

## The Relationship between Mental Workload and Job Performance among Nurses in Farouk Hospital, Sulaymaniyah

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### Abstract

This study examined the relationship between mental workload and job performance among nurses at Farouk Hospital, Sulaymaniyah. Excessive cognitive and emotional demands in nursing have been linked to reduced performance, efficiency, and quality of patient care. A cross-sectional, quantitative design was employed from December 2024 to May 2025, involving the total population of 100 nurses, including both senior and junior staff. Data were collected using a 26-item structured questionnaire on a five-point Likert scale. Descriptive statistics and Spearman correlation analyses were conducted using SPSS. Results indicated that nurses experienced moderate levels of mental workload, with cognitive and emotional demands being particularly prominent. Task and contextual performance were generally moderate, while counterproductive work behaviours were also observed at moderate levels. Spearman correlation revealed strong negative relationships between mental workload and both task and contextual performance, and a strong positive relationship with counterproductive work behaviours. These findings emphasize the importance of managing mental workload, fostering emotionally supportive work environments, and promoting both individual skill development and organizational improvements to enhance nursing performance and patient care outcomes.

**Keywords:** Mental Workload, Job Performance, Task Performance, Contextual Performance, Counterproductive Work Behaviour, Nursing

### Introduction

In contemporary healthcare settings, particularly high-stress environments such as Faruq Medical City in Sulaymaniyah, nurses face the challenge of making rapid decisions, multitasking efficiently, and maintaining emotional stability under persistent time pressure. According to mental workload theory, when mental demands exceed an individual's cognitive capacity, performance deteriorates (Galy et al., 2012). This principle is highly relevant to

nursing, where time constraints, emotional demands, and task complexity converge. Elevated mental workload has been associated with increased stress, burnout, job dissatisfaction, and turnover intentions (Codier, 2009), posing risks not only to nurses' well-being but also to the effectiveness and quality of healthcare delivery. Nursing task performance is critical and encompasses activities such as patient monitoring, medication administration, and adherence to clinical guidelines. Evidence from sectors outside healthcare, such as hospitality, indicates that employee engagement manifested through energy and absorption, significantly influences task performance (Bhardwaj & Kalia, 2020). It is anticipated that similar patterns occur in clinical settings, with engagement directly impacting healthcare quality and patient safety. Contextual performance, reflecting behaviours that promote a positive, collaborative, and supportive work climate, is equally essential in nursing, where professional cooperation and collegiality are pivotal for delivering effective care. Organizational culture and employee engagement have been suggested to positively influence this dimension, fostering staff cohesion and enhancing patient outcomes.

Conversely, counterproductive work behaviours (CWBs) including chronic complaining, exaggeration, and spreading negativity, undermine organizational effectiveness, reduce morale, impede collaboration, and diminish overall healthcare performance (Koopmans et al., 2014; Soane et al., 2012; Mercado et al., 2018). Instruments such as the Individual Work Performance Questionnaire (IW PQ) and CarMen-Q provide comprehensive measures of these behavioural dimensions. International evidence further highlights that burnout and mental exhaustion remain major contributors to absenteeism and reduced performance, with over 40% of nurses reporting excessive workload stress in global surveys (Rubio-Valdehita, 2017).

This study therefore aims to investigate the relationship between mental workload and multidimensional job performance, specifically task performance, contextual performance, and CWB among nurses at Faruq Medical City. Therefore, the findings are intended to inform strategies for workload management, promote sustainable work practices, and enhance healthcare quality and effectiveness. The objectives of this research are as follows

1. To determine the level of mental workload among nurses at Farouk Hospital, Sulaymaniyah.
2. To determine the level of job performance among nurses at Farouk Hospital, Sulaymaniyah.
3. To examine the relationship between mental workload and job performance among nurses at Farouk Hospital, Sulaymaniyah.

## **Literature Review**

### *Mental Workload*

Workload is a mental construct that reflects the mental strain experienced when performing tasks under specific environmental and operational conditions, relative to an individual's capacity to meet these demands. Workload is not only task-specific but also person-specific, encompassing an individual's abilities and motivation to complete the tasks. Additionally, workload can be described as the total energy expenditure of a system, particularly for an individual working intensively over a period (Omolayo & Omole, 2013). Conceptually,

workload represents the intellectual effort needed to complete a task within a given context and operating conditions, relative to an individual's capacity to meet task demands.

Mental workload specifically refers to the ratio of task complexity to an individual's cognitive capacity to fulfil these demands. It is influenced by job requirements, cognitive structure, and the emotional state of the worker (Wang et al., 2024). Mental workload is commonly assessed through three approaches: subjective, physiological, and performance-based measures. Subjective measures include self-report questionnaires such as NASA-TLX. Physiological measures utilize sensor data including respiratory, skin conductance, and electrocardiogram readings. Performance-based assessments evaluate mental effort through metrics such as speed, task completion time, or error rates (Wang et al., 2024). Employee turnover, particularly nurses' intention to leave, is a significant concern in healthcare systems. Turnover intention is the cognitive decision to leave an organization prior to actual attrition (Alshutwi, 2017; Rudman et al., 2014). Globally, nurses' intention to leave ranges from 3% to 75%, with studies reporting 32.7% in Iran (Sokhanvar et al., 2018) and 54.6% in another sample (Sharififard et al., 2019; Xu et al., 2021). High turnover contributes to workforce shortages and negatively impacts patient care quality (Boamah & Laschinger, 2016; WHO, 2016). Factors influencing turnover intention can be categorized as personal or organizational, including compensation, managerial relationships, benefits, absenteeism, burnout, work stress, and overall job satisfaction (Moloney et al., 2018; Fournier et al., 2022; Rondeau et al., 2016; Naserian et al., 2024).

### *Job Performance*

Job performance is defined as the degree to which employees achieve high standards and efficiency, focusing on tasks aligned with organizational objectives. Effort directed toward unrelated objectives is not considered performance, and evaluations typically consider productivity, organizational skills, leadership, and time management (Omolayo & Omole, 2013). In healthcare, job performance reflects the effectiveness of nurses in delivering patient care and achieving clinical outcomes (Al-Homayan et al., 2013; Al-Makhaita et al., 2014; Ousman & Hailu, 2023).

Several scholars argue that job performance comprises three key domains: task performance, contextual performance, and counterproductive work behavior (CWB) (Sackett & Lievens, 2008; Rotundo & Sackett, 2002; Viswesvaran & Ones, 2000). Task performance refers to an individual's proficiency in activities that directly support the technical core of an organization, whereas contextual performance encompasses behaviors that contribute to the organizational, social, and psychological environment but do not directly impact the technical core (Sonnentag & Frese, 2002). CWB is defined as behaviors that are the opposite of organizational citizenship behaviors and are detrimental to organizational effectiveness (Sypniewska, 2020). Taken together, these three dimensions provide a comprehensive and parsimonious framework for evaluating overall employee performance (Dalal et al., 2012). Therefore, assessing employee performance with reference to task performance, contextual performance, and CWB offers a holistic approach to understanding workforce effectiveness.

Nurses' job performance is influenced by multiple factors, including knowledge, skills, experience, competence, motivation, job satisfaction, stress, leadership support, training, work environment, and organizational commitment (Daba et al., 2014; Tesfaye et al., 2015;

Girma et al., 2007; Islam et al., 2019). Optimizing nurse performance is critical for effective hospital operations, patient outcomes, healthcare standards, and organizational goals. Despite self-assessments indicating generally good performance, many nurses report limitations, highlighting the need for interventions such as recognition, rewards, and performance feedback to improve outcomes (Daba et al., 2014).

#### *Relationship between Mental Workload and Job Performance*

In healthcare settings, nurses frequently face high cognitive, emotional, and physical demands, which constitute their mental workload (Xie & Salvendy, 2000; Omolayo & Omole, 2013). Excessive mental workload has been shown to negatively impact task performance, which involves executing core nursing duties such as patient monitoring, medication administration, and adherence to clinical protocols (Galy, Cariou, & Cavenne, 2012). Similarly, contextual performance, encompassing behaviors that support the organizational and social environment, such as cooperation, initiative, and professional engagement—is also impaired under high workload conditions (Bakker, Tims, & Derks, 2012). Conversely, counterproductive work behaviors (CWB), including complaining, spreading negativity, and neglecting responsibilities, tend to increase as mental workload rises, further undermining organizational effectiveness (Sypniewska, 2020).

Empirical studies indicate that high mental workload among nurses correlates strongly with reduced task and contextual performance and elevated CWB (Rubio-Valdehita et al., 2017; Wang et al., 2024). These findings underscore the critical need for healthcare institutions, including Faruq Medical City, to implement workload management strategies and supportive interventions that optimize nurses' cognitive and emotional resources, enhance their performance across all dimensions, and maintain high standards of patient care.

#### **Methodology**

This study was conducted to examine the relationship between mental workload and job performance among nurses at Farouk Hospital, Sulaymaniyah, Kurdistan Region of Iraq. A cross-sectional, quantitative research design was employed to examine the relationship of both variables. The study was conducted between December 2024 and May 2025, and the total population of 100 nurses, comprising both senior and junior staff, was included through total population sampling to ensure comprehensive coverage. Total sampling, also known as census sampling, is used when a researcher intends to include the entire population of interest in the study rather than selecting a subset. For this research, the population is small and manageable, and the full participation is feasible and accessible (Taherdoost, 2016).

Data were collected using a structured 26-item questionnaire rated on a five-point Likert scale, which assessed mental workload, task performance, contextual performance, and counterproductive work behaviors. Prior to data collection, the questionnaire was reviewed for reliability, with Cronbach's alpha calculated to confirm internal consistency. Collected data were analyzed using SPSS, employing descriptive statistics (frequencies, percentages, means, and standard deviations) to summarize demographic characteristics and study variables, while Spearman's rank-order correlation was used to examine the relationships between mental workload and the three dimensions of job performance. The approach allowed for a comprehensive understanding of how mental workload relates to nurses' performance within a high-demand healthcare setting.

## Results

The demographic profile of the 100 nurse participants reflects a diverse sample in terms of age, gender, education level, and years of professional experience. The largest age group was 35–44 years, comprising 34% of participants, followed by those under 25 years at 27%. The 25–34 and 45 years and above groups accounted for 20% and 19%, respectively. Gender distribution was relatively balanced, with 53% male and 47% female participants. Regarding educational attainment, 34% of participants held a bachelor's degree, another 34% held a diploma, 20% had completed a master's degree, and 12% had secondary-level education. Professional experience was similarly varied, with 32% of participants having one year or less, 27% possessing ten or more years of experience, and the remaining participants having between one and ten years. This demographic diversity ensures comprehensive representation of the nursing staff at Faruq Medical City.

Descriptive analysis of the study variables (Table 1) indicated that nurses exhibited moderate mental workload ( $M = 2.89$ ,  $SD = 1.34$ ) and moderate job performance ( $M = 3.08$ ,  $SD = 1.35$ ). Within job performance, task performance scored highest ( $M = 3.22$ ,  $SD = 1.31$ ) and CWB lowest ( $M = 2.87$ ,  $SD = 1.37$ ).

Table 1

*Level of Mental Workload and Job Performance*

| Variables                              | Mean | Std. Deviation | Level    |
|----------------------------------------|------|----------------|----------|
| Mental Workload                        | 2.89 | 1.34           | Moderate |
| Task Performance                       | 3.22 | 1.31           | Moderate |
| Contextual Performance                 | 3.15 | 1.37           | Moderate |
| Counterproductive Work Behaviors (CWB) | 2.87 | 1.37           | Moderate |
| Job Performance (Overall)              | 3.08 | 1.35           | Moderate |

Note: Mean value interpretation: Low = 1.00-2.33; Moderate = 2.34-3.67; High = 3.68-5.00

Spearman correlation analysis was conducted to examine the relationship between mental workload and job performance. As shown in Table 2, the results indicate strong negative correlation between mental workload and task performance ( $r = -0.882$ ) such that greater mental workload was associated with poor task efficiency. Similarly, there was a high negative correlation between mental workload and contextual performance ( $r = -0.839$ ) suggesting that the higher the mental workload, the less likely nurses would be to engage in proactive or extra-role work behavior. Conversely, a strong positive correlation was found between mental workload and counterproductive work behavior ( $r = 0.872$ ), indicating that more mental strain was significantly associated with more workplace negativity such as complaining, exaggeration of problems, or dissatisfaction. The findings validate the fact that mental workload has relationship with each of dimensions in job performance.

Table 2

*Spearman Correlation between Mental Workload and Dimension of Job Performance*

| Variables                                            | Spearman (r) |
|------------------------------------------------------|--------------|
| Mental Workload vs Task Performance                  | -0.882       |
| Mental Workload vs Contextual Performance            | -0.839       |
| Mental Workload vs Counterproductive Behaviour (CWB) | +0.872       |

### Discussion and Recommendation

This study investigated the levels of mental workload and job performance among nurses at Farouk Hospital, Sulaymaniyah, as well as the relationship between these two variables. The findings of this study provide strong and coherent evidence that mental workload has connection to job performance among nurses at Farouq Medical City. The results indicated that nurses experienced moderate to high levels of mental workload, characterized by continuous attentional demands, limited opportunities for breaks, emotional exhaustion, and adverse effects on personal well-being. These findings align with previous research demonstrating that elevated mental workload in healthcare settings can impair performance, increase stress, and reduce both staff efficiency and the quality of patient care (Gurses et al., 2009).

Job performance was evaluated across three key dimensions: task performance, contextual performance, and counterproductive work behaviour (CWB). Descriptive statistics revealed moderate levels of task and contextual performance, alongside moderate engagement in counterproductive behaviours such as complaining or ruminating on negative work experiences. This pattern is consistent with Podsakoff et al. (2007), who reported that heightened psychological strain is associated with reduced positive work behaviours and increased withdrawal or dysfunctional behaviours.

Furthermore, Spearman correlation analyses supported these observations. Mental workload was strongly and negatively correlated with task and contextual performance and positively correlated with counterproductive work behaviour. These results underscore the theoretical and practical significance of cognitive strain in healthcare settings and highlight the importance of managing mental workload to optimize nurse performance and maintain high-quality patient care.

### Conclusion

In conclusion, this study explored the relationship between mental workload and job performance among nurses at Farouq Medical City, with job performance evaluated across three dimensions: task performance, contextual performance, and counterproductive work behaviour (CWB). The findings indicate that nurses experienced moderate to high mental workload, characterized by substantial cognitive demands, emotional strain, and limited autonomy over work schedules. Both descriptive and inferential analyses demonstrated a negative relationship between mental workload and task and contextual performance, and a strong positive relationship with counterproductive work behaviours.

These results underscore that elevated mental workload compromises nurses' ability to plan effectively, maintain focus, and engage constructively in their roles, while simultaneously increasing the likelihood of maladaptive workplace behaviours. The study reinforces existing

literature highlighting that excessive mental workload constitutes not only a psychological risk but also an operational challenge with implications for healthcare quality, patient safety, and organizational sustainability. The robust statistical associations observed further emphasize the critical need for effective workload management interventions in clinical settings to support nurses' well-being and optimize overall healthcare performance.

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