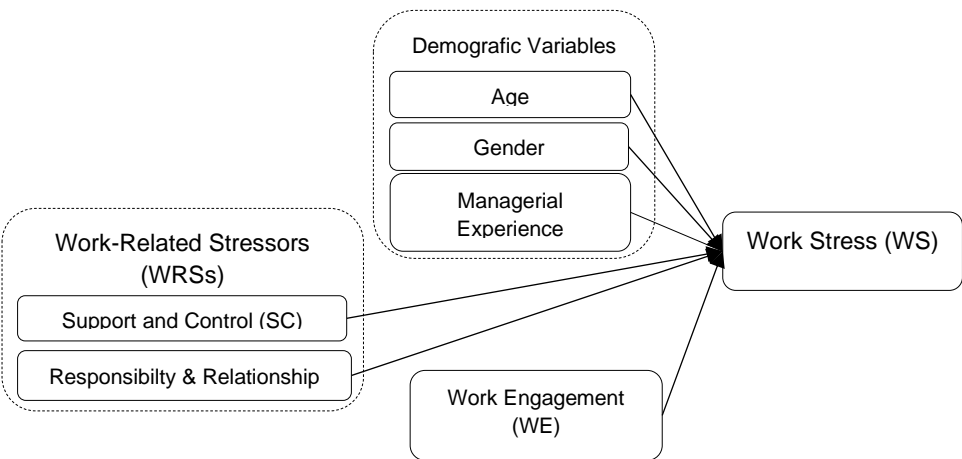
hands, minds, and hearts. It means that employees make an effort in their job, not only to earn money or finish the job but self-selflessly and conscientiously.

Work engagement has three basic dimensions: vigour, dedication, and absorption (W. B. Schaufeli et al., 2002). Vigour means behaving energetically; dedication means showing emotional commitment; absorption means being cognitively engaged. Vigour refers to the individual's high physical and mental energy in working life, demonstrated by making an effort while performing job activities and having the power to cope with difficulties. Dedication refers to the individual's feelings about their job, such as the importance they attach to the job, enthusiastic performance, and pride in the work. Absorption means that the individual concentrates completely on work and deals with the job deeply. The individual does not notice time passing while at work and has difficulty leaving the job to return to social life. An individual's intrinsic motivation, attitudes, and thoughts about work affect work commitment and performance (Schaufeli & Salanova, 2007).

Given its impact on organisational success, numerous studies have been conducted on work engagement in the last 20 years (Bailey et al., 2017). Work engagement and burnout can be considered as opposite concepts (Fiabane et al., 2013). Work engagement increases an employee's commitment to the organisation (Abeer, 2017). Increasing employee loyalty (Christian et al., 2011) provides social support and autonomy and makes employees feel good at their jobs, such as increasing their level of well-being and seeing their work as a part of themselves. However, there is also a relationship between engagement and factors affecting workers' well-being, such as burnout (Bezuidenhout & Cilliers, 2010), job performance (Mauno et al., 2007), job satisfaction (Christian et al., 2011), and organisational commitment (Macey & Schneider, 2008).

In the scope of the theoretical framework, this study aimed to determine the effects of work-related stressors (WRSs) and Work Engagement (WE) on Work Stress (WS) among managers. The basic research model is shown in Figure 1.

Figure 1 | Research Model



Source: author

Based on this research model, the study tested the following hypotheses:

H₁: There is a significant correlation between WRSs, WE, and WS.

H₂: Demographic variables have a significant effect on WS.

H_{2a}: Age has a significant effect on WS.

H_{2b}: Gender has a significant effect on WS.

H_{2c}: Managerial experience has a significant effect on WS.

H₃: WRSs have a significant effect on WS.

H_{3a}: Support and control have a significant effect on WS.

H_{3b}: Responsibility and relationship have a significant effect on WS.

H₄: WE has a significant negative effect on WS.

2 Research methodology

2.1 Sample

The present study aimed to evaluate the effects of WRSs and WE on WS among healthcare managers (HMs). The study was carried out between February 2019 and June 2019. The study's universe comprised HMs (medical, administrative, nursing, and quality managers) in Izmir, Turkey working in public hospitals, university hospitals, and private hospitals. The surveys were conducted by e-mail and completed online. Out of 441 e-mails sent to HMs, 189 were sent to public hospital managers, 62 to university hospital managers, and 190 were sent to private hospital managers. In total, 108 surveys were completed.

2.2 Measures

Data were obtained from the HMs online using a structured questionnaire of 4 parts with 22 items and four questions. The questionnaire consists of the Work Engagement scale, Work-Related Stressors scale, Work Stress scale and demographic questions about the HMs.

Work Engagement Scale: The work Engagement scale consists of 9 items from Balducci et al. (2010), adapted for healthcare services. The scale items were rated on a seven-point scale varying from 0 (never) to 6 (always).

Work-Related Stressors Scale: Work-Related Stressors scale consist of 8 items, adapted from Cousins et al. (2004). These items were rated on a five-point scale Likert-type (5 = strongly agree; 1 = strongly disagree).

Work Stress Scale: The work Stress scale consists of 5 items, adapted from Lambert et al. (2006). The items were measured using a five-point Likert-type (5 = strongly agree; 1 = strongly disagree).

2.3 Data analysis

After scanning, eligible surveys for the analysis were computerised. An IBM SPSS 22 statistical program was used for data analysis. Exploratory factor analysis was conducted to assess the construct validity of the research variables (WRS dimensions, WE, and WS). The reliability of all scales and subscales were assessed using Cronbach's alpha. Correlation analyses were conducted to determine the direction and strength of the relationships between the research variables. Finally, stepwise regression analysis was conducted to determine the effects of the independent variables on the dependent variable. A p-value equal to or less than 0.05 was accepted as statistically significant.

3 Results

Table 1 summarises the participants' socio-demographic characteristics. The mean age of the 108 HMs was 40.96 (SD=7.99) years, of whom 49.1% were female, and 50.9% were male. About 13.5% were medical managers, 47.9% were administrative managers, and 38.5% were nursing managers. The mean managerial experience was seven years and six months (SD=6.51 years).

Table 1 | Socio-demographic Characteristics of HWs

| | | N | % |
|------------------------------|----------------|------------------|------|
| Gender (n= 108) | Female | 53 | 49.1 |
| | Male | 55 | 50.9 |
| Position (n=96) | Medical | 13 | 13.5 |
| | Administrative | 46 | 47.9 |
| | Nursing | 37 | 38.5 |
| Age | Mean \pm SD | 40.96 \pm 7.99 | |
| Managerial Experience | Mean \pm SD | 7.51 \pm 6.51 | |

Source: authors

Reliability tests were conducted on the research variables data set, and Cronbach's alpha value was found within acceptable limits (Nunnally, 1967). The exploratory factor analysis was performed using principal component analysis with varimax rotation. Based on the scree plot dispersion, factors with Eigenvalues (main value) greater than one were considered. For the WRS scale, the pattern matrix of the principal component factor analysis with Kaiser Normalization identified two factors accounting for 57.35% of the total variance. Each was labelled according to its common characteristics (Table 2). All items loaded on their respective factors with loadings greater than 0.5. The Bartlett test result was 244.24 ($p<0.001$), while the Kaiser-Meyer-Olkin illustration value was 0.81. Each factor was labelled according to its common characteristics (Table 2). The two factors were support and control (Factor 1) and responsibility and relationships (Factor 2). Reliability tests were conducted on the WRS data based on derivative statistics, yielding an overall Cronbach's alpha value of 0.82 ($p<0.001$).

Table 2 | Factor Analysis Results (Work-Related Stressors)

| Work-Related Stressors (WRSs) | Factor Loading | Eigenvalue | Total Variance Explained | Alpha | Mean |
|---|----------------|------------|--------------------------|-------|------|
| Support and Control (Factor 1) | | 3.52 | 40.04 | .74* | 2.82 |
| My line manager encourages me at work | .769 | | | | |
| I have a choice in deciding what I do at work? | .751 | | | | |
| I receive the respect I deserve from my colleagues at work | .704 | | | | |
| Staff are consulted about change at work | .581 | | | | |
| Responsibility and Relationships (Factor 2) | | 1.07 | 13.31 | .71** | 2.77 |
| I have unrealistic time pressures | .843 | | | | |
| I am subject to bullying at work | .736 | | | | |
| I am clear what my duties and responsibilities are | .540 | | | | |
| Relationships at work are strained | .509 | | | | |
| KMO= 0.81*; Bartlett's Test of Sphericity= 244.24; Total Variance Explained: 57.35%; Cronbach's Alpha=0.82*; * p<0.001; ** p<0.05 | | | | | |

Source: authors

For the WE scale, the pattern matrix of the principal component factor analysis with Kaiser Normalization identified one factor (Table 3) that accounted for 85.39% of the total variance. All items had factor loadings greater than 0.4. The Bartlett test result was 496.10 ($p<0.001$ level), while the Kaiser-Meyer-Olkin illustration value was 0.88. Reliability tests were applied to the WE data based on derivative statistics. The overall Cronbach's alpha value was 0.96 ($p<0.001$).

Table 3 | Factor Analysis Results (Work Engagement)

| | Factor Loading | Eigenvalue | Total Variance Explained | Alpha | Mean |
|---|----------------|------------|--------------------------|-------|------|
| Work Engagement (WE) | | 4.80 | 60.00 | .90* | 3.86 |
| I am enthusiastic about my job | .871 | | | | |
| When I get up in the morning, I feel like going to work | .851 | | | | |
| At my work, I feel bursting with energy | .843 | | | | |
| I feel happy when I am working intensely | .831 | | | | |
| My job inspires me | .825 | | | | |
| At my job, I feel strong and vigorous | .738 | | | | |
| I am proud of the work that I do | .706 | | | | |
| I get carried away when I am working | .432 | | | | |
| KMO= 0.88*; Bartlett's Test of Sphericity= 496.10; Total Variance Explained: 60.00; Cronbach's alpha=0.90*; * p<0.001 | | | | | |

Source: authors

For the WS scale, the pattern matrix of the principal component factor analysis with Kaiser Normalization identified one factor (Table 4) that accounted for 63.16% of the total variance. All items had factor loadings greater than 0.7. The Bartlett test result was 253.55

($p<0.001$ level), while the Kaiser-Meyer-Olkin illustration value was 0.80. Reliability tests were applied to the WS data based on derivative statistics. The overall Cronbach's alpha value was 0.85 ($p<0.001$).

Table 4 | Factor Analysis Results (Work Stress)

| | Factor Loading | Eigenvalue | Total Variance Explained | Alpha | Mean |
|---|----------------|------------|--------------------------|-------|------|
| Work Stress (WS) | | 3.16 | 63.16 | .85* | 2.51 |
| When I'm at work I often feel tense or uptight | .927 | | | | |
| I am usually under a lot of pressure when I am at work | .851 | | | | |
| A lot of time my job makes me very frustrated or angry | .763 | | | | |
| There are a lot of aspects of my job that make me upset | .709 | | | | |
| I am usually calm and at ease when I'm working | .701 | | | | |
| KMO= 0.80*; Bartlett's Test of Sphericity= 253.55; Total Variance Explained: 63.16; Cronbach's alpha=0.85*; * $p<0.001$ | | | | | |

Source: authors

Table 5 presents the correlations between WS, WRS dimensions, and WE. WS and the two WRS dimensions had a strong positive relationship between themselves ($r=0.53$ to 0.62), while WS was strongly negatively correlated with the WRS dimensions and WE ($r=-0.66$ to -0.48).

Table 5 | Correlation Matrix

| | 1 | 2 | 3 | 4 |
|---|--------|--------|--------|--------|
| Work Stress | 1.00 | | | |
| Support and Control | 0.53* | 1.00 | | |
| Responsibility and Relationships | 0.54* | 0.62* | 1.00 | |
| Work Engagement | -0.52* | -0.66* | -0.48* | 1.00 |
| Means | 2.51 | 2.82 | 2.77 | 3.86 |
| SD. | 0.86 | 0.88 | 0.83 | 0.73 |
| Cronbach's alpha | 0.85** | 0.74** | 0.71** | 0.90** |

Notes: * Correlation is significant at 0.01 level (2-tailed), ** p value is significant at 0.01 level

Source: authors

The highest correlation was between WE and support and control ($r= 0.62$, $p<0.001$). The strengths and directions of the relationships between the WRS dimensions and WS complied with the WE theoretical framework. The finding that WS and the two WRS factors had positive and strong relationships between themselves, whereas the relationship between WS and the WRS dimensions and WE were negative supports H₁.

A hierarchical multiple regression analysis was performed to test the effects on WS of the demographic variables, WRS factors, and WE. Preliminary analyses were conducted to test that the data met assumptions of linearity, normality, and homoscedasticity. Cook's distance (Min=0.00, Max=0.16) was calculated to measure the effect of deleting any given observation. This indicated no cases exerted an undue influence on the model. The Durbin-

Watson statistic was computed to test for autocorrelation in the residuals from the regression analysis. Its value was 2.31, which is considered acceptable.

In the first step of the hierarchical multiple regression, three predictors were entered: gender, age, and managerial experience. This model was statistically significant $F(96, 3) = 3.57$; $p < 0.001$ and explained 8% of the variance in WS (Table 6). Regarding the importance of the Beta values, only age ($\beta = 0.22$; $p = 0.045$) and managerial experience ($\beta = -0.26$; $p = 0.018$) both significantly determined WS. This supported H_{2a} and H_{2c} but not H_{2b} .

After entering the two WRS factors and WE in step two, the total variance explained by the model was 49% ($F(6,96) = 14.112$; $p < 0.001$). After controlling for the two WRS factors and WE, the introduction of the two WRS factors and WE explained an additional 41% variance in WS (R^2 change = 0.41). In the final model, age, responsibility and relationship, and WE were statistically significant predictors of WE. Responsibility and relationship had the highest Beta value ($\beta = 0.39$; $p < 0.001$). Age was also a significant positive determiner ($\beta = 0.23$; $p = 0.02$), whereas WE was a significant negative determiner ($\beta = -0.31$; $p < 0.05$). Thus, these hierarchical multiple regression findings support H_{3b} and H_4 .

Table 6 | Hierarchical Regression Analysis of the Effects on WS of Gender, Age, and Managerial Experience, WRS Factors and WE

| | R | R2 | R ² Change | β | t | 95% CI |
|----------------------------------|-----|------|--------------------------|---------|--------|----------------|
| Step 1 | ,28 | ,08* | | | | |
| Age | | | | .219* | 2.035 | [0.00. 0.05] |
| Gender | | | | -.055 | -.549 | [-0.44. 0.25] |
| Managerial Experience | | | | -.259* | -2.403 | [-0.06. -0.01] |
| Constant | | | | 1.880 | 3.546 | [0.83. 2.93] |
| Step 2 | ,70 | ,49* | ,41* | | | |
| Age | | | | .226 | 2.743 | [0.01. 0.04] |
| Gender | | | | -.046 | -.610 | [-0.34. 0.18] |
| Managerial Experience | | | | -.155 | -1.860 | [-0.04. 0.00] |
| Support and Control | | | | .068 | .592 | [-0.16. 0.29] |
| Responsibility and Relationships | | | | .391** | 3.988 | [0.21. 0.62] |
| Work Engagement | | | | -.311* | -3.136 | [-0.61. -0.14] |
| Constant | | | | 1.812 | 2.339 | [0.27. 3.35] |

** $p < 0.001$; * $p \leq 0.05$; $n = 402$; CI = confidence interval

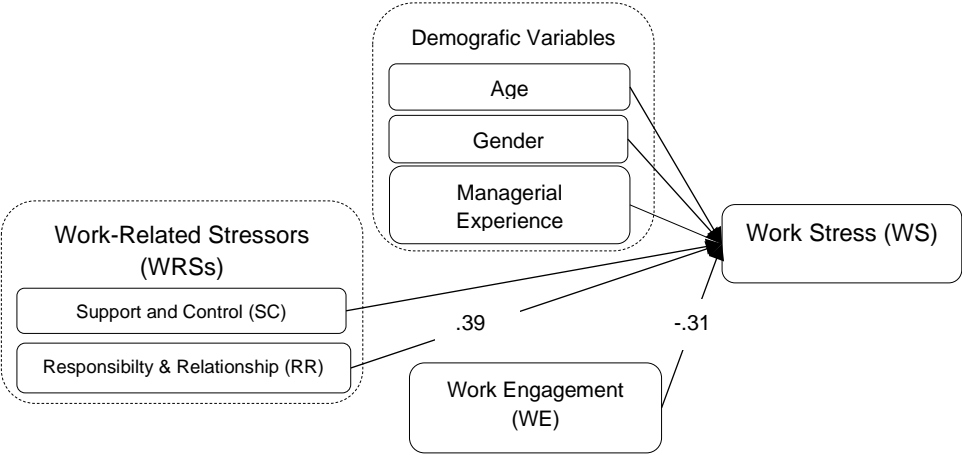
Source: authors

4 Discussion

This aimed to determine the effects on work stress of two work-related stressors dimensions (support and control; and responsibility and relationships) and work engagement. After testing the validity and reliability of the scales, correlation and regression analyses were conducted on these variables. Stressors were predicted to have a negative relationship with work stress and work engagement, while work engagement was predicted to reduce work stress. Previous research shows that stressors increase work stress (Keashly et al., 1997) and reduce well-being (Fortes-Ferreira et al., 2006; van Bogaert et al., 2014), whereas work engagement reduces work stress (Fiabane et al., 2013).

The hierarchical regression analysis indicated that only the age, gender, and managerial experience of the HMs were included in the first step. The first step showed that age increased whereas managerial experience reduced HM work stress.

Figure 2 | Regression Results (Second Step)



Source: authors

In the second step of the hierarchical regression analysis, the two work-related stressors factors (support and control, and responsibilities and relationships) and work engagement were added to the research model. Whereas responsibilities and relationships had a positive effect on work stress, support and control had no significant effect. That is, although HMs work in stressful work environments, their perceived job stress does not affect the service quality they offer (Aydin & Özmutaf, 2020).

Likewise, not all the stressors affected work stress. This may be because managers have too many responsibilities and have to manage relationships. The optimum level of responsibility may improve the motivation and general well-being of the healthcare leaders (van Dorssen-Boog et al., 2020), but increasing responsibility (Crawford et al., 2010); and complexity of the relations (Tutuncu et al., 2014) may increase the work stress. Moreover, according to the job demand model (Karasek, 1979), it is assumed that if HWs are facilitated with more autonomy in their work, they will be able to handle their jobs better (Laschinger et al., 2001). From the view of the HWs the external control may cause pressure while they are working, and the absence of external control allows HWs to complete their tasks in their own favourite way. According to research results, support and control had no significant effect, but they are the main functions of management as well. Therefore managers should provide support and control, and they may think that they have fulfilled these duties, their effects on perceived stress may not be determined.

Another important finding from the second step is that work engagement reduces work stress. Work engagement leads to increased well-being and positive organisational outcomes. In support of this interpretation, work engagement contributes to proactive stress coping (Unsworth & Mason, 2012; van Dorssen-Boog et al., 2020) from the view of the

HWs. Work engagement optimises stressful job demands such as role ambiguity, conflict (Cavanaugh et al., 2000) and work engagement is important in view of stress prevention (van der Elst et al., 2016). This may be because of the unique characteristics of the health sector.

Managers should consider their needs and expectations both formally and informally by holding regular evaluations to listen to their employees' voices (Knight et al., 2017). That is, work engagement improves mental and physical health (Bakker & Demerouti, 2017) and increases job performance, which in turn is related to job stress. In addition, behaviours such as absenteeism and leaving the job, which is related to job stress, are also related to work engagement (Bakker & Demerouti, 2017; Timms et al., 2015). Inoue (2014) determined that occupational stress factors are related to work engagement in Japan. Accordingly, it can be said that work stress may decrease if work engagement increases. Finally, the present study showed that age and managerial experience had a significant effect on work stress in the first but not the second step.

Conclusion

The most important feature of this article is that it reflects the views of HMs and, especially recently, increasing importance given to work engagement and work stress. Work engagement is associated with many of the concepts of work-related well-being. It is directly proportional to organisational goals, such as increasing organisational commitment and job satisfaction. However, many studies indicate that there is a negative relationship between work stress and job-related well-being concepts. Our study, therefore, evaluated the effects on work stress of work-related stressors and work engagement. Work-related stressors were measured in two dimensions thought to be positively associated with job stress: support and control and responsibilities and relationships. However, our findings indicated that only responsibilities and relationships significantly affected work stress, possibly because the study's sample was healthcare managers.

Previous research shows that work engagement generally reduces work stress. However, our study examined specifically how work stress is affected by work engagement. The findings show the need for healthcare managers to focus on responsibilities and relationships as stressors. Managers' willingness, enthusiasm, physical and mental fitness, and their determination to achieve goals all affected their reported levels of work stress. That is, engaged HMs may have lower levels of perceived stress.

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