

## Psychological anxiety, professional performance, and the impact of the COVID-19 pandemic: A study of healthcare providers at the University of Jordan Hospital

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### ABSTRACT

The profound ramifications of the COVID-19 pandemic have notably affected the health sector, posing a threat to the global healthcare system. Amid these challenges, this study examines the impact of the pandemic on the psychological and somatic domains of healthcare providers. Specifically, it evaluates the psychological anxiety levels and professional performance of healthcare providers at the University of Jordan Hospital, while investigating the correlation between anxiety and performance. The study, encompassing a sample of 211 individuals, introduces scales for measuring psychological anxiety and professional performance. Findings reveal a medium level of psychological anxiety and professional performance. A negative correlation emerges between anxiety and performance scores. Gender, age, and experience exhibit no statistically significant impact on anxiety or performance. The study underscores the need for experimental research in psychological health and life management, contributes a novel cognitive dimension to understanding psychological anxiety, and sheds light on factors shaping professional performance.

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### 1. Introduction

The global landscape continues to be dominated by the ongoing COVID-19 pandemic, wherein its deleterious ramifications are increasingly conspicuous across diverse sectors. In this context, the COVID-19 pandemic has imposed a novel lifestyle and an unparalleled mode of interpersonal interaction. Moreover, the pandemic has significantly contributed to a reconfiguration of the global landscape across multiple spheres, encompassing health, education, social dynamics, economics, and politics (Chin et al., 2020).

The emergence of the COVID-19 pandemic has resulted in an immense toll on human lives, with millions of fatalities recorded across various communities worldwide. Consequently, a pervasive sense of alarm, bewilderment, and psychological strain has enveloped individuals universally, particularly among those operating within the

medical realm. This strain is particularly pronounced due to the exigencies of their responsibilities and their direct exposure to COVID-19-infected individuals. Regrettably, this exposure has culminated in an adverse impact on their mental and physical well-being, as well as on their vocational performance (Zhong et al., 2021).

The notion of vocational performance pertains to a state of equilibrium between the employee and their occupational milieu. This equilibrium, in turn, engenders sentiments of contentment regarding their vocational accomplishments, affording them the opportunity for advancement and skill enhancement. The gauge for this equilibrium lies in their interrelations with colleagues, the avenues for career progression, and the attainment of professional elevation (Wlamyra et al., 2022).

Peckham et al. (2019) suggested that we can measure professional performance by measuring the level of job satisfaction—it includes the extent to which individuals are satisfied with their monthly income, and the social prestige achieved by their profession as well as the extent to safety and justice achieved by their job. Also, the type of lifestyle in the professional work within the health sector includes reconsidering the professional characteristics and terms that lead to achieving motivation and feelings of satisfaction with the professional life. Therefore,

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the conditions in which workers in the private sector do their job tasks and their ability to express themselves and act based on that determine their perceived professional and practical life.

The COVID-19 pandemic has exerted a significant impact, augmenting psychological distress within individuals, precipitating alterations in their lifestyles, eroding social connections, and fostering heightened social detachment. Notably, measures such as quarantine, social distancing, and the apprehension of contracting and transmitting the virus to family members have compounded the substantial strain encountered by healthcare providers, particularly doctors and nurses. These professionals have grappled with elevated infection rates, precipitating consequential challenges to their mental well-being, occupational efficacy, and career advancements.

The study's primary inquiries encompass the following dimensions:

1. What is the extent of psychological distress experienced by the surveyed individuals?
2. To what degree does the professional performance of the participants manifest?
3. Does a statistically substantial correlation, at the significance level  $\alpha \leq 0.05$ , exist between the aggregate measure of psychological distress, its facets, and the overall score of professional performance amongst healthcare providers?
4. Are statistically significant variances, at  $\alpha \leq 0.05$ , discernible in psychological distress and professional performance, ascribed to the variables of gender and professional tenure among the sampled individuals?

The significance of this study emanates from its robust theoretical foundation, wherein it delves into the pivotal role undertaken by healthcare providers in confronting the multifaceted challenges presented by the COVID-19 pandemic. In doing so, the study seeks to ameliorate the adverse societal repercussions engendered by the pandemic's emergence. Additionally, this investigation serves to pave a path for the strategic alignment of medical and nursing proficiencies towards an elevated emphasis on professional acumen and influential factors. Notably, among these factors is the crucial aspect of psychological adaptation amidst the prevailing extraordinary circumstances.

Furthermore, the study diligently uncovers the primary obstacles impeding optimal professional performance, while also shedding light on the triggers of psychological distress encountered within this context. From a pragmatic standpoint, the study enriches researchers with empirical data that facilitates the formulation of targeted counseling interventions. These interventions, in turn, are aimed at mitigating the gravity of deleterious psychological and vocational outcomes stemming from the pervasive impact of the pandemic.

Psychological Anxiety, as defined by [Yin and Feng \(2022\)](#), encapsulates sensations of discomfort,

stress, and fear, ultimately manifesting as disruptions in behavior accompanied by an array of somatic and psychological symptoms. In operational terms, it is conceptually framed as the cumulative score attained by individuals on the scale developed expressly for the purposes of this study.

Concomitantly, Professional Performance pertains to an individual's capacity to execute job-related duties with efficacy, adaptability, and proficiency under varying environmental circumstances ([Wlamyra et al., 2022](#)). Conceptualized operationally, it is represented by the aggregate score achieved by individuals on the scale tailored for this study's objectives. Healthcare Providers, in the context of this research, denote medical practitioners including doctors and nurses who administer medical care to patients. The study was conducted among healthcare providers within the premises of the University of Jordan Hospital, situated in the capital city of Amman, during the year 2022. It is important to note that the findings of this study are delimited in scope to the measurement instruments employed herein, namely the Psychological Anxiety Scale and the Professional Performance Scale. Additionally, the study outlines the protocols adhered to for ensuring the validity and reliability of these measures, alongside the statistical methodologies employed.

## 2. Literature review

[Artan et al. \(2022\)](#) undertook a study with the primary objective of examining the nexus between psychological anxiety and the perceptions of individuals residing in Turkey during the COVID-19 outbreak. The study encompassed a cohort of 448 participants, selected through the utilization of a simple random sampling method. The findings distinctly revealed a positive association between the participants' psychological anxiety and their perception of the disease, alongside their adoption of avoidance behaviors. Additionally, the study identified a noteworthy decline in levels of psychological anxiety with advancing age among the participants. Moreover, the research elucidated that, during the pandemic, women exhibited significantly higher proclivity for evading personal interactions and evinced heightened health-related anxieties in contrast to their male counterparts.

[Şayık et al. \(2022\)](#) unveiled insights into the levels of anxiety and sleep quality experienced by medical service employees operating in emergency contexts, as well as the underlying determinants thereof during the COVID-19 pandemic. The study encompassed a cohort of 247 medical personnel actively engaged in urgent medical services. The findings distinctly underscored a robust correlation existing between the participants' anxiety levels and the quality of their sleep. Furthermore, the study brought to light a noteworthy association, wherein healthcare workers who harbored concerns about contracting and subsequently transmitting the COVID-19 virus to their family members exhibited

elevated degrees of anxiety and concurrently, diminished sleep quality. In a study undertaken by Kumar (2016), the findings unveiled the presence of unfavorable perceptions held by female doctors towards the psychological realm and the professional stressors inherent in their roles. This was evidenced by the perceived strain within their relationships with colleagues, marked by stress, and an identified insufficiency of requisite support. Consequently, these negative factors contributed to an escalation in the magnitude of professional stressors experienced by female doctors, thereby impinging upon their psychological adaptation and overall work efficiency in a detrimental manner.

In the investigation conducted by Shahid et al. (2021), the primary objective encompassed the discernment of the interconnection existing amid social isolation, health-related apprehension concerning diseases, and prevailing lifestyles amid the backdrop of the COVID-19 pandemic. The study enlisted a cohort comprising 110 individuals who had successfully recuperated from COVID-19, selected through a purposive sampling technique. The assessment protocol for the participants incorporated both Google-based analytical frameworks and a trifecta of standardized metrics: specifically, the indices of social estrangement, quality of life, and disease-induced anxiety. The findings gleaned from the study underscored a conspicuously adverse influence of disease-related anxiety upon the physical and psychological well-being of the respondents.

In an investigative endeavor undertaken by Wagman et al. (2021), the principal objective centered on the delineation of the phenomenon of professional equilibrium within the context of individuals grappling with manifestations of anxiety and depression, alongside an exploration of the determinants influencing their self-assessed state of professional equilibrium. The participant cohort for this study comprised 118 individuals drawn from two distinct sources: namely, patients receiving mental health care in external clinical settings, as well as those engaged with primary health care provisions. The methodological framework encompassed the utilization of meticulously constructed questionnaires aimed at gauging dimensions pertinent to professional equilibrium, psychological symptomatology, quality of life, and daily occupational engagements. Scrutinizing the outcomes, it becomes apparent that a notable insufficiency in the attainment of professional equilibrium prevails within the studied population. Nonetheless, the extent of this disparity is observed to fluctuate contingent upon the severity of anxiety and depression exhibited by the participants, their perceived quality of life, their vocational performance metrics, and their level of contentment with said professional accomplishments.

The study by García-Hedrerera et al. (2021) aimed to identify the social and professional variables and the levels of fear and anxiety among the employees in intensive care units among 448 individuals. The

results revealed that there are high levels of anxiety among the working staff in the domain of health care, where they had fears of being infected with the virus; the percentage of the participants who suffered from generalized anxiety syndrome was 58.7%. The results also revealed that those individuals suffered from physical symptoms mainly represented by headache with a percentage of 78.1%.

Ayyala et al. (2021) conducted a study aimed at determining the possible resources to stress and anxiety among faculty members in radiology during the early stages of the coronavirus pandemic, where a survey was conducted for the members of pediatricians society in North America. The survey included questions relating to demographic data, distance work, and equipment for personal protection and personal well-being. The results showed that 69% of the respondents had feelings of isolation due to the lack of regular interaction with colleagues. Also, 53% of the participants reported difficulties in distance work while pursuing the domestic teaching of their children, and women reported higher stress and anxiety related to work than men. Dreher et al. (2021) found out the symptoms of depression, psychological anxiety, and stressors as well as the work results related to the pandemic among medical assistants. A questionnaire was disseminated via the Internet in order to be completed by medical assistants throughout Germany. The results were that the major stressors were represented by uncertainty concerning the temporal domain of the pandemic with an agreement of 95.1%, the way of behaving well at 77.5%, and anxiety disorder at 42.6%.

Fluharty et al. (2016) conducted a study to search for the relationship between smoking to the level of psychological anxiety among doctors and their number reached 186. The results revealed that the level of anxiety was high and that there were no differences in the level of anxiety attributed to the variable of gender or years of experience.

Comments on the previous studies Based on our review of the previous studies, it was evident that the topic of psychological anxiety and professional performance gained increased attention from researchers, especially in light of the health, psychological, and professional crises witnessed by people throughout the world. Many researchers investigated the correlation between psychological adjustment with several other variables, such as depression (Dreher et al., 2021), stress (Ayyala et al., 2021), the relationship between psychological anxiety and professional performance (García-Hedrerera et al., 2021; Dreher et al., 2021; Wagman et al., 2021).

### 3. Methods

The study sample consisted of 211 individuals from health care providers in the hospital of the University of Jordan, who were selected using a simple random way (Table 1).

**Table 1:** The distribution of the study sample individuals according to gender, age, and experience

Variable		Number	Percentage
Gender	Male	92	43.6%
	Female	119	56.4%
	Total	211	100%
Age	Less than 35 years old	85	40.3%
	35-55years	98	46.4%
	56years and over	28	13.3%
	Total	211	100%
Professional Experience	Less than 5 years old	57	27.0%
	5-10 Years	60	28.4%
	More than 10 years	94	44.5%
	Total	211	100%

### 3.1. The study instruments

Initially, the scale encompassing psychological anxiety was formulated, encompassing a total of 20 items that were systematically allocated across three fundamental dimensions, namely: Cognitive anxiety, health anxiety, and emotional anxiety. The scrutiny of the scale's validity unfolded in a subsequent manner: Content validity was established through a meticulous assessment process. The correlation coefficients appertaining to the dimensions of the psychological anxiety scale, in relation to the overall composite score, were observed to span the range of 0.873 to 0.902. Importantly, these coefficients were determined to be statistically significant at a significance level of  $\alpha=0.01$ . Furthermore, an intricate examination of the items constituting the psychological anxiety scale was conducted to discern their interrelations with their respective dimensions. These item-dimension correlations, ranging from 0.400 to 0.940, exhibited statistical significance. This outcome substantiates a robust degree of internal consistency, thereby substantiating the scale's eligibility for acceptance.

A critical facet of the assessment pertains to the reliability evaluation of the psychological anxiety scale. Through the employment of the Cronbach Alpha formula, the reliability coefficient was calculated. For the pilot study sample, the overall reliability coefficient, calculated via the Cronbach Alpha formula, stood at 0.942. Furthermore, the respective reliability coefficients for the dimensions of the scale were determined to be 0.923 and 0.881. These coefficients denote a level of reliability that is deemed acceptable within established scholarly norms.

The evaluation of reliability was extended to encompass the "test-retest" paradigm. Through this avenue, the Pearson correlation coefficient was computed, gauging the concordance between responses from the pilot sample's participants on the psychological anxiety scale administered prior to and subsequent to a two-week interval between applications. Remarkably, this coefficient yielded a value of 0.985, thereby signifying a statistically significant correlation at a significance level of  $\alpha=0.01$ .

The scoring framework for the psychological anxiety scale entailed a Likert-based assessment of the 20 constituent items. The cumulative score, ranging between 20 and 60, operated as an indicator

of the individual's level of psychological anxiety. It is noteworthy that higher scores on the scale correspond to elevated levels of psychological anxiety.

### 3.2. Scoring the scale of professional performance

The investigator formulated a comprehensive psychological performance assessment tool, comprised of a total of 25 distinct items. In order to substantiate the pertinence of deploying these scale items, alongside their applicability to the targeted cohort of study participants, a series of meticulous procedures were conducted, as detailed below:

1. Validation of the Professional Performance Scale: Content Validity Assessment: This phase involved the engagement of a pilot sample encompassing 30 individuals, drawn both from the study population and beyond its confines. Within this preliminary application, the researcher meticulously computed the Pearson correlation coefficients between the scores attributed to individual items and the cumulative total score derived from the entire scale. Notably, the computed coefficients were consistently statistically significant, spanning a range from 0.362 to 0.718. This pattern of outcomes underscores a marked internal consistency and confers a noteworthy degree of validation upon the scale, rendering it deemed acceptable for subsequent employment.
2. Reliability Estimation of the Professional Performance Scale: The endeavor to establish the reliability quotient of the scale transpired within the pilot sample setting, encompassing 30 participants. Two distinct methodologies were employed for this purpose: the calculation of the Cronbach Alpha coefficient and the implementation of the test-retest paradigm. In terms of the Cronbach Alpha coefficient, the aggregate reliability of the scale among the individuals comprising the pilot sample was computed at 0.90. Additionally, the reliability assessment employing the test-retest approach yielded a coefficient of 0.92, spanning a two-week interlude between the two administrations.
3. Quantification of Professional Performance Scale Scores: The psychological assessment instrument designed to measure professional performance encompassed a total of 25 distinct items. These

items were subjected to rating via the Likert scale. Importantly, the cumulative score magnitude spanned the range of 25 to 75, whereby higher scores correlate with heightened levels of the trait under examination.

**4. Results**

In the pursuit of assessing the extent of psychological anxiety within the cohort under examination, the outcomes are illustrated in Table 2. Specifically, the healthcare providers affiliated with the University of Jordan Hospital, functioning within

the context of the coronavirus pandemic, were found to exhibit a moderate level of psychological anxiety, as indicated by a mean value of 1.89.

In a parallel inquiry directed towards gauging the scope of professional performance among the same group, calculations of means and standard deviations for the total scores were conducted. The pertinent results are presented in Table 3, wherein it is discerned that the degree of professional performance for the healthcare providers at the University of Jordan Hospital was similarly classified as moderate, denoted by a mean of 1.88.

**Table 2:** The means and standard deviations for the dimensions and the total score of the scale of psychological anxiety among the study sample individuals

Dimension	Mean	SD	Rank	Level
Cognitive	1.82	0.29	3	Medium
Physical	1.97	0.52	1	Medium
Emotional	1.89	0.30	2	Medium
Total	1.89	0.31		Medium

Subsequently, to ascertain whether a statistically significant relationship exists at a significance level of  $\alpha \leq 0.05$  between the comprehensive psychological anxiety scale, its constituent dimensions, and the overarching professional performance metric for healthcare providers, the examination continues with reference to Table 4. The findings herein establish a statistically significant and inverse correlation, characterized by a coefficient of -0.350, signifying that higher degrees of psychological anxiety are accompanied by a relatively lower degree of professional performance.

**Table 3:** Descriptive statistics: Professional performance scores (total and items) in descending order

	Mean	SD	Rank	Degree
Total score	1.88	.29	---	Medium

**Table 4:** Pearson correlation: Psychological anxiety, dimensions, and professional performance

Dimension	Professional performance	
	Correlation coefficient	Significance
Cognitive	-.374	---
Physical	-.209	---
Emotional	-.338	---
Total psychological anxiety	-.350	---

Moreover, in the pursuit of exploring potential disparities rooted in the variables of gender, professional experience, and age, pertaining to psychological anxiety and professional performance, an analysis of mean scores was undertaken and documented in Table 5. The results spotlight notable differences within the study sample across these variables.

To gauge the significance of these observed differences, a comprehensive three-way ANOVA procedure was adopted and is elucidated in Table 6. Conclusively, the outcomes reveal that, at the threshold of  $\alpha \leq 0.05$ , no statistically significant variations are apparent in psychological anxiety and professional performance among healthcare providers attributable to gender. Similar results are established with regard to age and professional experience, as evidenced by the specific f-values.

In summary, the research outcomes imply the absence of statistically significant discrepancies rooted in the variables of gender, age, and professional experience concerning psychological anxiety and professional performance among healthcare providers, further substantiating the nuanced relationships within this study's parameters.

**Table 5:** Descriptive statistics: Psychological anxiety and professional performance by gender, experience, and age

Variable	Category		Psychological anxiety	Professional performance
Gender	Male	Mean	1.8538	1.8252
		SD	.33201	.27475
	Female	Mean	1.9202	1.9203
		SD	.28046	.30634
Age	Less than 35	Mean	1.8247	1.8560
		SD	.28905	.33170
	35-55 years old	Mean	1.9454	1.8633
		SD	.30402	.27813
	56 or more	Mean	1.9036	2.0029
		SD	.32714	.20797
Experience	Less than 5 years	Mean	1.7816	1.8582
		SD	.26620	.30557
	5-10 years	Mean	1.8908	1.9407
		SD	.34574	.37462
	More than 10 years	Mean	1.9580	1.8519
		SD	.28240	.22196

**Table 6:** 3-way ANOVA: Psychological anxiety and professional performance by gender, experience, and age

Variable	Source of variance	Total squares	Degree of freedom	Mean squares	f-value	Significance
Psychological anxiety	Gender	.074	1	.074	.868	.353
	Age	.127	2	.064	.744	.477
	Experience	.059	2	.030	.346	.708
	Gender * age	.332	2	.166	1.942	.146
	Gender * experience	.125	2	.062	.730	.483
	Age * experience	.539	4	.135	1.576	.182
	Gender * age * experience	.161	2	.081	.942	.391
	Error	16.680	195	.086		
	Total	774.238	211			
	Total corrected	19.541	210			
Professional performance	Gender	.267	1	.267	3.239	.073
	Age	.149	2	.074	.905	.406
	Experience	.109	2	.054	.661	.518
	Gender * age	.076	2	.038	.464	.630
	Gender * experience	.587	2	.293	3.564	.030
	Age * experience	.134	4	.033	.406	.804
	Gender * age * experience	.089	2	.044	.538	.585
	Error	16.053	195	.082		
	Total	763.269	211			
	Total corrected	18.413	210			

**5. Discussion**

The results showed that the level of psychological anxiety among the individuals of the study sample was medium for the total degree and the sub-dimensions. This finding agreed with [Shahid et al. \(2021\)](#), which suggested that being committed to the healthy protocol, imposing physical distancing and the individuals' desire to take the medical vaccines against the coronavirus contributed to reducing the state of panic and fear relating to the pandemic. The study results revealed that the degree of professional performance was medium since individuals vary in the level of their professional performance according to their dispositions, the nature of stressors to which they are exposed, their previous experiences, psychological health, and personalities. This finding agrees with [Kumar \(2016\)](#). The results also revealed that there is a negative correlation relationship between psychological anxiety and professional performance; a finding that agreed with [Wagman et al. \(2021\)](#) and [García-Hedrerera et al. \(2021\)](#) - this finding is attributed to the individual's continuous feeling of stress, lack of comfort and fear of being infected which, in turn, hinders the individual's ability to do his tasks as required. The results detected that there are no statistically significant differences at  $\alpha \leq 0.05$  in psychological anxiety and professional performance among the providers of health care due to the variable of gender; however, this finding disagreed with [Artan et al. \(2022\)](#). The results revealed that there are no differences attributed to the variable of experience or age. This finding agreed with [Fluharty et al. \(2016\)](#). This finding is attributed to the fact that anxiety as an emotional state controls the individual and is linked to the individual's realization and evaluation of the resources of risk and stressors around him as well as the strategies that he has to deal with anxiety and his ability to achieve professional and psychological adjustment.

**6. Conclusion**

In light of the pivotal role that psychological anxiety assumes in the context of engendering adverse health outcomes and impinging upon an individual's professional efficacy, the imperativeness of pursuing further empirical investigations within the realm of psychological well-being and crisis management is unequivocally underscored. These efforts ought to encompass the formulation and implementation of targeted counseling programs tailored for healthcare providers, oriented towards the cultivation of efficacious therapeutic strategies that serve to ameliorate the gravity of psychological anxiety manifestations.

These programs should extend beyond mere symptomatic relief, with a pronounced emphasis on fostering a culture of proactive psychological health maintenance. Such an approach warrants the organization of seminars and lectures, designed to disseminate knowledge and insights conducive to safeguarding individual psychological resilience. By augmenting the psychological hardiness of healthcare practitioners and bolstering their professional proficiencies, these initiatives, in concert, hold the potential to effectuate a transformative influence upon the broader healthcare ecosystem.

Concomitantly, the strategic utilization of the study's refined instruments emerges as a strategic imperative in future research endeavors. These instruments, thoughtfully designed and validated through the present study, bear the potential to serve as indispensable tools for investigating the nuanced interplay between psychological anxiety and professional performance. Leveraging frameworks within subsequent investigations will undoubtedly contribute to an enriched understanding of the intricate dynamics governing the psychological well-being of healthcare providers, ultimately fostering a

more comprehensive and efficacious approach to their support and empowerment.

In summation, the present study's findings serve as a clarion call for sustained scholarly attention to the realm of psychological health among healthcare providers. The imperative to establish evidence-based interventions through counseling programs, fortified with preventative dimensions, speaks to the conscientious commitment required to uplift not only the well-being of individual practitioners but also to elevate the performance caliber of the health system as a whole. The present study thus offers a foundation upon which further research can be constructively built, poised to engender meaningful advancements in the spheres of healthcare practice, psychological well-being, and holistic health system enhancement.

## Compliance with ethical standards

### Ethical consideration

The current research has been approved by the university and the Directorate of participating hospital (The University of Jordan Hospital).

### Conflict of interest

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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