





# “The relationship between time management, job satisfaction, and job burnout among Jordanian medical staff during COVID-19”

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# THE RELATIONSHIP BETWEEN TIME MANAGEMENT, JOB SATISFACTION, AND JOB BURNOUT AMONG JORDANIAN MEDICAL STAFF DURING COVID-19

## Abstract

COVID-19 has put pressure on medical crews to respond rapidly and operate in real time, which could affect their job performance. However, adopting time management practices appear to mitigate adverse job outcomes and capitalize on positive ones. Therefore, by adopting the integrative time management model, this study analyzes the relationship between time management (setting goals and priorities and mechanics dimensions), job satisfaction, and job burnout (emotional exhaustion dimension) among Jordanian medical staff during COVID-19. The data were gathered via an electronic questionnaire. In total, 737 respondents participated in the survey. RStudio-2022.07.1 was utilized to code all statistical analyses, including a description of demographics and structural equation modeling. Results revealed that while the setting goals and priorities dimension ( $z = 4.641$ ,  $p = 0.000$ ) positively relates to job satisfaction, the mechanics dimension has the opposite effect ( $z = 1.887$ ,  $p = 0.059$ ). Moreover, while the setting goals and priorities dimension ( $z = 2.369$ ,  $p = 0.018$ ) is positively related to the emotional exhaustion dimension, the mechanics dimension ( $z = -2.086$ ,  $p = 0.037$ ) is negatively related. Finally, it was found that job burnout does not affect job satisfaction ( $z = -0.645$ ,  $p = 0.519$ ). The findings imply that medical institutions should support their staff in setting goals and priorities to accomplish their tasks and encourage time management. Finally, medical staff should have the training to help them overcome any stress they experience when they plan their work-related tasks.

## Keywords

self-regulation, self-management skills, work pressure, job characteristics, medical staff

## JEL Classification

M12, M54, O15

## INTRODUCTION

Time management is a critical issue nowadays (Vanharanta et al., 2022). Like other human and financial resources, time represents a real economic and administrative value to individuals and organizations (Kouali & Pashiardis, 2015). The importance of time management has become more critical and decisive because the demands of professions are numerous, and personal, family, and social needs are becoming more diverse (Ballard & Mandhana, 2021). Poor time management is one of the most critical behavioral manifestations that lead to work stress. Although this reason is often linked to workloads, it is mainly due to individual behavior in the work environment in terms of the inability to organize time (Galanti et al., 2021; Tejero et al., 2021). Thus, poor time management may not be associated with increasing or decreasing workloads but rather due to the person's inability to organize time during work (Crosbie et al., 2020).

Since the nature of spending time during the performance of tasks varies from one job to another, it is only in some cases that managers and employees can control their time either because of themselves, their

tasks, or others (Sonntag, 2017). Consequently, this imbalance may increase work pressure for managers and employees. This growth in work pressure can cause negative consequences like lack of job satisfaction, poor performance, and lack of productivity, in addition to increased workloads (Kundi et al., 2022).

In 2019, when COVID-19 hit the globe, all workers' life and work conditions changed (Syrek et al., 2022). Many employees worldwide were shifted to work from a distance and to stay home, except for the medical crews. The COVID-19 pandemic has been a major challenge for medical staff. Hospitals and medical facilities were on high alert and demand, and so were their employees. The rising number of admitted patients due to the pandemic, as well as other duties that came up because of it, like testing and vaccination for COVID-19, have put medical crews in an unprecedented situation (Siman-Tov et al., 2021). This includes working longer hours, dealing with a higher number of patients, and managing their own lives (Duek & Fliss, 2020).

Time management becomes critical under exceptional circumstances, and its impact on other work characteristics is conceivable. Moreover, a close examination of relevant literature revealed only a few studies on the relationships between time management practices, job satisfaction, and job burnout from the perspective of medical crews, especially in developing countries. The outcomes of this study can help decision-makers and human resource managers in the health sector to establish strategies and design policies to improve the work conditions of medical staff.

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## 1. LITERATURE REVIEW AND HYPOTHESES

The COVID-19 pandemic and the new era of disruptive technologies and changing business practices and needs have pressured medical institutions and crews to respond rapidly and operate in real time (Kabadayi et al., 2020). Thus, time management has become essential for medical staff under unprecedented pressure because of COVID-19 (Magro et al., 2020).

Time management is explored in multiple cultures and fields from different points of view. Therefore, time management is a multidimensional construct (Strzelecka, 2022). Consequently, an exact definition of time management has yet to be coined (Aeon & Aguinis, 2017). Nonetheless, time management is mainly centered around three dimensions: setting goals and priorities, using mechanics to manage time, and employing preference for an organization (García-Ros & Pérez-González, 2013). Therefore, this study defines it as a set of methods to plan, execute, and evaluate tasks to maximize the utilization of own time to achieve desired outcomes.

Job satisfaction depends on the job itself and the individual's personal characteristics or an interplay of both (Judge et al., 2020). Like time man-

agement, it is widely examined in different disciplines. Therefore, the definition of job satisfaction is a controversial issue (Dhamija et al., 2019). However, this study considers job satisfaction "a positive (or negative) opinion of the individual about his job" (Weiss, 2002, p. 175). It is one of the most challenging issues for organizations and employers (Aziri, 2011). Job satisfaction affects employee performance, influencing organizations' productivity and efficiency (Davidescu et al., 2020; Ramli, 2019).

Job burnout has been researched in social and workplace conditions. Therefore, its definition has evolved (Rotenstein et al., 2018). Comprehensively, it is defined as "a stress situation at the workplace characterized by emotional exhaustion, professional inefficacy, and cynicism" (Lubbadeh, 2020, p. 7). This study focuses on the dimension of emotional exhaustion, which is "emotional fatigue due to work activities" (Maslach & Jackson, 1981, p. 101). Job burnout is costly for employees and organizations (Wu et al., 2019). Extensive job-related requirements and shortages in job-required necessities can increase job burnout (Ramli, 2019).

Although many models of time management have been developed in the literature, there has been no well-founded time management theory (Claessens et al., 2007). Nonetheless, studies on

time management are grounded on different theories. These theories ranged from social to applied sciences. Two studies were identified that were grounded in social science theories, a study by Koch and Kleinmann (2002), which adopted the rational choice theory, and another one by Rapp et al. (2013), which utilized the resource allocation theory. Concerning applied science theories, computer-operating systems theory was adopted by Britton and Tesser (1991).

This study adopts the integrative time management model developed by Burt et al. (2010) as its grounding theory. This model suits the purpose of this study because it combines time management practices within the organizational context. This model proposes that time management dimensions of setting goals and priorities and mechanics are positively associated with job outcomes, including job satisfaction. Moreover, the model posits that poor time management negatively relates to other job outcomes and job burnout. In addition, this study extends this model by examining the effect of time management on job satisfaction.

The linkages between job satisfaction and time management are well-established by Aeon and Aguinis (2017) and Aprison et al. (2021). That is, time management is positively related to job satisfaction (Aeon et al., 2021). Furthermore, Elsabahy et al. (2015) also found that time management positively affects job satisfaction in the medical field, as well as in other fields (Khan et al., 2020; Tavakoli et al., 2013). However, culture might impact the effect of time management on job satisfaction because time might be viewed differently across cultures (Nonis et al., 2005). In addition, work conditions have changed dramatically for medical staff during the COVID-19 pandemic, which may have changed their perception of time.

Job burnout represents an extraordinary challenge for employees and employers (Khalid et al., 2020). If faced with a vast and increasing work volume and pressure to accomplish tasks on time, as in the medical sector, employees tend to feel emotionally exhausted (López-Cabarcos et al., 2019; Xiaoming et al., 2014). This often results in negative consequences for both employers and employees (Karbakhsh et al., 2020). Employers find

it difficult to satisfy their employees and retain them, while employees might desire to leave their jobs (Westwood et al., 2017). This might negatively affect employees' job satisfaction (Wang et al., 2020). With that perspective in mind, it is believed that incorporating time management practices into employees' routines might help reduce job burnout caused by emotional exhaustion (Yener et al., 2021).

Research demonstrated that time management negatively relates to job burnout in the medical (Bampoori et al., 2019) and business and education sectors (Hu et al., 2020; Mahmoodi-Shahreabaki, 2015). Moreover, previous research found that job burnout negatively affects job satisfaction in multiple sectors (Chen et al., 2020; Evangelista et al., 2021), including the medical one (Srivastava et al., 2019). However, the impact of time management on job burnout and job satisfaction has yet to receive attention during the pandemic times, particularly in the medical field of developing countries.

Therefore, the aim is to examine the impact of time management on job satisfaction and job burnout among Jordanian medical staff during the COVID-19 pandemic. For this purpose, the following hypotheses are proposed:

- H1: *Time management (setting goals and priorities dimension) positively relates to medical crews' job satisfaction during COVID-19.*
- H2: *Time management (mechanics dimension) positively relates to medical crews' job satisfaction during COVID-19.*
- H3: *Time management (setting goals and priorities dimension) negatively relates to medical crews' job burnout (emotional exhaustion dimension) during COVID-19.*
- H4: *Time management (mechanics dimension) negatively relates to medical crews' job burnout (emotional exhaustion dimension) during COVID-19.*
- H5: *Job burnout (emotional exhaustion dimension) negatively relates to medical crews' job satisfaction during COVID-19.*

## 2. METHODOLOGY

Medical crews in Jordan were invited through social media to participate in an internet-based survey. The electronic survey, which was hosted on Google forms and translated into Arabic, sought data on demographics, time management (setting goals and priorities and mechanics dimensions), job satisfaction, and job burnout (emotional exhaustion dimension) from Jordanian medical staff during the COVID-19 pandemic. The dataset was collected at the end of 2021. The survey (questionnaire) is presented in Appendix A.

A five-point frequency rating scale was used to measure the respective dimensions of time management (from 1 – very seldom to 5 – very often). Higher scores correspond to higher degrees of time management. For the emotional exhaustion dimension, higher scores correspond to higher degrees of burnout. Job satisfaction was operationalized using a five-point Likert scale (from 1 – strongly disagree to 5 – strongly agree), with higher scores corresponding to higher degrees of job satisfaction.

The survey's items, used to measure the constructs, were obtained from formerly validated instruments. The time management dimensions used nine and four items adapted from Macan (1994). The job burnout dimension used five items from Maslach et al. (1997). Finally, six items adapted from Macdonald and MacIntyre (1997) measured job satisfaction.

RStudio-2022.07.1 was utilized to code all performed statistical techniques, descriptive and inferential. The descriptive statistical analysis involved a description of the participants' demographics. The inferential statistical analysis involved a structural equation modeling in examining the relationships between the constructs composing the model.

## 3. RESULTS

In total, 737 respondents participated in the survey. Among them, 333 (45.2%) were males, and 404 (54.8%) were females. Most participants belonged to two age groups, 224 (30.39%) aged between 31

and 40 years and 220 (29.85%) aged between 20 and 30. In addition, most participants held bachelor's degrees 490 (66.48%). Finally, medical doctors, 224 (30.39%), and nurses, 219 (29.72%), comprised 60% of the study's sample. Table 1 presents the demographic data.

The convergent and discriminant validities of the measurement model were assessed to assess the construct validity. Convergent validity was based on four criteria, as suggested by Hair et al. (2006). Thus, the average variance extracted (AVE) for each construct was measured to check whether it was equal to or above 0.5. In addition, the standardized factor loading (FL) for each item was calculated to ensure that it was equal to or greater than 0.5. In addition, the composite reliability (CR) for each construct was measured to check whether it was equal to or above the lower threshold limit of 0.7. Finally, Cronbach's alpha for each construct was assessed to ensure that it was equal to or above 0.7. Table 2 shows the convergent validity results. A close examination of these results confirms that the convergent validity requirements are satisfied.

The heterotrait-monotrait (HTMT) matrix was tested to confirm the discriminant validity. In this test, it is stipulated that the HTMT for any two constructs is less than 0.9 (Henseler et al., 2015). Table 3 presents the HTMT results. A close examination of these findings confirms that the discriminant validity requirements are satisfied.

Five fit indices were calculated to examine the goodness-of-fit of the model. As Bentler (1990) recommended, the Comparative Fit Index (CFI) was calculated to ensure that it was greater than 0.9. In addition to that, the Relative Non-Centrality Index (RNI) and the Tucker-Lewis Index (TLI) were calculated to check whether each index is above the lower threshold limit of 0.9 (Bentler & Bonett, 1980). In addition, according to Browne and Cudeck (1992), the Root Mean Square Error of Approximation (RMSEA) was measured to check whether it was less than 0.08. Finally, the Standardized Root Mean Square Residual (SRMR) was assessed to ensure it was below the upper threshold of 0.08 (Hu & Bentler, 1999). These results are shown in Table 4. A close examination of these findings confirms that the model met all the criteria.

**Table 1.** Demographic characteristics of participants

Items	Number of respondents	%
<b>Gender</b>		
Male	333	45.2%
Female	404	54.8%
Total	737	100%
<b>Age</b>		
20-30	220	29.85%
31-40	224	30.39%
41-50	186	25.23%
51-60	88	11.94%
61-70	19	2.57%
Total	737	100%
<b>Academic qualification</b>		
Community college	133	18.05%
Bachelor	490	66.48%
Master	94	12.75%
PhD	20	2.71%
Total	737	100%
<b>Job position</b>		
Medical doctor	224	30.39%
Nurse	219	29.72%
Pharmacist	117	15.87%
Laboratory technician	106	14.38%
Radiologic technologist	71	9.63%
Total	737	100%

**Table 2.** Measurement model assessment

Construct	Item	Cronbach's $\alpha$	CR	AVE	FL
Time management – Setting goals and priorities	SGAP1	0.90	0.89	0.51	0.60
	SGAP2	–	–	–	0.55
	SGAP3	–	–	–	0.75
	SGAP4	–	–	–	0.76
	SGAP5	–	–	–	0.76
	SGAP6	–	–	–	0.75
	SGAP7	–	–	–	0.76
	SGAP8	–	–	–	0.75
	SGAP9	–	–	–	0.72
Time management – Mechanics	Mech1	0.81	0.81	0.52	0.73
	Mech2	–	–	–	0.71
	Mech3	–	–	–	0.76
	Mech4	–	–	–	0.68
Job burnout – Emotional exhaustion	EE1	0.84	0.84	0.52	0.71
	EE2	–	–	–	0.71
	EE3	–	–	–	0.78
	EE4	–	–	–	0.77
	EE5	–	–	–	0.62
Job satisfaction	JS1	0.85	0.86	0.51	0.84
	JS2	–	–	–	0.57
	JS3	–	–	–	0.62
	JS4	–	–	–	0.72
	JS5	–	–	–	0.57
	JS6	–	–	–	0.85

The results of the hypothesis testing indicated that while the setting goals and priorities dimension ( $z = 4.641, p = 0.000$ ) positively relates to job satisfaction, the mechanics dimension ( $z = 1.887, p = 0.059$ ) does not.

**Table 3.** HTMT matrix for the measurement model

Construct	TM – SGAP	TM – M	JB – EE	JS
TM – SGAP	1.000	–	–	–
TM – M	0.263	1.000	–	–
JB – EE	0.099	0.097	1.000	–
JS	0.204	0.159	0.099	1.000

Note: TM – SGAP: Time management – Setting goals and priorities, TM – M: Time management – Mechanics, JB – EE: Job burnout – Emotional exhaustion, JS: Job satisfaction.

**Table 4.** Structural model fit indices

Fit index	Value	Criteria
CFI	0.932	> 0.9
TLI	0.924	> 0.9
RNI	0.932	> 0.9
RMSEA	0.055	< .08
SRMR	0.051	< .08

Moreover, while the setting goals and priorities dimension ( $z = 2.369, p = 0.018$ ) was found to have a positive impact on medical crews' emotional ex-

haustion dimension of job burnout, the mechanics dimension ( $z = -2.086$ ,  $p = 0.037$ ) was found to have a negative one. Finally, it was found that the emotional exhaustion dimension ( $z = -0.645$ ,  $p = 0.519$ ) does not affect medical crews' job satisfaction. Table 5 presents the hypothesis testing results.

**Table 5.** Hypotheses testing results

Path	Coefficient	z-value	P(> z )	Decision
TM – SGAP → JS	0.328	4.641	0.000	Significant
TM – M → JS	0.111	1.887	0.059	Insignificant
TM – SGAP → JB – EE	0.135	2.369	0.018	Significant
TM – M → JB – EE	-0.102	-2.086	0.037	Significant
JB – EE → JS	-0.034	-0.645	0.519	Insignificant

Note: TM – SGAP: Time management – Setting goals and priorities, TM – M: Time management – Mechanics, JB – EE: Job burnout – Emotional exhaustion, JS: Job satisfaction.

## 4. DISCUSSION

The paper analyzed the relationship between time management, job satisfaction, and job burnout. It was found that the setting goals and priorities dimension of time management positively influences job satisfaction. Therefore, *H1* is proved. This finding aligns with Elsabahy et al. (2015), Khan et al. (2020), and Tavakoli et al. (2013). Thus, if medical employees set goals and priorities for their work-related tasks, it can improve job satisfaction. In addition, it was revealed that the mechanics di-

mension of time management does not affect job satisfaction. Therefore, *H2* is rejected. One plausible explanation of that the current technology available for time management is disruptive or stressful for medical staff.

Furthermore, this study found that the setting goals and priorities dimension positively affected the emotional exhaustion dimension of job burnout, and the mechanics dimension was found to have a negative effect. Therefore, *H3* is rejected and *H4* is supported. Furthermore, these findings support Bampoori et al. (2019), Hu et al. (2020), and Mahmoodi-Shahrehabaki (2015). Therefore, using mechanical devices is expected to reduce the emotional exhaustion of medical staff. One plausible explanation for the resulting relationship between setting goals and priorities dimension and emotional exhaustion is that as medical crews start planning their tasks, they begin to realize their intense workload and, in turn, feel emotionally exhausted.

Finally, it was found that the emotional exhaustion dimension does not affect job satisfaction. Therefore, *H5* is rejected. These results oppose Chen et al. (2020), Evangelista et al. (2021), Lizano and Mor Barak (2015), Salehi and Gholtash (2011), and Srivastava et al. (2019). One reason might be that the sample of this study has different cultural specifics.

## CONCLUSION

The study analyzed the relationships between time management, job satisfaction, and job burnout among Jordanian medical staff during the COVID-19 pandemic. The paper found that while the setting goals and priorities dimension of time management positively affects job satisfaction, the mechanics dimension has the opposite effect. Moreover, while the setting goals and priorities dimension of time management positively impacts the emotional exhaustion dimension of job burnout, the mechanics dimension has a negative effect. Finally, it was found that emotional exhaustion has no effect on medical crews' job satisfaction.

These results imply that medical institutions should promote a positive climate to support their staff in setting goals and priorities to accomplish their tasks. In addition, the use of mechanical devices and skills should be encouraged and supported by management. Finally, the management of medical institutions should endeavor to incorporate some training for their staff to help them overcome or deal with the stress they might experience when they set their goals and plan their work-related tasks.

This study significantly contributes to the research on the impact of time management practices on job satisfaction and job burnout. However, it is vital to further examine mediating and moderating

variables to check the linkages between the examined constructs. Moreover, future research may replicate this study in other sectors and countries and examine what is different and what is not compared to this study.

## AUTHOR CONTRIBUTIONS

Conceptualization: Zaid Alziyadat, Ahmad Obidat.  
 Data curation: Zaid Alziyadat.  
 Formal analysis: Ahmad Obidat.  
 Investigation: Zaid Alziyadat, Ahmad Obidat.  
 Methodology: Zaid Alziyadat, Ahmad Obidat.  
 Project administration: Zaid Alziyadat.  
 Resources: Zaid Alziyadat, Ahmad Obidat.  
 Software: Ahmad Obidat.  
 Supervision: Zaid Alziyadat.  
 Validation: Ahmad Obidat.  
 Writing – original draft: Zaid Alziyadat, Ahmad Obidat.  
 Writing – review & editing: Ahmad Obidat.

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## APPENDIX A

### Questionnaire

What is your gender (Male/Female)?

How old are you? Please select one:

- 20-30
- 31-40
- 41-50
- 51-60
- 61-70

What is the highest academic qualification you have? Please select one:

- Community college diploma
- Bachelor
- Master
- PhD

What is your job position? Please select one:

- Medical doctor
- Nurse
- Pharmacist
- Laboratory technician
- Radiologic technologist

**Time Management - Setting Goals And Priorities (SGAP)** was measured using a five-point frequency rating scale: 1. Very Seldom 2. Seldom 3. Sometimes 4. Often 5. Very often

1. **(SGAP1)** I review my daily activities to check whether I am wasting time.
2. **(SGAP2)** I set deadlines when I plan to accomplish tasks.
3. **(SGAP3)** I look for ways to increase the efficiency with which I perform my work activities.
4. **(SGAP4)** I set priorities to determine the order in which I will perform daily tasks.
5. **(SGAP5)** I break complex, difficult tasks down into smaller, manageable tasks.
6. **(SGAP6)** I set short-term goals for what I want to accomplish in a few days or weeks.
7. **(SGAP7)** I review my goals to determine whether they have been met or need revising.
8. **(SGAP8)** I accomplish high-priority tasks before going on to low-priority ones.
9. **(SGAP9)** During my work, I keep in mind my long-term goals.

**Time Management – Mechanics (Mech)** was measured using a five-point frequency rating scale:

1. Very Seldom 2. Seldom 3. Sometimes 4. Often 5. Very often

1. **(Mech1)** I carry a laptop or use my smartphone to record appointments.
2. **(Mech2)** I make a daily or weekly list of things to do.
3. **(Mech3)** I avoid interruptions during my work.
4. **(Mech4)** I use waiting time to do useful things.

**Job Burnout – Emotional Exhaustion (EE)** was measured using a five-point frequency rating scale: 1. Very Seldom 2. Seldom 3. Sometimes 4. Often 5. Very often

1. **(EE1)** I feel emotionally drained from my work.
2. **(EE2)** I feel used up at the end of the workday.
3. **(EE3)** I feel fatigued when I get up in the morning and face another day on the job.
4. **(EE4)** I am working too hard on my job.
5. **(EE5)** Working directly with people puts too much stress on me.

**Job satisfaction (JS)** was measured using a five-point Likert scale: 1. Strongly disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly agree

1. **(JS1)** I receive recognition for a job well done.
2. **(JS2)** I feel close to the colleagues at work.
3. **(JS3)** I feel good about working at this institution.
4. **(JS4)** I feel secure about my job.
5. **(JS5)** I believe management is concerned about me.
6. **(JS6)** My salary is good.