Journal of Health Organization and Management

The effects of work overload on emotional exhaustion among nurses: serial mediation of job stress and depression

Received 1 June 2026
Revised 27 August 2026
Accepted 24 September 2026

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Abstract

Purpose – This study examines the relationship between work overload and emotional exhaustion among nurses. Specifically, the study investigates the serial mediating effect of job stress and depression on the relationship between work overload and emotional exhaustion.

Design/methodology/approach – Data were gathered between October 2025 and January 2026 through an online and face-to-face cross-sectional survey of 613 nurses working in two state hospitals in Türkiye. Sequential mediating effects were analyzed using the Statistical Package for the Social Sciences PROCESS macro (Model 6).

Findings – The findings showed that work overload is positively related to emotional exhaustion. Furthermore, the results revealed that job stress and depression sequentially mediate the relationship between work overload and emotional exhaustion.

Originality/value – This research offers a clearer understanding of the potential psychological mechanisms underlying the relationship between work overload and emotional exhaustion among nurses. It also extends the literature by informing the development of interventions aimed at alleviating job stress and reducing depression levels among nurses in the healthcare sector. In particular, primary caregivers and hospital administrations responsible for nurses should develop work overload-conscious, stress-reducing, and mental health-supporting methods to improve nurse well-being and enhance the quality and safety of patient care.

Keywords Work overload, Job stress, Depression, Emotional exhaustion, Nurses

Paper type Research article

Introduction

Healthcare systems are under a lot of stress right now because of things like more people needing care, an aging population, more chronic diseases, and healthcare services that are getting more complicated (OECD, 2025). This change in structure means that healthcare workers have to put in a lot of physical, mental, and emotional effort all the time. Nurses who are in charge of patient care and are in constant contact with them are one of the professional groups that feel this work overload pressure the most. Nurses in today's healthcare systems face a wide range of work demands, such as not having enough staff to meet patient needs, having too many patients, not having enough resources at their institution, having to do non-nursing tasks, having more responsibilities, having to do multiple tasks at once, working long and irregular hours, having to work shifts, and always being under time pressure (Brassington *et al.*, 2025; Ganty *et al.*, 2025).

Funding information: The authors stated that no financial funding was obtained for this research.
Conflict of interest statement: No potential conflict of interest was reported by the authors.

Journal of Health Organization and Management
© Emerald Publishing Limited
e-ISSN: 1758-7247
p-ISSN: 1477-7266
DOI 10.1108/JHOM-06-2026-0694

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In the delivery of nursing services, the increasing complexity of care processes, coupled with a high demand for emotional labor, illustrates the need to focus not only on quantitative aspects but also on qualitative aspects when analyzing the workload of this profession. Research consistently shows that internal and external workplace risk factors not only undermine employees' psychological well-being but also foster adverse psychological outcomes, including stress and burnout (Maslach and Leiter, 2016; Theofanidis *et al.*, 2022). According to the International Labour Organization (ILO), nursing is considered a profession characterized by chronic and high-level workloads that seriously threaten nurses' psychological health as a result of structural and organizational conditions in the hospital environment (Cox and Griffiths, 1996; Nemati-Vakilabad *et al.*, 2025).

For hospital management this structural quality creates an awkward position. Nursing workload is not a passing disturbance that will ease once a busy season ends, and if heavy workload leads more or less directly to emotional exhaustion, administrators can do little except absorb the turnover that follows. The burnout literature has tended to reinforce that reading. Nurses who report heavier workloads also report greater exhaustion, and meta-analyses place burnout prevalence in this occupational group at levels that have stayed high across countries and study periods (Woo *et al.*, 2020; Galanis *et al.*, 2021; Huang *et al.*, 2025). What such findings usually recommend is workload reduction, which hospitals working under fiscal ceilings and staffing shortages can rarely deliver.

Cox and Griffiths (1996) identify workload as one of the principal sources of job demands and structural stress among nurses. Work overload is defined as the total sum of tasks and responsibilities assigned to nurses within a specific time frame; however, it possesses a multidimensional structure that is not limited solely to the quantity of tasks (Nixon *et al.*, 2011). The quantitative dimension of workload consists of the number of working hours required to perform a task, individual productivity levels, time pressure, and the mental demands of the task, while the qualitative dimension consists of mental capacity utilization, cognitive effort, and emotional labor requirements, among others (Miller and Hemberg, 2023).

Extended exposure to the many demands of nursing depletes nurses' psychological resources, resulting in heightened psychological distress. Indeed, the literature reports that chronic stress caused by heavy workloads is associated not only with burnout but also with the emergence of depressive symptoms (Greenglass *et al.*, 2003; MacPhee *et al.*, 2017). Hayes *et al.* (2012) argue that depressive symptoms contribute substantially to the development of emotional exhaustion by weakening employees' work-related functioning. Systematic reviews in the literature show that high workloads can impair nurses' psychological well-being, as well as negatively impact the effectiveness of patient safety and care processes. Increased adverse events, inadequate personalized care, and delays in care processes are frequently highlighted among these outcomes (Banda *et al.*, 2022; Babaii *et al.*, 2025; Ross *et al.*, 2023; Almenyan *et al.*, 2021).

We question the assumption on which that recommendation rests. Workload does not reach emotional exhaustion in one step. Between the demand and the exhaustion lie psychological states that build up over months of shift work, and these states are easier to influence than the workload producing them. Cognitive appraisal theory holds that a demand becomes stressful only when the person judging it concludes that their coping resources fall short, which places part of the process in how the demand is read rather than in the demand itself (Lazarus and Folkman, 1984). Resource-based accounts carry the argument further, since sustained stress wears down psychological reserves and leaves room for depressive symptoms that interfere with work functioning and hasten exhaustion (Hobfoll, 1989; Greenglass *et al.*, 2003). Weigl *et al.* (2016) provide indirect support. In two nursing samples the association between emotional exhaustion and depressive state was strongest where high workload coincided with low supervisor support, so the link appears to depend on surrounding conditions rather than holding at a constant strength. Should the route from workload to exhaustion pass through

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stress appraisal and depressive symptomatology, interventions aimed at those intermediate states could reduce exhaustion even where the workload itself stays fixed.

Testing that argument calls for a model in which job stress and depression are ordered rather than treated as parallel correlates. Most existing work has examined these constructs two at a time. Workload has been linked to stress, stress to burnout, and depression to exhaustion, but the four have rarely been placed inside a single process model that specifies which comes first (Alarcon, 2011; Luan *et al.*, 2017a, b; Chen and Meier, 2021). Whether the ordering holds is not only a modelling question. If stress and depression sit in parallel, an administrator may treat them as interchangeable targets. If they sit in sequence, stress becomes the earlier and more reachable one, and support programmes have somewhere specific to begin. Our study takes up this gap by asking whether job stress and depression serially mediate the relationship between work overload and emotional exhaustion among nurses. Turkish hospitals sharpen the question because the staffing constraint there runs unusually deep. Türkiye employs 2.9 practising nurses per 1,000 population against an OECD average of 9.2, among the lowest ratios in the member countries (OECD, 2025). Where the shortfall is this severe, workload reduction can achieve only so much, and locating the points at which the psychological pathway can be interrupted becomes a practical necessity rather than a theoretical refinement.

Therefore, various theoretical approaches have been developed in literature to explain the relationships between work overload, job stress, depression, and emotional exhaustion. Especially models that address the effects of job demands on employees' psychological health from a process perspective provide an important theoretical framework for explaining how the psychological resources employees possess deplete over time and how this transform into emotional exhaustion. In this context, models that focus on the balance between job demands and employee resources are commonly used to understand the relationships between workload and psychological outcomes in the nursing context.

Theoretical background

According to Bakker and Demerouti's Job Demands–Resources (JD-R) theory, psychological outcomes are shaped by the effectiveness with which employees handle workplace demands in relation to the resources at their disposal. This model posits that intense job demands—such as excessive workloads, constant time pressures, and high levels of responsibility—act as primary organizational stressors that can overwhelm an individual's physical and psychological resources, leading to heightened perceived stress levels (Bakker and Demerouti, 2007). Prolonged exposure to these demands leads to the exhaustion of the employee's energy; chronic stress, in turn, prepares the ground for emotional exhaustion and the development of depressive symptoms, along with decreased job satisfaction and performance over time (Adil and Baig, 2018; Fadare *et al.*, 2022; Jumadi *et al.*, 2025).

Within the context of the JD-R model, work demands are classified as challenge stressors, which can support development, and hindrance stressors, which exceed an individual's coping capacity and create a hindering effect. In particular, hindrance demands such as chronic workload and constant time pressure, when not balanced by sufficient work resources, function as primary stressors that increase perceived stress and trigger a process leading to depressive symptoms and emotional exhaustion (Schaufeli, 2017; Demerouti and Bakker, 2011).

Lazarus and Folkman (1984) locate stress not in working conditions alone but in how a person reads those conditions. Their model separates two stages of appraisal. Nurses first judge whether a demand threatens their well-being and then judge whether they have the resources to meet it. Where the second judgment returns a shortfall, stress follows. Two nurses can therefore carry identical patient loads and report quite different stress levels, since what matters is the reading rather than the load. Esteves and Gomes (2013) put this framework to work with 196 security professionals, measuring both appraisal stages alongside burnout and depressive symptoms. Appraisal proved decisive in explaining occupational stress, burnout,

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and depressive symptomatology, which suggests that the same demand produces divergent outcomes depending on how the workers facing it evaluate the situation.

Where appraisal theory examines a single judgment, Conservation of Resources (COR) theory follows what happens as losses accumulate. Hobfoll (1989) argues that people work to obtain, retain, and protect the resources they value, and that psychological strain sets in once those resources are threatened or drawn down. Two of its propositions bear on the present study. Losses weigh more heavily than gains of comparable size, so continued depletion produces strain out of proportion to what an equivalent gain would relieve. Losses also tend to arrive together, because an initial loss weakens the capacity to absorb the next demand, and the further loss that follows feeds what Hobfoll *et al.* (2018) call a loss spiral. Nurses under persistent overload sit squarely in this position. The emotional and cognitive reserves spent during one shift seldom recover before the next one starts, so the deficit carries forward instead of resetting.

Psychological distress signs like persistent sadness, loss of interest, and loss of pleasure are what define depressive symptoms (World Health Organization, 2021) [WHO]. These symptoms are similar to those of burnout. The Maslach Burnout Inventory says that burnout is a work-related syndrome that includes emotional exhaustion, depersonalization, and feeling like you haven't accomplished anything (Maslach, 1982). Although these two phenomena share certain symptomatic similarities, they differ clinically and nosologically; burnout is considered more of a psychological strain outcome resulting from the long-term effects of work-related chronic stressors (Chen and Meier, 2021). The emotional exhaustion dimension, in particular, is considered the most fundamental and core indicator of work-related psychological strain. Healthcare workers performing their duties in challenging and stressful work environments contribute to increased perceived stress levels and, consequently, lay the groundwork for the development of depressive symptoms and burnout (Szigeti *et al.*, 2017). Increasing research into the relationship between depression and burnout has heightened interest in understanding the psychological processes underlying these two phenomena (Montgomery, 2024).

Work overload and emotional exhaustion

Burnout in the nursing profession is considered a significant occupational risk factor, particularly prevalent among professionals working under high job demands (World Health Organization, 2019; Tsolakidis and Diamantidou, 2022). Meta-analytic studies reveal that the core dimension of burnout is emotional exhaustion and that this dimension is considered one of the strongest indicators of work-related psychological strain (Molina-Praena *et al.*, 2018; Kakemam *et al.*, 2021). Maghsoud *et al.* (2022) report more intense emotional exhaustion among nurses exposed to heavy workloads. Meta-analyses conducted on a global scale also show that the prevalence of burnout among nurses is quite high and that this situation is closely related to the structural demands of the profession (Dilig-Ruiz *et al.*, 2018; Woo *et al.*, 2020; Huang *et al.*, 2025).

The energetic process described by the JD-R model accounts for this link. Demands such as work overload draw down the very resources employees rely on to meet them, and where recovery stays incomplete the resulting strain settles into emotional exhaustion (Demerouti *et al.*, 2001; Bakker and Demerouti, 2007; Schaufeli, 2017; Koca *et al.*, 2024). Nursing intensifies the process on two fronts. Shift rotations leave little room between periods of high demand for reserves to be replenished, while the emotional labor of patient care draws on those same reserves that the workload has already taxed. Exhaustion under this framework is therefore cumulative, a deficit built up over many shifts rather than a reaction to one difficult episode. Evidence across occupational settings supports the reasoning. Working with data from 4,246 employees in the Dresden Burnout Study, Buruck *et al.*, 2020 found workload positively associated with emotional exhaustion once demographic characteristics, depressive symptoms, and prior burnout diagnosis were controlled. The control for depressive symptoms

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matters here, since the association survived it, and workload therefore appears to reach exhaustion through channels that depression alone does not capture. Nursing samples point the same way. Kopuz *et al.* (2024) identified work overload as a key predictor of emotional exhaustion among nurses, and Zahra (2023) reported comparable results in a different organizational context. When these theoretical and empirical findings are evaluated together, we propose the following hypothesis.

H1. Work overload positively affects emotional exhaustion.

The mediating role of job stress

Stress is considered one of the fundamental psychological mechanisms in explaining the effect of work overload on burnout (Phillips, 2020; Gündüz and Öztürk, 2025). Research on nursing populations shows that rising job demands elevate perceived stress, and that elevated stress accelerates the development of emotional exhaustion over time. According to the JD-R model, excessive job demands exceed employees' coping capacity, increasing perceived stress levels; chronic stress then triggers psychological burnout processes over time (Bakker and Demerouti, 2007; Schaufeli, 2017).

Why work overload becomes perceived stress rather than remaining a neutral count of tasks is something cognitive appraisal theory helps clarify. Nurses confronting a heavy load ask first whether it endangers their ability to deliver adequate care, then whether they have what they need to manage it, and stress arrives when that second question comes back short (Lazarus and Folkman, 1984). Several features of nursing work make the shortfall likely. Patient acuity can shift within a single shift, staffing levels do not adjust in response, and the professional obligation to maintain care standards rules out the ordinary option of easing off. Nurses who read the demand as beyond their resources thus have few routes for closing the gap, which is exactly the configuration cognitive appraisal theory treats as stress-inducing. Esteves and Gomes (2013) offer supporting evidence, having shown that appraisal explained occupational stress within a sample whose objective demands were broadly similar.

Galanis *et al.* (2021) report that work-related stressors such as long working hours, intensive patient care, time pressure, and limited organizational support raise burnout risk by straining nurses' psychological resources. For the second half of this pathway the JD-R framework supplies the account. Staying functional under sustained demand takes regulatory effort, and that effort draws on the same energetic reserve whose depletion produces exhaustion (Bakker and Demerouti, 2007; Schaufeli, 2017). On this reading stress is not a parallel outcome sitting beside exhaustion but the mechanism converting demand into depletion, which is why a model leaving it out will tend to credit workload with an effect that in fact passes through perceived stress. Theoretical reviews and meta-analytic findings also reveal that working under work overload primarily increases stress levels; increased stress, in turn, plays a decisive role in the emergence of emotional exhaustion (Alarcon, 2011; Luan *et al.*, 2017a, b; Huang *et al.*, 2025). In this context, we propose the following hypothesis.

H2. Job stress serves as a mediator between work overload and emotional exhaustion.

The mediating role of depression

Chronic job stress produces consequences that extend beyond burnout. Research links it to the development of depressive symptoms as well (Schonfeld and Bianchi, 2016; Szigeti *et al.*, 2017; Luan *et al.*, 2017a, b). Greenglass *et al.* (2003) observe elevated depression risk among nurses exposed to prolonged job stress, and Hayes *et al.* (2012) show that depressive symptoms raise emotional exhaustion levels by impairing work-related functioning. Why workload should contribute to depressive symptomatology, and not merely to strain confined to the job, is something COR theory can account for. Resources under threat from chronic overload seldom stay inside the workplace. The time, energy, and the sense of control that

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nurses draw on during a shift are the same ones supporting rest, family life, and recovery afterwards, so depletion in one domain leaks into the other (Hobfoll, 1989). Once that depletion stops being situational and becomes general, depressive symptoms have room to emerge. Evidence consistent with this account comes from Weigl *et al.* (2016), who examined two nursing samples and found the link between emotional exhaustion and depressive state at its strongest among nurses facing high work overload alongside low supervisor support, an indication that depressive outcomes deepen wherever resource loss goes unbuffered. Their design treats overload as a moderating condition rather than a predictor and so differs from ours, yet the underlying logic runs in the same direction: what workload consumes is what shapes depressive symptomatology.

Although burnout and depression share similarities in terms of some symptoms, it is emphasized that burnout arises more as a result of work-related stressors, while depression is a psychological strain that deepens this process (Chen and Meier, 2021). The same resource logic carries the second component of this pathway. Managing demanding interactions requires cognitive and affective capacity, and depressive symptoms consume it, which leaves nurses meeting the next shift with less in reserve than the shift requires. A thinner reserve depletes faster, and faster depletion brings exhaustion forward. Chen and Meier (2021) report a substantial correlation between depression and the emotional exhaustion dimension in nursing samples, and the ordering we propose reads that correlation directionally, with depression operating as a state that lowers the threshold at which further demands begin to exhaust. Put together, the two components trace a route from workload through depressive symptomatology to emotional exhaustion. In this regard, we propose the following hypothesis.

H3. Depression serves as a mediator between work overload and emotional exhaustion.

The serial mediating role of job stress and depression

The occupational health psychology literature indicates that psychological impairment processes often follow a gradual and sequential mechanism rather than a single-stage one (Hobfoll *et al.*, 2018; Lesener *et al.*, 2019). The JD-R model and COR theory emphasize that chronic job demands first trigger stress responses; chronic stress then paves the way for the development of depressive symptoms over time (Bakker and Demerouti, 2007; Bakker and de Vries, 2021). What connects these two states is the loss spiral described earlier. Coping under sustained stress spends resources, and what is spent is unavailable when the next demand arrives. Since coping capacity itself rests on the reserve being drawn down, every episode of stress leaves nurses less equipped for the one after it. Spirals of this kind gain momentum in the account offered by Hobfoll *et al.* (2018), with losses accumulating faster than any individual can offset them. Depressive symptomatology is a plausible endpoint for such accumulation, since persistent sadness, withdrawal, and loss of interest describe a state in which the resource pool has dropped below what ordinary functioning requires. On this reading stress does not stand beside depression as a second outcome of overload. It comes first and helps bring depression about.

Within this theoretical framework, it is thought that the level of stress perceived in the initial stage increases in nurses exposed to work overload; that increasing and persistent stress triggers the development of depressive symptoms over time; and that this process results in emotional exhaustion. Empirical findings show stress and depression combining to produce a gradual deterioration that ends in emotional exhaustion (Szigeti *et al.*, 2017; Chen and Meier, 2021; Montgomery, 2024). Further support comes from a very different setting. Studying employees of Nigerian manufacturing firms, Nwafili (2026) found work overload exerting a direct effect on mental health outcomes while work stress reached them only indirectly, through an intervening variable. That contrast is instructive for our reasoning, since stress behaving as a transmitting mechanism rather than an endpoint is what a serial model predicts and a parallel model does not. In this regard, we propose the following hypothesis.

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H4. Job stress and depression serve as serial mediators in the relationship between work overload and emotional exhaustion.

The four hypotheses together specify a model containing six directional paths. Work overload predicts job stress, depression, and emotional exhaustion. Job stress predicts depression and emotional exhaustion. Depression predicts emotional exhaustion. The mediation hypotheses do not replace these direct associations but combine them, since an indirect effect is the product of the component paths that form it. We estimate all six paths simultaneously rather than testing the indirect effects in isolation, which allows the direct effect of work overload on emotional exhaustion to be assessed alongside the routes running through the two mediators.

Contributions to the existing knowledge

Work overload, job stress, depression, and emotional exhaustion have all drawn attention, though largely as separate pairings. Workload predicts stress, stress predicts burnout, and depressive symptoms accompany emotional exhaustion, all of which the literature has established (Tosun and Ulusoy, 2017; Woo *et al.*, 2020; Galanis *et al.*, 2021; Huang *et al.*, 2025). How the associations fit together is the part that remains unclear, and addressing it yields three contributions. Sequence comes first. Where both stress and depression appear in a study, they have generally been modeled as parallel mediators, which casts them as alternative routes running from demand to exhaustion (Alarcon, 2011; Luan *et al.*, 2017a, b). We instead model an ordered chain with stress preceding depression. More rides on this than modelling preference. Parallel mediators imply that workload sets off stress and depression independently of one another, whereas a serial structure implies that depression grows out of stress that has gone on long enough. COR theory points toward the latter, since loss spirals unfold across time instead of branching at once (Hobfoll *et al.*, 2018). Testing the ordering lets us see whether the theoretical account survives contact with data.

The relative weight of the pathways comes second. Establishing that a mediator functions tells an administrator little about where effort should go. Estimating the indirect effects separately and setting their magnitudes against one another identifies the route carrying most of the association between workload and exhaustion, which turns the practical question from whether interventions might help into which target repays attention when staffing cannot move. Population and setting come third. Much of what is known about serial psychological processes rests on general employee samples drawn from high-resource economies (Buruck *et al.*, 2020). A health system with one of the lowest nurse-to-population ratios among OECD countries places nurses under a different constraint structure, one in which short-term staffing adjustments cannot bring the workload down. Whether mechanisms established elsewhere behave similarly under these conditions has not been examined, and our sample of 613 nurses from two public hospitals in Türkiye speaks to that gap. These three contributions return to the problem we opened with. Where workload resists reduction, the psychological route it travels becomes the question worth asking, and the earliest point along that route becomes the answer worth acting on.

Method

Participants and procedure

The research hypotheses were examined using primary data obtained from nurses employed at two public hospitals in Türkiye. The reason for selecting nurses from the main population is that nurses are generally exposed to work overload demands, time pressure, and particularly emotionally demanding patient interactions. These reasons may put them at greater risk for stress-related psychological outcomes. Kopuz *et al.* (2024) found that work overload is a key predictor of nurses' emotional exhaustion. Despite these findings, only a small number of studies have investigated the serial psychological mechanisms linking perceived workload to emotional exhaustion.

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The sample size was established by a power analysis performed using the G*Power 3.1 software. Utilizing a medium effect size ($d = 0.70$), a significance threshold of 5% ($\alpha = 0.05$), and a test power of 95% ($1–\beta = 0.95$), the minimum necessary sample size was calculated to be 517. Within this scope, 613 nurses were reached, and since this number exceeded the minimum sample size predicted in the power analysis, it was accepted that the study had sufficient power for statistical analysis. Institutional records indicated that the two hospitals employed a combined total of 1,600 nurses during the data collection period, and this figure defines the study population. Obtaining the total headcount proved possible, but access to a roster identifying individual nurses was restricted under institutional confidentiality policies. Probability-based sampling therefore could not be applied, and convenience sampling was used in this research. Convenience sampling is commonly used as it streamlines data collection and reduces participant burden (Landers and Behrend, 2015). However, this approach limits the generalizability of the results. Previous research has suggested that this limitation may be partially addressed by recruiting participants from multiple institutions or work settings, as was done in the current study (Mehta *et al.*, 2019). In line with this recommendation, nurses were selected from two different public hospitals for the current study. After receiving approval from management, questionnaires were disseminated to nurses who consented to participate voluntarily.

Steps were implemented to reduce the risk of common method variance (CMV). Participant anonymity was guaranteed. Additionally, scale items were presented to participants in random order to minimize response bias (Cooper *et al.*, 2020). Given the demanding working conditions of nurses, 680 survey forms were prepared. After obtaining management approval, surveys were sent to nurses who consented to participate, in accordance with the principles of voluntariness and confidentiality. Both in-person and online survey methodologies were employed. To ensure measurement equivalence between the two methods, the same item statements and survey content were used. Furthermore, participants were apprised that the data collected from this study would be utilized solely for the purposes of this scientific inquiry and were given details regarding the study's objectives. This approach was adopted to encourage unbiased and honest feedback.

The survey was administered to nurses between October 2025 and January 2026. The research's inclusion criteria were possession of a nursing diploma, active involvement in patient care throughout the study period, having at least six months of nursing experience, and voluntary participation. Nurses on leave throughout the research period and those who had been employed for under six months were not included in the research. A total of 630 complete questionnaires were obtained. Before data analysis, the responses were checked for any careless or inaccurate answers. A total of 12 surveys were excluded from the analysis due to the presence of incomplete data, while an additional five surveys were eliminated on account of containing outlier responses. Given that participants submitted their surveys punctually and that the surveys were gathered from a representative sample in a personal manner, no substantial non-response bias was identified (MacDonald *et al.*, 2009). Consequently, the final sample consisted of 613 surveys. Therefore, the survey response rate was determined to be 92.6%. Most of the individuals taking part in the study were women (67.2%), were married (78.0%), and 46.3% were between the ages of 29 and 39. In terms of educational background, a large proportion had a bachelor's degree (67.7%), and 53.8% of participants had a tenure of 6–10 years at their current institutions. The questionnaire received approval from the Social Sciences Scientific Research Proposal Ethics Review Committee at Sivas Cumhuriyet University (Decision Number: E−99711239–050.04–628651, approval date: 23 October 2025). Participant responses were handled anonymously, and informed permission was secured from all respondents. The research model we propose in this study is shown in Figure 1.

Measures

As all measurement scales employed in this research were originally developed in English, the items were translated into Turkish by two researchers proficient in both languages (Turkish

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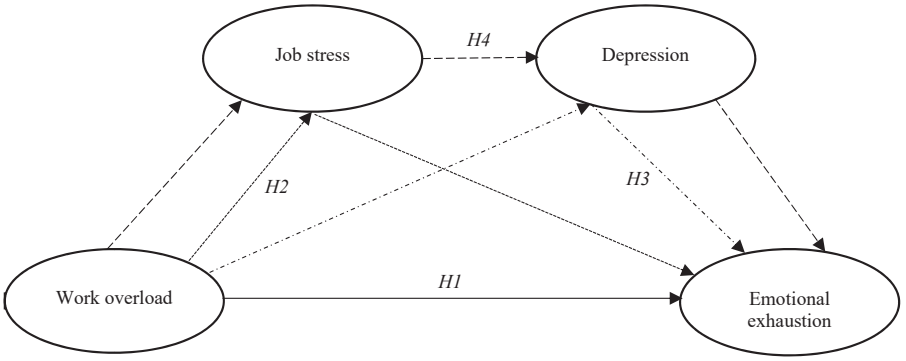


Figure 1. Visual depiction of the research model. All six paths were estimated simultaneously: work overload → job stress, work overload → depression, work overload → emotional exhaustion, job stress → depression, job stress → emotional exhaustion, and depression → emotional exhaustion. H1 denotes the direct effect, H2 the indirect effect through job stress, H3 the indirect effect through depression, and H4 the serial indirect effect through job stress and depression. Source: Authors' own work

and English). To ensure the equivalence of the items, the translation-back translation method was adopted (Brislin, 1970). Additionally, a pilot study was carried out prior to the main data collection to confirm the clarity and linguistic suitability of the items. This pilot test included 35 nurses and revealed no significant difficulties in understanding the survey items. All statements in the scales are 5-point scale (1 = "strongly disagree", 5 = "strongly agree"). Moreover, the single-dimensional structure of all the measurement scales utilized in the research have been confirmed, and none of the items were removed or altered.

To determine employees' perception of *work workload*, a single-dimensional, five-item scale developed by Imoisili (1985) was used. A sample item is, "I often have to do more work than I can handle". Cronbach's alpha (α) score was noted as 0.81.

A six-item scale developed by Sosik and Godshalk (2000) was used to determine employees' levels of *job stress*. A sample item is, "Your job makes you upset". Cronbach's α score was noted as 0.88.

The five-item *depression* scale developed by Salokangas *et al.* (1995) was utilized to assess nurses' levels of depression. A sample item is, "I have felt lonely". Cronbach's α score was noted as 0.89.

Emotional exhaustion was measured by focusing on the nine-item emotional exhaustion subdimension of the Maslach Burnout Inventory developed by Maslach and Jackson (1981). A sample item is, "I feel emotionally drained from my work". Cronbach's α score was noted as 0.92.

Previous studies (Kopuz *et al.*, 2024; Bachtiar and Yulianti, 2023; Piccoli and De Witte, 2015) have revealed that certain *control variables* are associated with emotional exhaustion. We incorporated nurses' gender (dummy coded as 1 = "female", 2 = "male"), age using 4 categories (1 = "18–28 years", 4 = "51 years and above"), and marital status (dummy coded as 1 = "single", 2 = "married"). Additionally, we controlled nurses' educational status using 4 categories (1 = "high school", 4 = "graduate") and tenure using 4 categories (1 = "1–5 years", 4 = "21 years and above").

Statistical analysis

Data analyses were conducted using the PROCESS macro, SPSS (version 25), and AMOS (version 24) software packages. The assessment of the potential for common method bias (CMB) was conducted initially (Podsakoff *et al.*, 2003). Subsequently, a thorough analysis of descriptive statistics, correlation coefficients, and the reliability of the measured variables was

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undertaken. Cronbach's α was used to assess internal consistency, and values above 0.70 were considered acceptable. Multicollinearity analysis was performed using the variance inflation factor (VIF). Kurtosis and skewness values were observed to be in the range of "+1.5" to "−1.5" (Tabachnick and Fidell, 2013). Furthermore, correlation coefficients were found to be below 0.85 (see Table 3), indicating a low probability of multicollinearity. Subsequently, the PROCESS macro (Model 6) was used to investigate the mediation effect of serial mediation. Mediation effects were examined using 5,000 bootstrap samples, and the significance of indirect effects was determined by ensuring that the 95% confidence interval (CI) did not contain zeros.

Results

CMB test

When data are obtained from a single source, research designs may be susceptible to CMB. Therefore, various methods were used in the present study to evaluate the potential effect of CMB. In the initial stages, the single-factor test proposed by Harman (1976) was employed (Podsakoff *et al.*, 2003) and noted 32.43% variance (less than 40%). This result indicates that CMB did not pose a significant problem. To evaluate the potential for CMB, the common latent factor (CLF) was also utilized. A comparison was made between the measurement model's standardized regression weights with and without CLF (Podsakoff *et al.*, 2003). The differences observed between the models were insignificant, indicating that the data were not substantially affected by response bias. However, since CMB cannot be completely eliminated in cross-sectional survey designs, this issue is considered a limitation of the study.

Measurement models

To examine the discriminant validity of the variables included in the study, confirmatory factor analysis (CFA) was performed using AMOS 24.0 software. The measurement model was compared with other alternative models as a result of the analysis. The results in Table 1 show that the measurement model of the study exhibited a better fit than the other alternative models ("χ^2/df = 3.33; RMSEA = 0.06; CFI = 0.93; TLI = 0.92 and SRMR = 0.03"). Therefore, it can be said that the research model has discriminant validity.

Table 1. Comparison of measurement models

Models	χ^2(df)	RMSEA	CFI	TLI	SRMR	Model comparison ΔX^2 (Δdf)
Measurement model	886 (266)	0.06	0.93	0.92	0.03	–
Model 1, Three-factor model[a]	1147 (269)	0.08	0.90	0.89	0.05	261 (3)
Model 2, Three-factor model[b]	1248 (269)	0.09	0.88	0.86	0.06	362 (3)
Model 3, Two-factor model[c]	1527 (271)	0.10	0.85	0.83	0.07	641 (5)
Model 4, One-factor model[d]	1938 (272)	0.12	0.79	0.71	0.09	1052 (6)

Note(s): N = 613, χ2 = Chi-Square discrepancy, df = Degrees of freedom, RMSEA = Root mean square error of approximation, CFI = Comparative fit index, TLI = Tucker-Lewis index, SRMR = Standardized root mean square residual, $\Delta\chi$2 = Difference in Chi-Square, Δdf = Difference in degrees of freedom

[a]Three-factor model (Model 1) = Work overload and job stress combined into a single factor

[b]Three-factor model (Model 2) = Work overload and depression combined into a single factor

[c]Two-factor model (Model 3) = Work overload, job stress, and depression combined into a single factor

[d]One-factor model (Model 4) = All variables combined into a single factor

Source(s): Authors' own work

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Validity and reliability

Following the recommendations of Bagozzi and Yi (1988), we assessed the convergent validity and reliability of the scales by examining Cronbach's α values (above 0.70), average variance extracted (AVE) values (greater than 0.50), and composite reliability (CR) scores (greater than 0.70). The factors loading the items ranged from 0.56 to 0.75, with values above 0.50. In assessing discriminant validity, we determined that the maximum shared variance (MSV) values were lower than the corresponding AVE values (see Table 2). This claim was further confirmed by comparing the square roots of the AVE with the correlation coefficients (see Table 3), thus confirming that the square roots of the AVE exceeded the correlation values (Fornell and Larcker, 1981). We also demonstrated discriminant validity by examining the HTMT correlation ratios, all of which were below the 0.85 threshold (see Table 3).

Descriptive and correlation analysis

Table 4 presents the findings showing the participants' levels of adjustment regarding work overload ($M = 3.31$), job stress ($M = 3.44$), depression ($M = 3.35$), and emotional exhaustion

Table 2. Confirmatory factor analysis

Variables	α	CR	AVE	MSV	Factor loading
Work overload	0.81	0.82	0.53	0.30	0.60–0.75
Job stress	0.88	0.87	0.58	0.32	0.56–0.70
Depression	0.89	0.88	0.60	0.27	0.67–0.74
Emotional exhaustion	0.92	0.90	0.59	0.34	0.60–0.73

Note(s): $N = 613$, AVE = Average variance extracted, MSV = Maximum shared variance, CR = Composite reliability

Source(s): Authors' own work

Table 3. Hetrotrait-Monotrait (HTMT) ratio analysis

Variables	1	2	3	4
1 Work overload	0.72[a]			
2 Job stress	0.701	0.76[a]		
3 Depression	0.678	0.695	0.77[a]	
4 Emotional exhaustion	0.662	0.684	0.692	0.76[a]

Note(s): [a]square root of AVE

Source(s): Authors' own work

Table 4. Correlations and descriptive statistics

Variables	1	2	3	4
1 Work overload	–			
2 Job stress	0.57**	–		
3 Depression	0.52**	0.64**	–	
4 Emotional exhaustion	0.54**	0.63**	0.58**	–
Mean	3.31	3.44	3.35	3.37
Standard deviation	0.83	0.96	1.02	0.93

Note(s): $^{**}p < 0.01$, $^{*}p < 0.05$

Source(s): Authors' own work

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($M = 3.37$). Additionally, we observed that both work overload and job stress were positively and significantly associated with depression ($r = 0.52^{**}, 0.64^{**}$). Likewise, we noted that work overload job stress and depression significantly correlate with emotional exhaustion ($r = 0.54^{**}, 0.63^{**}, 0.58^{**}$).

Testing the serial mediation effect

Prior to testing the serial mediation effect, the existence of multicollinearity among the variables was assessed. To guarantee model stability and the accuracy of the interpretations, a comprehensive diagnostic analysis of multicollinearity among the independent variables was performed. VIF and tolerance values were evaluated to detect multicollinearity. The VIF value for each variable was below 5.0, and the corresponding tolerance value exceeded 0.10 (Hair *et al.*, 2019), suggesting minimal concern regarding multicollinearity.

In the present research, regression and mediation analyses were performed on a sample of 613 nurses using Model 6 in the PROCESS macro (Tables 5 and 6). To clarify the mediation mechanisms, the study first tested two mediation models with job stress and depression as separate mediators. A serial mediation model was then developed and validated to examine the serial mediating roles of job stress and depression. The regression results (see Table 5) show that work overload is significantly and positively associated with job stress ($\beta = 0.682$, $p < 0.001$), which in turn is significantly and positively associated with emotional exhaustion ($\beta = 0.533$, $p < 0.001$). The direct effect of work overload on emotional exhaustion is also significant ($\beta = 0.152$, $p < 0.001$). In addition, work overload was significantly and positively

Table 5. The regression equation of chain mediation

Outcome variable	Predictor variable	β	SE	t	R^2	F	LLCI	ULCI
Job stress	Work overload	0.682^{***}	0.038	17.915	0.344	320.953	0.607	0.757
Depression	Work overload	0.275^{***}	0.045	6.080	0.453	253.314	0.186	0.364
	Job stress	0.544^{***}	0.039	13.979			0.468	0.621
Emotional exhaustion	Work overload	0.152^{***}	0.037	4.025	0.572	272.049	0.078	0.227
	Job stress	0.533^{***}	0.036	14.671			0.462	0.605
	Depression	0.146^{***}	0.032	4.448			0.081	0.211

Note(s): $N = 613$, SE = Standard error, $^{***}p < 0.001$

Source(s): Authors' own work

Table 6. Mediating effects of job stress and depression

Type	Effect	SE	*t*	LLCI	ULCI
Total effect	0.611	0.038	16.002	0.536	0.686
Direct effect	0.152	0.037	4.025	0.078	0.227

Type	Effect	Boot SE	Boot LLCI	Boot ULCI	%
Total indirect effect	0.459	0.039	0.382	0.537	75.12%
WO → JS → EE	0.364	0.034	0.298	0.434	59.57%
WO → D → EE	0.040	0.012	0.017	0.065	6.54%
WO → JS → D → EE	0.054	0.016	0.024	0.086	8.83%

Note(s): SE = Standard error, WO = Work overload, JS = Job stress, *D* = Depression, EE = Emotional exhaustion

Source(s): Authors' own work

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associated with depression ($\beta = 0.275$, $p < 0.001$), which in turn was significantly and positively associated with emotional exhaustion ($\beta = 0.146$, $p < 0.001$). Finally, job stress was significantly and positively associated with depression ($\beta = 0.544$, $p < 0.001$). All six paths specified in the research model were therefore estimated simultaneously and each reached significance. The total effect of work overload on emotional exhaustion was significant ($\beta = 0.611$, $p < 0.001$), of which the direct effect accounted for 0.152, or 24.88%. The detailed path model is shown in Figure 2.

The bootstrap procedure assesses the significance of the mediating effect by examining the confidence interval range. The bootstrap results (see Table 6) showed that job stress and depression serially mediated the relationship between work overload and emotional exhaustion, with a total indirect effect of 0.459, accounting for 75.12% of the overall effect. Specifically, the mediation effect comprised indirect influences transmitted through three pathways: (1) work overload → job stress → emotional exhaustion (effect = 0.364, 95% CI: 0.298 to 0.434), accounting for 59.57% of the total effect; (2) work overload → depression → emotional exhaustion (effect = 0.040, 95% CI: 0.017 to 0.065), representing 6.54% of the total effect; and (3) work overload → job stress → depression → emotional exhaustion (effect = 0.054, 95% CI: 0.024 to 0.086), constituting 8.83% of the total effect. Because the direct effect of work overload on emotional exhaustion remained significant once the two mediators entered the model, job stress and depression together produce partial rather than full mediation. Work overload retains an association with emotional exhaustion that the two psychological states do not account for.

Discussion

These findings reveal several important conclusions. This study demonstrated that work overload has a direct and positive effect on emotional exhaustion in nurses, supporting hypothesis H1. This result is consistent with previous research findings (Kopuz *et al.*, 2024; Zahra, 2023). For example, Kopuz *et al.* (2024) found in a study of 330 nurses that emotional exhaustion increased as work overload increased. According to the JD-R framework, the significant relationship between emotional exhaustion and work overload in this study can be interpreted as excessive job demands placed on nurses depleting their energy and consuming their emotional resources (Schaufeli, 2017). In the context of the nursing profession, high patient loads, time pressure, work overload, and emotional labor are associated with job demands. Consistent with the JD-R model, having to respond to such demands for long periods of time may create a risk of emotional exhaustion and increase stress levels for employees (Bakker and Demerouti, 2007). These findings confirm that perceptions of work overload

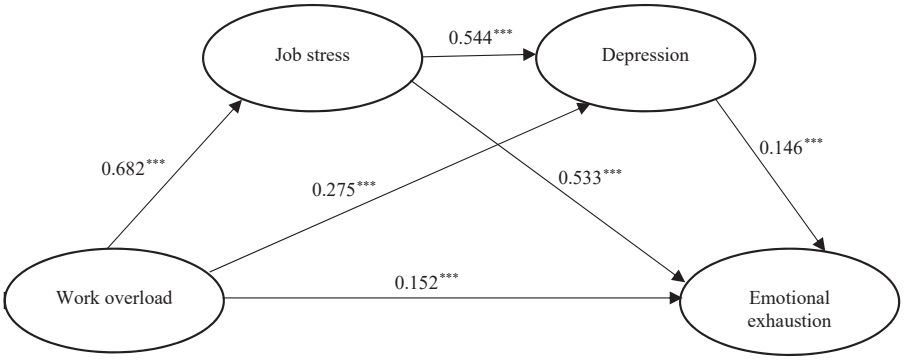


Figure 2. Chained mediation model. ***$p < 0.001$. Source: Authors' own work

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continue to be a determinant of emotional exhaustion in the healthcare sector and contribute to the literature in this field.

This study revealed that job stress mediates the relationship between work overload and emotional exhaustion, supporting Hypothesis H2. When nurses perceive work overload, their job stress levels tend to increase, which can lead to psychological stress. High levels of stress can cause emotional exhaustion by consuming cognitive and emotional resources. Previous studies (e.g. Shah *et al.*, 2022; Xu and Yang, 2021) have shown that job stress in a challenging work environment can trigger burnout. Therefore, job stress can function as a mechanism contributing to the relationship between work overload and emotional exhaustion. How much this pathway carries is worth dwelling on. Job stress alone accounted for 59.57% of the total effect of work overload on emotional exhaustion, more than every other route in the model combined. Stress is therefore not simply present alongside the workload-exhaustion relationship but is the channel through which the relationship mainly runs, and a model leaving it out will credit workload with an effect that in fact travels through perceived stress.

This study revealed that depression mediates the relationship between work overload and emotional exhaustion, supporting Hypothesis H3. It was shown that depression is a significant factor in determining employees' responses (e.g. cognitive and emotional) to long-term occupational stressors (Jung *et al.*, 2023; Peavy *et al.*, 2022). Nurses exposed to long-term workloads in the workplace may experience decreased levels of psychological resilience. These processes can lead to employees exhibiting depressive behaviors. This resulting depression can negatively affect employees' daily routines and lead to emotional exhaustion (Maria *et al.*, 2018). Moreover, a systematic review has determined that emotional exhaustion is strongly linked to depression in nurses (Chen and Meier, 2021). From an occupational health perspective, depression manifests in employees' psychological responses, preventing nurses from effectively coping with their constant workload pressure. A more cautious reading suits the size of this pathway. At 6.54% of the total effect, depression carried considerably less than job stress did, and two interpretations stay open. Depression may occupy a genuinely secondary place in the process, or our cross-sectional design may have caught it before its consequences had fully developed. Either way the finding establishes that depressive symptomatology belongs to the route from workload to exhaustion, which is not how the literature has usually positioned it, having treated depression as a parallel outcome rather than an intervening state.

The main finding of this research is that work overload and feelings of emotional exhaustion among nurses are sequentially accompanied by job stress and depression, thus supporting Hypothesis H4. As nurses' perceptions of work overload increases, their feelings of fatigue in the workplace will also increase. This will negatively affect their work efficiency and motivation. Consequently, increased work overload can lead to behavioral, psychological, and physical problems (Khuong and Yen, 2016; Barriga Medina *et al.*, 2021; Karatepe, 2013). Furthermore, employees under excessive work overload and pressure often struggle to respond to requests from their managers in the workplace, which can lead to increased stress levels (Hussain *et al.*, 2023). Job stress can reduce the psychological well-being of employees and lead to undesirable depressive symptoms such as emotional distress and decreased motivation. These processes can reduce the emotional resilience of nurses, leading to emotional exhaustion. The findings revealed that the emotional exhaustion experienced by nurses is rooted in work-related stress. Furthermore, increased job stress and depression related to work overload were identified as playing significant roles in this relationship. At 8.83% of the total effect the serial pathway looks modest taken on its own, but its theoretical weight lies elsewhere. That the path reached significance confirms the ordering we proposed, which means depression developed out of stress that had persisted rather than arising from workload on its own account. Across all three indirect routes 75.12% of the total effect was transmitted, so the association between workload and emotional exhaustion runs predominantly through psychological states rather than operating directly. What this study demonstrates, then, is not only that job stress and depression mediate the relationship but how the two stand in relation to one another, something the parallel mediator designs prevailing in this literature are not built to establish.

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Implications

This research has significant implications to literature by revealing the sequential mediating roles of job stress and depression in the relationship between work overload and emotional exhaustion among nursing staff.

Theoretical implications

This research makes significant contributions to the literature by examining the effect of nurses' perceptions of work overload in the Turkish healthcare sector on their emotional exhaustion, as well as the sequential mediating effects of job stress and depression on this relationship. It has been found that the perception of work overload experienced by employees directly affects emotional exhaustion and indirectly influences it through a gradual psychological wear-and-tear process mediated by job stress and depression. An examination of the findings indicates a strong theoretical foundation based on the COR and JD-R theory. It appears that these theories support the notion that healthcare workers' attempts to cope with increasing job demands, coupled with the resulting stress-based process, contribute to the burnout experienced by these workers. This study contributes to the literature by proposing a sequential structural model consisting of work overload, job stress, depression, and emotional exhaustion, thus highlighting the importance of employees' psychological perceptions for organizations. In this context, this research also explains that the JD-R model is not limited to explaining organizational outcomes such as intention to leave and job performance. It also offers a more holistic perspective encompassing psychological issues such as depressive symptoms. Taken as a whole, it enriches literature, particularly on emotional exhaustion.

The findings obtained from the study align with the theory that COR can lead to psychological distress as a result of the threat to employees' valuable resources (Hobfoll, 1989, 2011). It appears that the perception of work overload resulting from the nursing profession's long working hours, intense emotional labor, and high patient volume leads to chronic psychological loss among nurses. In this context, the study also found that job stress and depression empirically support the resource depletion spiral in the relationship between work overload and emotional exhaustion. The ordering question we raised at the outset is addressed directly by these results. When stress and depression are placed side by side as parallel mediators, it stays open whether workload sets off the two independently or whether one gives rise to the other. Our findings point to the latter. Job stress predicted depression at 0.544, the second largest coefficient anywhere in the model, and the serial path reached significance, so among these nurses, depressive symptomatology appears to have grown out of stress they had been carrying rather than arriving as a separate consequence of their workload. This is the arrangement COR theory anticipates, given that loss spirals accumulate in sequence instead of branching at a single point (Hobfoll *et al.*, 2018). Our contribution lies less in confirming that both states mediate the relationship than in establishing which order they occupy, and that is a question parallel-mediator designs are not built to answer.

How the effects distribute across the three routes invites a second observation. Job stress transmitted 59.57% of the total effect against 6.54% for depression, a gap approaching an order of magnitude. Theoretical accounts treating stress and depressive symptomatology as comparable psychological responses to job demands therefore need qualifying. Perceived stress looks, within the JD-R framework, like the primary energetic mechanism carrying demand into exhaustion, with depressive symptoms working through a slower and narrower channel. Whether the asymmetry reflects the process itself or the moment at which we measured it stays open, and distinguishing the two would require longitudinal designs.

The research process begins with the observation that nurses' perception of a work overload depletes their psychological resources. This depletion triggers depression in nurses through job stress and ultimately leads to emotional exhaustion. In this context, the research does not treat

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burnout merely as an organizational syndrome. Rather, it positions it as the result of gradual psychological wear and tear triggered by the accumulation of resource depletion in nurses.

Practical implications

Our starting point was an assumption that leaves hospital administrators with little room to act, namely that workload reaches emotional exhaustion by a route offering no way in. The findings say otherwise. Roughly three quarters of the association between workload and emotional exhaustion traveled through job stress and depression rather than operating directly, so most of the effect passes through states that remain open to intervention while the workload itself stays fixed. Looking at how the three routes divide that effect narrows the question further, since job stress carried by far the largest share. Interventions addressing how nurses appraise and cope with demand therefore reach the segment of the pathway where most of the effect is concentrated. When evaluating the practical implications of the study, simply reducing nurses' work overload quantitatively will not be sufficient on its own to prevent burnout. This is because the study revealed that emotional exhaustion is not a direct outcome but rather an indirect process that develops through job stress and depressive symptoms. In this regard, hospital administration or managers can implement a variety of supportive interventions, such as employee support programs, mental health screening and assessment programs, stress management techniques, psychological support and counseling sessions, motivational activities, reward programs, visits to employees at their workplaces, engaging in brainstorming sessions regarding current tasks and planned projects, and developing social support programs. In these interventions, it is essential to adopt a holistic approach rather than simply reducing the work overload.

One reading consistent with our pattern of results has job stress and depressive symptoms preceding emotional exhaustion, though a cross-sectional design cannot establish any ordering across time. Should longitudinal work confirm the sequence, elevated stress and depressive symptoms would merit attention as indicators worth watching before exhaustion takes hold, giving managers grounds to monitor these states rather than wait for exhaustion to declare itself. In Türkiye, the high number of patients per nurse transforms the workload from an individual perception into a structural problem. This situation demonstrates that workload must be addressed not only in terms of operational efficiency but also within the framework of employees' psychological well-being. In this context, healthcare workforce planning should not focus solely on service capacity but must also take mental health and sustainable working conditions into account. In this regard, healthcare administrators should revise nurses' shift systems. Over the longer term, structural adjustments matter too, among them lower patient-to-nurse ratios and additional support staff in high-volume and critical units. We are not arguing that workload should go unaddressed. The point is that staffing constraints in this health system operate on a timescale quite unlike the psychological processes documented here. Stress appraisal and coping can be targeted within existing staffing levels, whereas ratio adjustments wait on workforce planning decisions taken above the level of any single institution. The two sets of measures work together rather than as substitutes, with structural adjustment reducing the demand that starts the process and stress-focused intervention addressing the mechanism converting that demand into exhaustion. An institution able to act only on the second still reaches a larger share of the effect, which serves both staff well-being and the sustainability of service quality. Consequently, this research is expected to contribute both theoretical depth to the fields of organizational behavior and health management and provide significant practical implications.

Limitations and future research directions

This research also has several limitations. First, the study utilized a cross-sectional design. This method may present problems regarding causality. Although the results suggest a possible relationship, mediation effect analyses are insufficient to confirm causality between variables.

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Therefore, future research could utilize longitudinal research designs. Second, the use of self-report questionnaires may lead to bias, as participants may be influenced by their social desirability. Future research could examine emotional exhaustion using different assessment methods (e.g., neuropsychological assessments) to reduce CMB. Third, the sample is limited to two state hospitals in Türkiye. Future research could strengthen the validity of the results by expanding the sample size. The use of convenience sampling is another limitation of the study. Future researchers could evaluate the applicability of the results to other situations or countries using international comparative sampling or probability sampling methods.

Beyond these design constraints lie questions our model does not address. We established that the pathway from work overload to emotional exhaustion runs largely through job stress, yet the conditions under which that transmission strengthens or weakens went unexamined. Personal resources moderate the effect of job demands on employee well-being in the account given by Bakker *et al.* (2023), which raises the possibility that the coefficients we report vary systematically from one nurse to another. Job crafting is one candidate. Health care professionals who proactively reshape their job demands and resources report a higher quality work environment (Bakker, 2018), and nurses adjusting the boundaries and content of their work along these lines may interrupt the conversion of demand into perceived stress before it happens. Self-leadership offers a second. Synthesizing evidence on nurses who direct their own goals, motivation, and attention, Pursio *et al.* (2025) describe capacities that sustain performance and well-being under demanding hospital conditions, and whether such capacities weaken the first link in our chain is a question worth putting to the test.

Conditions surrounding the nurse deserve equal attention. Weigl *et al.* (2016) found the association between emotional exhaustion and depressive state at its strongest where high overload met low supervisor support, which suggests supervisory resources may buffer the later segments of our model. Unit characteristics could work in a similar way, given how differently intensive care, emergency, and outpatient settings handle the predictability of demand and the opportunities for recovery between episodes. Testing moderators of either kind would sharpen the practical guidance our findings support, moving it from which mechanism to target toward which nurses gain most from a given intervention.

Conclusion

This study identifies the roles of job stress and depression in the relationship between work overload and emotional exhaustion among nursing staff. It has been shown that work overload is related to emotional exhaustion both directly and indirectly (through job stress and depression). This research provides important findings on how challenging working conditions in the healthcare sector can negatively impact on the emotional well-being of employees. The results indicate that stress and depression caused by the constant work demands within the organization should be addressed by managers. Since most of this association passes through job stress and depressive symptoms rather than operating directly, addressing these intermediate states can bring emotional exhaustion down even where the workload itself proves difficult to change. Therefore, it is believed that creating supportive work environments and conducting activities that promote mental health can be important for achieving success in the nursing profession. These actions can improve the well-being of nurses and enable them to provide better care to patients.

Author contributions

The study was jointly designed and conceptualized by Nurperihan TOSUN, Murat BAS, and Emre GUL. The methodological framework was developed collaboratively by all authors. Data were collected by Nurperihan TOSUN and Murat BAS. The analysis and interpretation of the data were carried out by Emre GUL. The manuscript was initially drafted through the joint efforts of all authors, who also contributed to subsequent revisions and editing. All authors approved the final version of the manuscript and agree to be accountable for all aspects of the work. Murat Baş serves as the corresponding author.

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Ethics statement

The questionnaire received approval from the Social Sciences Scientific Research Proposal Ethics Review Committee at Sivas Cumhuriyet University (Decision Number: E−99711239–050.04–628651, approval date: 23 October 2025).

Data availability statement

The data supporting the results of this research can be obtained from the corresponding author upon reasonable request.

Acknowledgments

The authors would like to thank all participants, volunteers, nurses, and hospitals who contributed to this study.

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