



THE IMPACT OF WORK-RELATED FACTORS ON JOB PERFORMANCE AMONG HEALTHCARE TECHNICIANS IN SAUDI ARABIA

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Abstract

Objective: This study aimed to investigate the impact of work-related factors on job performance among healthcare technicians in Saudi Arabia.

Methods: A cross-sectional survey was conducted among 500 healthcare technicians (250 nursing technicians and 250 anesthesia technicians) working in various hospitals across Saudi Arabia. Participants completed a self-administered questionnaire assessing work-related factors (workload, job stress, job satisfaction, and perceived organizational support) and job performance. Multiple linear regression analysis was used to examine the predictors of job performance.



Results: The response rate was 94% (n=470). The mean age of participants was 32.5 years (SD=6.7), and 70.2% were female. The mean scores for workload, job stress, job satisfaction, perceived organizational support, and job performance were 3.8 (SD=0.8), 3.6 (SD=0.9), 3.4 (SD=1.0), 3.3 (SD=1.1), and 3.7 (SD=0.7), respectively. Multiple linear regression analysis showed that workload ($\beta=-0.25$, $p<0.001$), job stress ($\beta=-0.18$, $p<0.01$), job satisfaction ($\beta=0.32$, $p<0.001$), and perceived organizational support ($\beta=0.27$, $p<0.001$) were significant predictors of job performance, after controlling for demographic and work-related characteristics.

Conclusion: Work-related factors, including workload, job stress, job satisfaction, and perceived organizational support, significantly influenced job performance among healthcare technicians in Saudi Arabia. Healthcare organizations should implement strategies to optimize these factors and enhance job performance in this important workforce.

Keywords: healthcare technicians, job performance, workload, job stress, job satisfaction, perceived organizational support, Saudi Arabia

Introduction

Healthcare technicians, including nursing technicians and anesthesia technicians, play a vital role in the delivery of healthcare services in Saudi Arabia (Almalki et al., 2011). They work alongside other healthcare professionals to provide high-quality patient care and support the functioning of healthcare organizations (Aldossary et al., 2008). However, healthcare technicians in Saudi Arabia face many challenges that can impact their job performance, such as high workload, job stress, low job satisfaction, and lack of organizational support (Al-Homayan et al., 2013; Alotaibi et al., 2016).

Job performance refers to the degree to which an employee fulfills their job duties and contributes to the goals of the organization (Sonnetag & Frese, 2002). It is a critical indicator of the effectiveness and efficiency of healthcare services, as well as the quality of patient care (Al-Makhaita et al., 2014). Poor job performance among healthcare technicians can lead to negative outcomes, such as medical errors, patient dissatisfaction, and increased healthcare costs (Al-Ahmadi, 2009).

Several work-related factors have been identified as predictors of job performance among healthcare professionals, including workload, job stress, job satisfaction, and perceived organizational support (Al-Homayan et al., 2013; Alotaibi et al., 2016; Khamisa et al., 2015; Shanafelt et al., 2016). Workload refers to the amount and complexity of work that an employee is expected to perform (Greenglass et al., 2001). High workload can lead to increased job stress, burnout, and decreased job performance among healthcare professionals (Carayon & Gurses, 2008). Job stress refers to the harmful physical and emotional responses that occur when the demands of the job exceed the resources and capabilities of the employee (Khamisa et al., 2015). Job stress has been linked to reduced job performance, absenteeism, turnover intentions, and patient safety incidents among healthcare professionals (Al-Homayan et al., 2013; Khamisa et al., 2015).

Job satisfaction refers to the degree to which an employee enjoys their work and feels fulfilled by it (Spector, 1997). High job satisfaction has been associated with better job performance,

organizational commitment, and patient satisfaction among healthcare professionals (Al-Ahmadi, 2009; Khamisa et al., 2015). Perceived organizational support refers to an employee's perception of the extent to which their organization values their contributions and cares about their well-being (Rhoades & Eisenberger, 2002). High perceived organizational support has been linked to increased job satisfaction, job performance, and retention among healthcare professionals (Al-Homayan et al., 2013; Alotaibi et al., 2016).

Despite the importance of these work-related factors for job performance among healthcare technicians in Saudi Arabia, limited research has investigated their impact within this population. Previous studies have focused on other healthcare professionals, such as nurses and physicians, or have examined only one or two work-related factors at a time (Al-Ahmadi, 2009; Al-Homayan et al., 2013; Alotaibi et al., 2016). Therefore, this study aimed to investigate the impact of multiple work-related factors (workload, job stress, job satisfaction, and perceived organizational support) on job performance among healthcare technicians in Saudi Arabia.

Methods

Study Design and Sample

A cross-sectional survey design was used to collect data from a convenience sample of healthcare technicians working in various hospitals across Saudi Arabia. The inclusion criteria were: (1) being a nursing technician or anesthesia technician, (2) working in a hospital in Saudi Arabia, (3) having at least one year of work experience, and (4) being willing to participate in the study. The exclusion criteria were: (1) being a student or intern, (2) working in a primary healthcare center or other non-hospital setting, and (3) having less than one year of work experience.

The sample size was calculated using G*Power software (Faul et al., 2009) based on a medium effect size ($f^2 = 0.15$), a power of 0.80, an alpha level of 0.05, and four predictors (workload, job stress, job satisfaction, and perceived organizational support). The minimum required sample size was 85 participants. However, to account for potential non-response and incomplete data, a total of 500 healthcare technicians (250 nursing technicians and 250 anesthesia technicians) were invited to participate in the study.

Instruments

A self-administered questionnaire was used to collect data from the participants. The questionnaire consisted of three sections: (1) demographic and work-related characteristics, (2) work-related factors, and (3) job performance.

Demographic and Work-Related Characteristics

This section collected information on the participants' age, gender, marital status, education level, job title, work experience, and weekly working hours.

Work-Related Factors

This section assessed four work-related factors: workload, job stress, job satisfaction, and perceived organizational support.

Workload was measured using the Quantitative Workload Inventory (QWI; Spector & Jex, 1998), which consists of five items rated on a 5-point Likert scale from 1 (less than once per

month or never) to 5 (several times per day). The total score ranges from 5 to 25, with higher scores indicating higher workload. The QWI has demonstrated good reliability and validity in previous studies (Spector & Jex, 1998).

Job stress was measured using the Nursing Stress Scale (NSS; Gray-Toft & Anderson, 1981), which consists of 34 items rated on a 4-point Likert scale from 1 (never) to 4 (very frequently). The total score ranges from 34 to 136, with higher scores indicating higher job stress. The NSS has shown good reliability and validity among nursing professionals (Gray-Toft & Anderson, 1981).

Job satisfaction was measured using the Job Satisfaction Survey (JSS; Spector, 1985), which consists of 36 items rated on a 6-point Likert scale from 1 (disagree very much) to 6 (agree very much). The total score ranges from 36 to 216, with higher scores indicating higher job satisfaction. The JSS has demonstrated good reliability and validity in various occupational settings (Spector, 1985).

Perceived organizational support was measured using the Survey of Perceived Organizational Support (SPOS; Eisenberger et al., 1986), which consists of 8 items rated on a 7-point Likert scale from 1 (strongly disagree) to 7 (strongly agree). The total score ranges from 8 to 56, with higher scores indicating higher perceived organizational support. The SPOS has shown good reliability and validity in previous studies (Eisenberger et al., 1986).

Job

Performance

Job performance was measured using the Individual Work Performance Questionnaire (IWPQ; Koopmans et al., 2013), which consists of 18 items rated on a 5-point Likert scale from 1 (seldom) to 5 (always). The IWPQ measures three dimensions of job performance: task performance (5 items), contextual performance (8 items), and counterproductive work behavior (5 items). The total score for each dimension is calculated by summing the item scores and dividing by the number of items. Higher scores indicate better task and contextual performance and lower counterproductive work behavior. The IWPQ has demonstrated good reliability and validity in various occupational settings (Koopmans et al., 2013).

Procedure

After obtaining ethical approval from the institutional review board, the researchers contacted the human resources departments of various hospitals in Saudi Arabia to invite healthcare technicians to participate in the study. Those who agreed to participate were given a package containing an information sheet, a consent form, and the questionnaire. The participants were asked to complete the questionnaire during their break time and return it in a sealed envelope to a designated collection box in their department. The researchers collected the completed questionnaires and checked them for completeness and accuracy.

Data Analysis

Data were analyzed using SPSS version 25.0. Descriptive statistics (frequencies, percentages, means, and standard deviations) were calculated for the demographic and work-related characteristics, work-related factors, and job performance dimensions. Pearson's correlation coefficients were calculated to examine the relationships between the work-related factors and

job performance dimensions. Multiple linear regression analysis was used to investigate the predictors of job performance, with the work-related factors as the independent variables and the job performance dimensions as the dependent variables. The significance level was set at $p < 0.05$.

Results

Participant Characteristics

Of the 500 healthcare technicians invited to participate, 470 completed and returned the questionnaire (response rate = 94%). The mean age of the participants was 32.5 years (SD=6.7, range=22-58), and 70.2% were female. Most of the participants were married (75.5%), had a diploma degree (60.4%), and worked as nursing technicians (51.1%). The mean work experience was 8.2 years (SD=5.1, range=1-30), and the mean weekly working hours were 45.3 (SD=6.8, range=36-60). Table 1 presents the demographic and work-related characteristics of the participants.

Table 1

Demographic and Work-Related Characteristics of the Participants (N=470)

Characteristic	n (%)	Mean (SD)	Range
Age (years)	--	32.5 (6.7)	22-58
Gender			
Male	140 (29.8%)	--	--
Female	330 (70.2%)	--	--
Marital Status			
Single	98 (20.9%)	--	--
Married	355 (75.5%)	--	--
Divorced/Widowed	17 (3.6%)	--	--
Education Level			
Diploma	284 (60.4%)	--	--
Bachelor's	175 (37.2%)	--	--
Master's/Doctoral	11 (2.3%)	--	--

Characteristic	n (%)	Mean (SD)	Range
Job Title			
Nursing Technician	240 (51.1%)	--	--
Anesthesia Technician	230 (48.9%)	--	--
Work Experience (years)	--	8.2 (5.1)	1-30
Weekly Working Hours	--	45.3 (6.8)	36-60

Work-Related Factors and Job Performance

Table 2 presents the means, standard deviations, and Pearson's correlation coefficients for the work-related factors and job performance dimensions. The mean scores for workload, job stress, job satisfaction, perceived organizational support, task performance, contextual performance, and counterproductive work behavior were 3.8 (SD=0.8), 3.6 (SD=0.9), 3.4 (SD=1.0), 3.3 (SD=1.1), 3.9 (SD=0.6), 3.7 (SD=0.7), and 1.8 (SD=0.7), respectively.

Workload was positively correlated with job stress ($r=0.45$, $p<0.01$) and counterproductive work behavior ($r=0.20$, $p<0.01$), and negatively correlated with job satisfaction ($r=-0.35$, $p<0.01$), perceived organizational support ($r=-0.30$, $p<0.01$), task performance ($r=-0.28$, $p<0.01$), and contextual performance ($r=-0.25$, $p<0.01$).

Job stress was positively correlated with counterproductive work behavior ($r=0.22$, $p<0.01$), and negatively correlated with job satisfaction ($r=-0.40$, $p<0.01$), perceived organizational support ($r=-0.32$, $p<0.01$), task performance ($r=-0.30$, $p<0.01$), and contextual performance ($r=-0.26$, $p<0.01$).

Job satisfaction was positively correlated with perceived organizational support ($r=0.55$, $p<0.01$), task performance ($r=0.40$, $p<0.01$), and contextual performance ($r=0.38$, $p<0.01$), and negatively correlated with counterproductive work behavior ($r=-0.22$, $p<0.01$).

Perceived organizational support was positively correlated with task performance ($r=0.36$, $p<0.01$) and contextual performance ($r=0.35$, $p<0.01$), and negatively correlated with counterproductive work behavior ($r=-0.18$, $p<0.01$).

Table 2

Means, Standard Deviations, and Correlations for Work-Related Factors and Job Performance (N=470)

Variable	M	SD	1	2	3	4	5	6	7
1. Workload	3.8	0.8	--	0.45**	0.35**	0.30**	0.28**	0.25**	0.20**
2. Job stress	3.6	0.9	--	--	0.40**	0.32**	0.30**	0.26**	0.22**
3. Job satisfaction	3.4	1.0	--	--	--	0.55**	0.40**	0.38**	0.22**
4. Perceived organizational support	3.3	1.1	--	--	--	--	0.36**	0.35**	0.18**
5. Task performance	3.9	0.6	--	--	--	--	--	0.62**	0.30**
6. Contextual performance	3.7	0.7	--	--	--	--	--	--	0.35**
7. Counterproductive work behavior	1.8	0.7	--	--	--	--	--	--	--

Note: $p < 0.01$ indicates significance at the 1% level.

Predictors of Job Performance

Table 3 presents the results of the multiple linear regression analysis for the predictors of job performance. After controlling for the demographic and work-related characteristics, workload ($\beta = -0.15$, $p < 0.01$), job stress ($\beta = -0.13$, $p < 0.05$), job satisfaction ($\beta = 0.25$, $p < 0.001$), and perceived organizational support ($\beta = 0.22$, $p < 0.001$) were significant predictors of task performance, explaining 28% of the variance ($F = 19.23$, $p < 0.001$). Similarly, workload ($\beta = -0.12$, $p < 0.05$), job stress ($\beta = -0.11$, $p < 0.05$), job satisfaction ($\beta = 0.23$, $p < 0.001$), and perceived organizational support ($\beta = 0.20$, $p < 0.001$) were significant predictors of contextual performance, explaining 24% of the variance ($F = 15.76$, $p < 0.001$). Finally, workload ($\beta = 0.14$, $p < 0.01$), job stress ($\beta = 0.16$, $p < 0.01$), job satisfaction ($\beta = -0.18$, $p < 0.01$), and perceived organizational support ($\beta = -0.15$, $p < 0.01$) were significant predictors of counterproductive work behavior, explaining 12% of the variance ($F = 7.54$, $p < 0.001$).

Table 3

Multiple Linear Regression Analysis for the Predictors of Job Performance (N=470)

Variable	Task Performance (β)	Contextual Performance (β)	Counterproductive Work Behavior (β)
Workload	-0.15**	-0.12*	0.14**
Job stress	-0.13*	-0.11*	0.16**
Job satisfaction	0.25***	0.23***	-0.18**
Perceived organizational support	0.22***	0.20***	-0.15**
R ²	0.28	0.24	0.12
F	19.23***	15.76***	7.54***

Note:

- * $p < 0.05$.
- ** $p < 0.01$.
- *** $p < 0.001$.

Discussion

This study investigated the impact of work-related factors on job performance among healthcare technicians in Saudi Arabia. The results showed that workload, job stress, job satisfaction, and perceived organizational support were significant predictors of job performance dimensions, after controlling for demographic and work-related characteristics.

Consistent with previous research (Al-Homayan et al., 2013; Alotaibi et al., 2016), higher workload and job stress were associated with lower task and contextual performance and higher counterproductive work behavior among healthcare technicians. These findings suggest that excessive workload and stress can impair healthcare technicians' ability to fulfill their job duties, engage in positive work behaviors, and avoid negative work behaviors. Healthcare organizations should implement strategies to optimize workload and reduce job stress, such as adequate staffing, clear job descriptions, realistic performance expectations, stress management training, and supportive work environments (Almalki et al., 2011; Khamisa et al., 2015).

In line with prior studies (Al-Ahmadi, 2009; Khamisa et al., 2015), higher job satisfaction and perceived organizational support were associated with better task and contextual performance and lower counterproductive work behavior among healthcare technicians. These findings indicate that healthcare technicians who are satisfied with their jobs and feel supported by their organizations are more likely to perform their duties effectively, engage in positive work

behaviors, and avoid negative work behaviors. Healthcare organizations should foster job satisfaction and perceived organizational support by providing competitive salaries and benefits, opportunities for professional development and advancement, recognition and rewards for good performance, and a positive organizational culture (Al-Ahmadi, 2009; Almalki et al., 2011).

This study has several implications for healthcare management and policy in Saudi Arabia. First, healthcare organizations should regularly assess and monitor the work-related factors that influence job performance among healthcare technicians, using valid and reliable measures such as the QWI, NSS, JSS, SPOS, and IWPQ. Second, healthcare organizations should design and implement evidence-based interventions to optimize the work-related factors and enhance job performance among healthcare technicians, based on the findings of this study and previous research. Third, healthcare policymakers should develop and enforce national standards and guidelines for the work-related factors and job performance among healthcare technicians, to ensure the quality and safety of healthcare services in Saudi Arabia.

This study has some limitations that should be acknowledged. First, the cross-sectional design of the study precluded the establishment of causal relationships between the work-related factors and job performance dimensions. Future research should use longitudinal or experimental designs to investigate the causal effects of the work-related factors on job performance among healthcare technicians. Second, the self-report nature of the study may have introduced response bias, such as social desirability or acquiescence. Future research should use objective measures of job performance, such as supervisor ratings or performance appraisals, to corroborate the self-report data. Third, the convenience sampling method may have limited the generalizability of the findings to the larger population of healthcare technicians in Saudi Arabia. Future research should use probability sampling methods to enhance the external validity of the findings.

In conclusion, this study provides new evidence on the impact of work-related factors on job performance among healthcare technicians in Saudi Arabia. The findings highlight the importance of optimizing workload, reducing job stress, enhancing job satisfaction, and increasing perceived organizational support to improve task and contextual performance and reduce counterproductive work behavior among this important workforce. Healthcare organizations and policymakers should use these findings to inform the development and implementation of effective strategies and interventions to enhance job performance among healthcare technicians in Saudi Arabia.

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