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Workload Factors Influencing Mental Health and the Intent to Leave Job During the COVID-19 Pandemic: A Survey Analysis of Healthcare Workers Handling Mass Fatalities in the United States

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Abstract: This study examines the impact of workload demands on mental distress and job retention among healthcare workers (HCWs) handling mass fatalities during the COVID-19 pandemic. We utilized a cross-sectional validated survey to collect self-reported data from 206 HCWs in the United States between April and May of 2023. The survey measured various dimensions of workload, including mental, physical, and temporal demands, as well as frustration, and their effects on mental distress and the intent to leave their job. Partial Least Squares Structural Equation Modeling was employed to analyze the relationships among these variables, providing robust insights into the direct and indirect effects of workload demands on mental distress and job retention. Our findings reveal significant associations between mental, physical, and temporal demands, frustration, and increased mental distress, which in turn heightened the intent to leave their job. Mental distress emerged as a critical mediator, linking workload demands to job retention decisions. This study highlights the cycle of understaffing and workload intensification, exacerbated during pandemics, which contributes to higher turnover rates. It underscores the need for targeted interventions to alleviate workload pressures, especially the physical exertion and mental distress associated with handling dead bodies. This support can help improve HCWs' mental health and job retention, ultimately enhancing the resilience of healthcare systems in crisis situations.

Keywords: occupational safety; mental health; healthcare safety; mass fatality; decedent handling; nursing shortage



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1. Introduction

Burnout is very common in medicine [1,2], and it is a major factor affecting the mental health of healthcare workers (HCWs) [3]. HCWs in the United States (US) experienced a severe mental health crisis during the pandemic. Other studies also noted similar mental health problems among HCWs across several nations, including France, Vietnam, Czechia, and Singapore [4–7]. Increased burnout rates and their associated problems significantly contributed to an increased turnover rate among this population [3,8].

The unique challenges faced by HCWs involved in handling deceased bodies during the pandemic cannot be overstated. As noted in our prior study, these individuals experienced tremendous physical and emotional burdens due to the overwhelming number of deaths, which resulted in insufficient storage space, and a shortage of staff to manage these grim tasks [9]. This harrowing environment also intensified emotional distress, particularly as many HCWs grappled with personal losses due to the virus. The dual burden of professional responsibilities and personal grief profoundly affected their mental health, underscoring the severe impact of the pandemic on those at the forefront of the crisis.

While previous studies have documented the mental health challenges faced by HCWs, there remains a notable gap in the literature regarding the specific factors contributing to mental distress among those handling deceased bodies. For instance, Smallwood et al. emphasize the role of moral distress in exacerbating mental health outcomes among front-line health workers during the pandemic [10]. This suggests that the emotional toll of handling deceased bodies may be compounded by moral distress, a factor that has not been extensively explored in the context of our study population. Moreover, while interventions aimed at promoting resilience among HCWs have been proposed, such as brief online training programs, the effectiveness of these interventions in mitigating the unique stressors faced by those involved in mass decedent handling remains unclear [11]. The literature indicates that essential healthcare workers experience greater mental distress compared to their non-healthcare counterparts, yet the specific experiences of those in roles related to decedent handling have not been adequately addressed [12,13]. Additionally, existing research has highlighted the prevalence of psychological distress among HCWs during the pandemic, with studies indicating that a significant proportion of healthcare workers reported symptoms of anxiety, depression, and burnout [14,15]. However, the relationship between workload factors, mental distress, and intent to leave their job among HCWs involved in handling deceased bodies has not been thoroughly investigated.

The objective of this study is to explore the direct and indirect relationships between workload, mental distress, and the intent to leave their job among HCWs during the pandemic. We characterized workload into six factors as categorized in the NASA Task Load Index (TLX) Scale [16,17]: physical demand, mental demand, temporal demand, effort, performance, and frustration. Each of these factors was hypothesized to impact mental distress and the intent to leave their job.

2. Hypotheses Development

In this study, we explore seven hypotheses. Mental demand refers to the cognitive load required to perform tasks, which can lead to mental fatigue and distress. Sun et al. [18] found that work-related depression, anxiety, and stress significantly hampered healthcare employee performance during the COVID-19 pandemic, indicating that high mental demands contribute to mental health deterioration and increased burnout among HCWs. This aligns with the notion that HCWs facing high mental demands are more likely to experience stress and consider leaving their jobs due to cognitive overload. Therefore, we hypothesized (H1) that: Mental demand generated by mass fatality handling significantly increases mental distress among HCWs and their intent to leave their job.

Physical demand involves the physical effort required to complete tasks. Pala et al. [19] reported that hospital workers experienced heightened levels of depression, anxiety, and burnout during the pandemic, which were exacerbated by the physical demands of their roles. The strenuous physical activities associated with handling deceased bodies, coupled with prolonged working hours and the use of personal protective equipment (PPE), can lead to fatigue and negatively impact mental well-being, thereby influencing the intent to leave their job. Therefore, we hypothesize (H2) that: Physical demand generated by mass fatality handling significantly increases mental distress among healthcare workers and their intent to leave their job.

Temporal demand pertains to the time pressure associated with completing tasks. Shechter et al. [20] found that healthcare workers reported significant psychological distress due to the high-pressure environment created by the pandemic, which included tight deadlines and the need to work quickly. The stress from temporal demands can contribute to mental distress, increasing the likelihood that HCWs will consider leaving their jobs due to the unmanageable pace. Therefore, we hypothesize (H3) that: Temporal demand generated by mass fatality handling significantly increases mental distress among healthcare workers and their intent to leave their job.

Performance assesses the perceived success in task accomplishment under stressful conditions. Giorgi et al. [21] noted that high performance expectations can lead to in-

creased mental distress when healthcare workers feel they are not meeting these standards. Conversely, achieving expected performance levels can mitigate feelings of inadequacy and reduce mental distress, potentially decreasing the intent to leave their job. Therefore, we hypothesize (H4) that: HCWs who achieve their expected level of performance while handling mass fatalities have lower mental distress and are less willing to leave their job.

Effort measures the hard work and energy required to maintain job performance in a high-stress environment. Cakirpaloglu [22] highlighted that excessive effort in high-stress situations can lead to burnout and emotional exhaustion among healthcare professionals. This excessive effort can elevate mental strain and distress, which may increase the intent to leave their job due to the unsustainable demands placed on HCWs. Therefore, we hypothesize (H5) that: Effort-related demand generated by mass fatality handling will significantly increase mental distress among healthcare workers and their intent to leave their job.

Frustration gauges the emotional response to job challenges and obstacles. Hansel [23] emphasized that high levels of frustration from persistent challenges in the healthcare environment can amplify stress and dissatisfaction, significantly affecting mental health. This emotional toll can lead to increased mental distress and a higher likelihood of HCWs deciding to leave their jobs due to emotional exhaustion. Therefore, we hypothesize (H6) that: Frustration generated by mass fatality handling will significantly increase mental distress among healthcare workers and their intent to leave their job.

Lastly, sustained mental distress is associated with burnout, reduced job satisfaction, and a strong desire to quit. Noordt et al. [24] found that healthcare workers reported high levels of mental distress during the pandemic, which significantly correlated with their intent to leave their jobs. This highlights the critical role of mental distress as a determinant of turnover intentions among HCWs. Therefore, we hypothesize (H7) that: Mental distress will have a significant positive impact on the intent to leave their job among healthcare workers.

Figure 1 illustrates our conceptual model with each path corresponding to our hypotheses, as listed below:

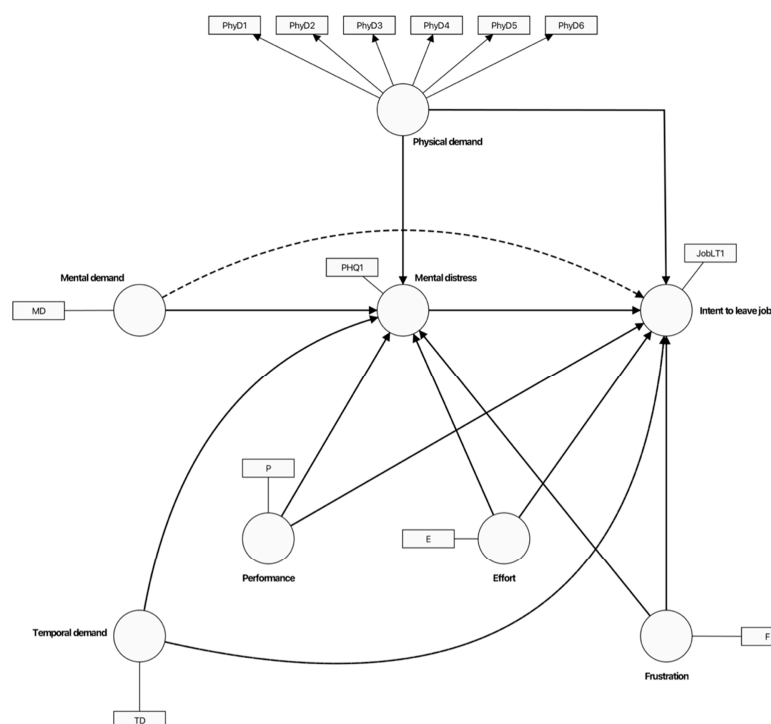


Figure 1. The conceptual model (structural framework) testing the impact of healthcare workers' workload while handling COVID-19-related mass fatalities (physical demand, mental demand, temporal demand, effort, performance, and frustration) on their mental distress and intent to leave their job. The solid lines indicate the direct paths, and the dashed line indicates the indirect path being tested.

3. Method

3.1. Ethical Statement

Our study received approval from the Institutional Review Board of West Virginia University (Protocol#2304764367). No identifiers were collected during this study. HCWs, irrespective of their gender, race, or age, who were involved in handling decedents during the COVID-19 pandemic in the US were eligible to participate in our study. Participant eligibility was determined through self-reported data. No identifiers were collected during this study.

3.2. Survey Instrument

We adapted questions from the literature and validated scales, such as the NASA TLX and the Patient Health Questionnaire (PHQ), to measure various dimensions of workload, mental distress, and intent to leave their job among healthcare workers. The survey was developed through discussions among three authors to ensure comprehensive coverage of the constructs. It was designed in Qualtrics and distributed to our target population via a paid audience paneling service on April 18th, 2023, and remained open until mid-May 2023. Table 1 lists all the survey questions and their references. To reduce common method bias, we used different Likert scales for various questions and randomized the question orders.

Table 1. Survey questions.

Questions (Used in the Model)	Adapted from
How hard was it to perform the following actions during the peak of the pandemic in your facility?	
■ Bending to lower dead bodies (PhyD1)	[25]
■ Lifting dead bodies (PhyD2)	[25]
■ Pushing or pulling stretchers and dead bodies (PhyD3)	[25]
■ Repositioning or adjusting dead bodies on the bed or stretcher (PhyD4)	[25]
■ Lateral transfer of dead bodies (sideways transfer from one surface to another) (PhyD5)	[25]
How physically demanding was the task? (PhyD6)	[16,26]
How mentally demanding was the task? (MD)	[16,26]
How hurried or rushed was the pace of the task? (TD)	[16,26]
How successful were you in accomplishing what you were asked to do? (P)	[16,26]
How hard did you have to work to accomplish your level of performance? (E)	[16,26]
How stressed were you while performing the task? (F)	[16,26]
How often did you feel down, depressed, or hopeless while handling dead bodies during the peak of the pandemic in your facility? (PHQ1)	[27–29]
Did you think of leaving this profession because of the sights, smells, and sounds you have experienced while handling dead bodies during the peak of the pandemic in your facility? (JobLT1)	[30]
Did you think of leaving this profession because of the sights, smells, and sounds you have experienced while handling dead bodies during the peak of pandemic in your facility?	[31,32]
Other questions (Participant demographics)	
How old are you?	Ad Hoc
What is your biological sex?	Ad Hoc
What is your highest educational qualification?	Ad Hoc
What is your job title?	Ad Hoc
How many years of work experience do you have handling dead bodies?	Ad Hoc

3.3. Statistical Analysis

First, the descriptive statistics of all the quantitative questions were calculated. We used SmartPLS and JASP for all analyses. For the measurement model, we combined PhyD1 through PhyD6 to create the latent construct of “Physical Demand”. All other constructs were single observed variables. The convergent validity of Physical Demand was measured using (a) Cronbach’s alpha requiring to be greater than 0.70; (b) outer loadings greater than 0.50; and (c) average variance extracted (AVE) greater than 0.70. No variables were excluded in the process.

For the structural model, we used the non-parametric Partial Least Squares Structural Equation Modeling (PL-SEM) to examine our hypotheses. PLS-SEM is effective with small sample sizes. The model fit was then evaluated by adjusted R-squared values. We used the bootstrapping method with 10,000 subsamples to measure the significance of the model paths.

4. Results

4.1. Participant and Data Description

Our sample consisted of 206 healthcare workers, with 38 males and 168 females. Participants included 13 doctors and physicians, 106 registered nurses, 58 nursing assistants, 17 supervisors and managers, and 9 individuals in other roles. The participants’ work experience with handling dead bodies varied significantly, with 6 having less than a year of experience, 39 with 1–5 years, 65 with 5–10 years, 54 with 10–20 years, 27 with 20–30 years, 12 with 30–40 years, and 3 with more than 40 years of experience. The age distribution was diverse, with the majority of participants aged 25–34 years (66). Nearly 38 participants held a high school diploma, 45 had an associate degree or equivalent, 77 possessed a bachelor’s degree or equivalent, 41 had a master’s degree or higher, and 5 did not answer.

Table 2 presents the descriptive statistics of the study variables, including means, standard deviations (SD), standard errors (SE), and variances.

Table 2. Descriptive statistics of study variables.

Study Variables	Mean (Sd)	SE	Variance
PhyD1	3.10 (1.066)	0.0743	1.136
PhyD2	3.46 (1.071)	0.0746	1.147
PhyD3	2.73 (1.07)	0.0746	1.145
PhyD4	2.95 (1.049)	0.0731	1.100
PhyD5	2.98 (1.068)	0.0744	1.141
PhyD6	7.46 (2.299)	0.1697	5.287
MD	7.84 (2.215)	0.1689	4.905
TD	6.72 (2.762)	0.0595	7.625
P	6.88 (3.140)	0.2470	9.858
E	7.55 (2.329)	0.1715	5.425
F	8.14 (2.083)	0.1545	4.338
PHQ1	1.64 (0.957)	0.0670	0.917
JobLT1	2.06 (1.430)	0.0999	2.046

4.2. Measurement Model

Table 3 shows the factor loadings of the latent construct of physical demand. Cronbach’s alpha was 0.851, indicating good internal consistency. Composite reliability values were also high, with rho_a at 0.854 and rho_c at 0.891, suggesting strong construct reliability. The AVE was 0.583, surpassing the recommended threshold of 0.50, which confirms the adequate convergent validity of the construct.

Table 3. Factor loading of the reflective latent construct of physical demand.

	Standardized Loadings	T	p
PhyD1 ← Physical demand	0.807 (0.057)	14.088	<0.001
PhyD2 ← Physical demand	0.845 (0.040)	20.906	<0.001
PhyD3 ← Physical demand	0.791(0.065)	12.229	<0.001
PhyD4 ← Physical demand	0.804 (0.069)	11.593	<0.001
PhyD5 ← Physical demand	0.777 (0.070)	11.125	<0.001
PhyD6 ← Physical demand	0.505 (0.095)	5.329	<0.001

4.3. Structural Model

The adjusted R-squared values, which indicate the proportion of variance explained by the predictors, were evaluated for two constructs: Intent to Leave Job and Mental Health. For the Intent to Leave Job construct, the R-squared value was 0.224. The standard deviation was 0.056, resulting in a T statistic of 3.513. The *p*-value was 0.000, indicating a statistically significant result. Similarly, for the Mental Health construct, the R-squared was 0.227. The standard deviation was 0.058, yielding a T statistic of 3.461. The *p*-value for this construct was 0.001, also indicating statistical significance.

Table 4 presents the direct, indirect, and total bias-corrected standardized effects of various workload factors on healthcare workers' intent to leave their job and mental distress. The results underline the critical role of mental distress as a mediator in the relationship between various workload factors and HCWs' intent to leave their jobs. Frustration, mental demand, and physical demand were particularly influential in increasing mental distress and, subsequently, the intent to leave.

Table 4. Direct, indirect, and total bias-corrected standardized effects.

Paths	Direct Effect			Indirect Effect			Total Effect		
	Beta (SD)	T	P	Beta (SD)	T	P	Beta (SD)	T	P
Effort→Intent to leave job	−0.034 (0.074)	0.464	0.642	−0.021 (0.031)	0.663	0.508	−0.055 (0.083)	0.656	0.512
Effort→Mental distress	−0.059 (0.089)	0.663	0.507				−0.059 (0.089)	0.663	0.507
Frustration→Intent to leave job	0.100 (0.082)	1.214	0.225	0.087 (0.036)	2.418	0.016	0.186 (0.084)	2.226	0.026
Frustration→Mental distress	0.251 (0.084)	2.994	0.003				0.251 (0.084)	2.994	0.003
Mental demand→Intent to leave job	0.028 (0.075)	0.370	0.712	0.080 (0.030)	2.633	0.008	0.107 (0.079)	1.355	0.176
Mental demand→Mental distress	0.230 (0.076)	3.026	0.002				0.230 (0.076)	3.026	0.002
Mental distress→Intent to leave job	0.346 (0.073)	4.758	0.000				0.346 (0.073)	4.758	0.000
Performance→Intent to leave job	−0.053 (0.066)	0.795	0.427	−0.030 (0.022)	1.401	0.161	−0.083 (0.071)	1.174	0.241
Performance→Mental distress	−0.088 (0.060)	1.462	0.144				−0.088 (0.060)	1.462	0.144
Physical demand→Intent to leave job	0.118 (0.076)	1.556	0.120	0.049 (0.029)	1.713	0.087	0.168 (0.078)	2.156	0.031
Physical demand→Mental distress	0.142 (0.070)	2.036	0.042				0.142 (0.070)	2.036	0.042
Temporal demand→Intent to leave job	0.106 (0.063)	1.676	0.094	0.036 (0.025)	1.415	0.157	0.142 (0.067)	2.113	0.035
Temporal demand→Mental distress	0.104 (0.069)	1.508	0.132				0.104 (0.069)	1.508	0.132

Figure 2 illustrates the relationships explored in our study.

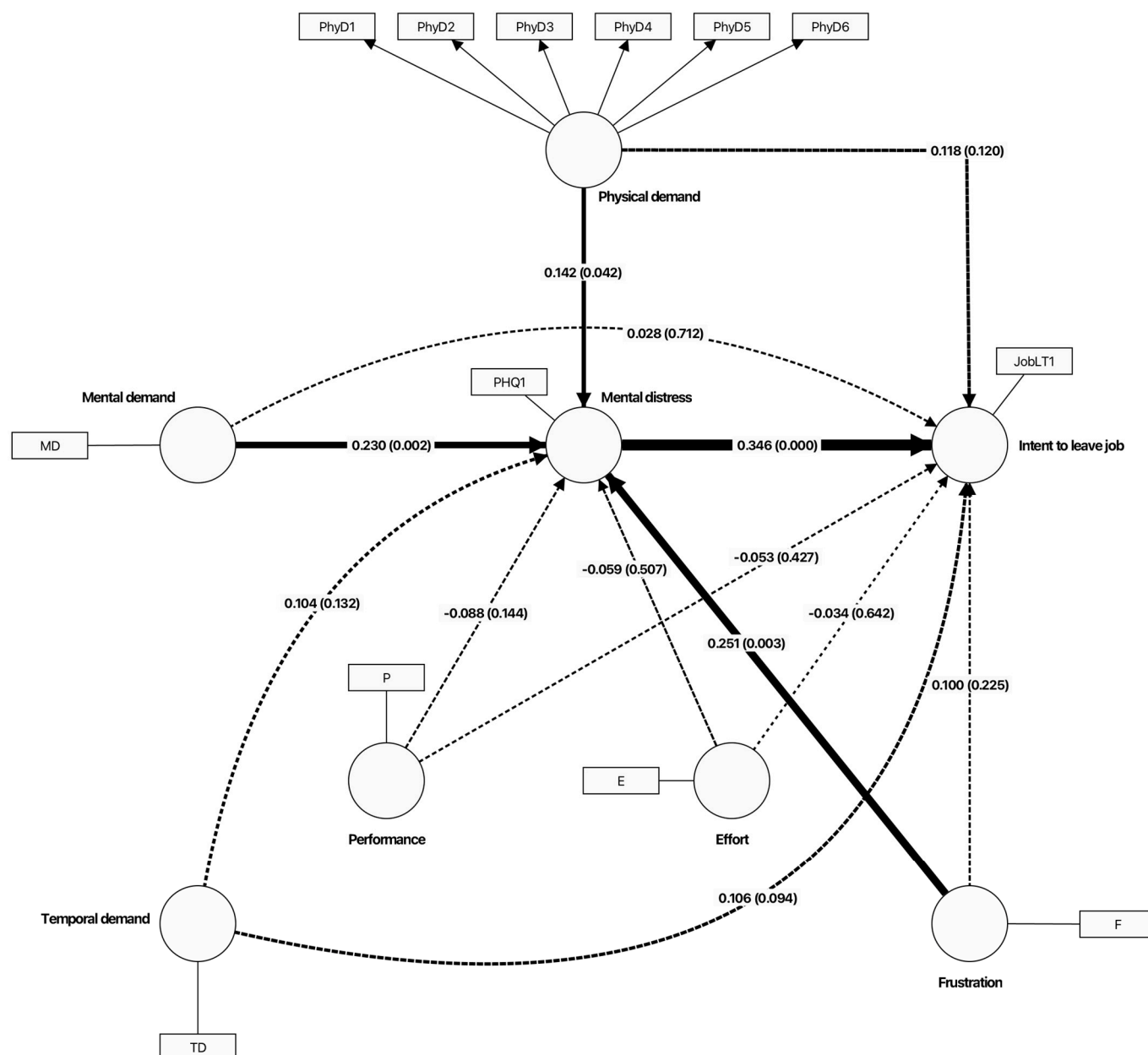


Figure 2. Structural Equation Model illustrating the relationships among physical demand, mental demand, temporal demand, frustration, effort, performance, mental distress, and intent to leave job. The model presents standardized path coefficients with corresponding P-values in parentheses. The relative path thickness shows the strength of the relationships based on standardized beta coefficients, and solid lines represent significant relationships.

H1 proposed that mental demand generated by mass fatality handling would significantly increase mental distress among HCWs and their intent to leave their job. The results support this hypothesis partially. Mental demand significantly increased mental distress ($\beta = 0.230, p = 0.002$), and although the direct effect of mental demand on the intent to leave was not significant ($\beta = 0.028, p = 0.712$), the indirect effect through mental distress was significant ($\beta = 0.080, p = 0.008$).

H2 posited that physical demand would significantly increase mental distress and the intent to leave their job. This hypothesis is supported by the data. Physical demand significantly increased mental distress ($\beta = 0.142, p = 0.042$) and had a significant total effect on the intent to leave ($\beta = 0.168, p = 0.031$), with both direct and indirect effects contributing to this outcome.

H3 suggested that temporal demand would significantly increase mental distress and the intent to leave their job. The results show that the direct impact of temporal demand was insignificant on the intent to leave their job ($\beta = 0.106, p = 0.094$) and a significant total effect ($\beta = 0.142, p = 0.035$). However, its impact on mental distress was not significant ($\beta = 0.104, p = 0.132$), providing partial support for this hypothesis.

H4 asserted that HCWs who achieve their performance of handling mass fatalities would have lower mental distress and be less willing to leave their job. The data did not support this hypothesis. The direct effect of performance on mental distress was not significant ($\beta = -0.088, p = 0.144$), nor was the total effect on the intent to leave ($\beta = -0.083, p = 0.241$).

H5 proposed that effort-related demand would significantly increase mental distress and the intent to leave their job. The results do not support this hypothesis. Effort did not have a significant direct effect on mental distress ($\beta = -0.059, p = 0.507$) or on the intent to leave their job ($\beta = -0.034, p = 0.642$).

H6 posited that frustration would significantly increase mental distress and the intent to leave their job. The findings strongly support this hypothesis. Frustration had a significant positive effect on mental distress ($\beta = 0.251, p = 0.003$) and a significant total effect on the intent to leave their job ($\beta = 0.186, p = 0.026$), including both direct and indirect effects.

H7 suggested that mental distress would have a significant positive impact on the intent to leave their job among HCWs. The data robustly support this hypothesis, with mental distress showing a strong direct effect on the intent to leave ($\beta = 0.346, p < 0.001$).

5. Discussion

Our study contributes to the growing body of literature on the mental health of healthcare workers during the COVID-19 pandemic, emphasizing the critical need for proactive measures to address workload demands and mental distress. The findings underscore the importance of organizational support and the implementation of strategies to mitigate the adverse effects of high-stress environments, particularly in preparation for future pandemics.

The findings of our study regarding the mental health of healthcare workers, specifically dead body handlers during the COVID-19 pandemic, align with and expand upon existing literature on the subject. Our research highlights the significant impact of workload demands—mental, physical, and temporal—on mental distress and the subsequent intention to leave their job. This aligns with the systematic review by Muller et al., which emphasizes that high workload and inadequate rest contribute to mental health issues among healthcare workers [33]. The review also notes that exposure to COVID-19 and a lack of personal protective equipment exacerbated these mental health challenges, which resonates with our findings on the cyclical nature of workload and mental distress. Moreover, our study's observation of moral distress as a mediating factor is supported by Smallwood et al., who found that moral distress is linked to adverse mental health outcomes among frontline health workers [10]. This suggests that the ethical dilemmas faced by healthcare workers during the pandemic affect not only their mental health but also their job retention intentions. The interplay between moral distress and mental health outcomes is critical, as it underscores the need for supportive measures within healthcare settings to mitigate these effects. The cyclical problem of understaffing leading to increased workload, which in turn exacerbates turnover rates, is further supported by findings from Alblihed and Alzghaibi, who reported that job stress and burnout significantly increased turnover intentions among frontline health workers during the pandemic [34]. This cyclical dynamic is alarming, especially in the context of a pandemic where the demand for healthcare services surges. Similarly, Gong et al. highlight that the predictors of mental health issues among healthcare staff vary by job function, indicating that certain roles may be more susceptible to these stressors, which could further complicate staffing issues during crises [35]. Additionally, our findings resonate with the research by Al-Mansour, which demonstrated a positive correlation between stress levels and turnover intentions among healthcare workers in

Saudi Arabia during the pandemic [36]. This suggests that the mental distress experienced by dead body handlers in our study may similarly lead to increased turnover intentions, emphasizing the need for systemic changes to support these workers. In contrast, while our study focuses on dead body handlers, other studies have examined different healthcare roles, revealing that the mental health impacts and turnover intentions can vary significantly across job functions. For instance, Chang et al. noted that healthcare workers in general hospitals reported higher levels of mental distress compared to those in psychiatric settings, indicating that the context of work significantly influences mental health outcomes [37]. This suggests that interventions may need to be tailored to specific roles within the healthcare system.

To address the cycle of understaffing and excessive workload, we suggest establishing a robust staffing contingency plan, including a reserve pool of trained professionals and cross-trained healthcare workers (HCWs). Our suggestion is supported by various studies that highlight the importance of flexible staffing solutions in maintaining quality care during emergencies. For instance, Burnett et al. discuss the Clinical Resource Hub Initiative, which emphasizes the development of a telemedicine structure to provide contingency staffing across a national healthcare system. This initiative aims to enhance local healthcare facilities by supplementing their staffing resources during surges in demand, thereby addressing the critical need for a responsive workforce management strategy [38]. Similarly, Cannedy et al. highlight the significance of sufficient clinical staffing in healthcare, particularly during crises, noting that adequate staffing is positively associated with improved quality of care and reduced staff burnout [39]. This aligns with our recommendation for a reserve pool of trained professionals who can be rapidly deployed during emergencies. Moreover, the concept of cross-training HCWs to perform multiple roles is reinforced by Seljemo et al., who found that collaboration and coordination across different healthcare sectors were essential for resource allocation and preparedness during the COVID-19 pandemic [40]. This adaptability not only enhances the responsiveness of healthcare systems but also fosters resilience among HCWs, enabling them to manage diverse responsibilities effectively.

In addition to staffing strategies, our emphasis on comprehensive mental health programs for HCWs is echoed in the literature. Giusti et al. advocate for monitoring the mental health status of healthcare workers during crises and suggest implementing various support strategies, including psychological support programs and stress management training [41]. This is crucial, as the psychological impact of high-pressure situations can lead to burnout and decreased job satisfaction, as noted by Smith et al., who identified overwork as a significant stressor for healthcare epidemiologists during the pandemic [42]. Our proposal for regular mental health screenings and access to counseling services aligns with these findings, as it addresses the urgent need for mental health support in high-stress environments. Furthermore, ensuring adequate rest periods and promoting a healthy work–life balance are vital components of preventing burnout among HCWs. Research by Noordt indicates that while healthcare workers generally reported similar or better mental health outcomes compared to non-healthcare workers during the pandemic, the pressures of excessive workload cannot be overlooked [24]. This suggests that proactive measures to manage workload and promote well-being are essential for sustaining the mental health of HCWs.

Our findings emphasize redesigning of decedent handling workspaces and the integration of technology in healthcare settings, especially in light of the increased physical demands placed on healthcare workers during crises such as the COVID-19 pandemic. Okafor and Chia highlight that the physical demands associated with body handling during the pandemic have significantly contributed to the stress experienced by healthcare workers, particularly due to the heightened risk of exposure to infectious diseases [43]. This aligns with our assertion that improving the physical environment can help reduce the strain on HCWs and subsequently lower mental distress. Furthermore, Braithwaite et al. argue that sustainable healthcare improvements require a systematic approach to

redesigning healthcare environments, which can enhance worker safety and efficiency [44]. This underscores the importance of creating workspaces that are not only functional but also conducive to the well-being of HCWs. Leveraging technology is another crucial aspect of our recommendations. The integration of advanced healthcare technologies, such as automated administrative systems, can significantly reduce the manual burden on staff. Research by Alshammari indicates that technology integration improves communication and collaboration among healthcare professionals, thereby enhancing overall efficiency and job satisfaction [45]. This is particularly relevant in high-pressure environments where HCWs face increased workloads. Moreover, enhancing the physical infrastructure of healthcare facilities is vital for managing increased patient loads during emergencies. Bourgeault et al. emphasize that pandemic response plans must explicitly address healthcare workforce requirements, including the need for adequate facilities and equipment to ensure safe working conditions [46].

Our study has a few limitations that must be acknowledged. Firstly, the self-reported nature of our data may introduce personal and recall biases, potentially affecting the accuracy of the reported experiences and perceptions. The cross-sectional design provides only a snapshot of the participants' experiences during the pandemic without offering insights into their workload and mental distress levels before and after the COVID-19 crisis. Consequently, we lack data on nurse-to-patient ratios across different time periods, which could provide a comparative perspective on workload variations in various facilities. Furthermore, the relatively small sample size and the limited geographic scope may affect the generalizability of our findings to other cultural contexts or to the broader population of U.S. healthcare workers who did not participate in this study. These limitations suggest that our results may not fully capture the diversity of experiences and challenges faced by HCWs in different settings. To address these limitations, future research should consider longitudinal survey studies with larger and more diverse participant pools. Such studies would provide a more comprehensive understanding of the evolving workload and mental health conditions of healthcare workers over time. Additionally, incorporating qualitative methods, such as interviews and focus groups, could offer deeper insights into the personal experiences and challenges faced by HCWs. Using more detailed and validated scales, such as the PHQ-9 adapted for healthcare workers involved in decedent handling, would further enhance the accuracy and reliability of the findings. These improvements would help to better understand and support the mental health and well-being of healthcare workers in future crises.

6. Conclusions

The findings of this study underscore the profound impact of workload factors on the mental health and job retention intentions of healthcare workers during the COVID-19 pandemic, particularly those involved in mass fatality handling. Our research highlights that mental, physical, and temporal demands significantly contribute to mental distress, which in turn influences the intent to leave their job. The results indicate that HCWs experience heightened levels of stress and burnout due to the unique challenges posed by their roles, including the emotional toll of handling deceased bodies and the physical exhaustion associated with prolonged working hours and the use of personal protective equipment (PPE). Moreover, the study emphasizes the importance of addressing the multifaceted nature of workload demands. Each factor—mental demand, physical demand, temporal demand, performance, effort, and frustration—plays a critical role in shaping the mental health landscape of HCWs. The findings suggest that interventions aimed at reducing these demands, enhancing support systems, and promoting mental well-being are essential for improving job satisfaction and retention among HCWs. Importantly, the research identifies a significant relationship between mental distress and the intent to leave their job, highlighting the urgent need for healthcare organizations to implement strategies that mitigate mental health challenges. Such strategies may include providing mental health resources, fostering open communication between management and staff, and ensuring adequate

staffing levels to alleviate workload pressures. In conclusion, this study contributes to the growing body of literature on the mental health of HCWs during crises, revealing critical insights into the factors that influence their well-being and job retention. By addressing these issues, healthcare systems can better support their workforce, ultimately enhancing the quality of care provided to patients and ensuring the sustainability of healthcare services in the face of future challenges. Future research should continue to explore the long-term effects of these workload factors on HCWs and evaluate the effectiveness of targeted interventions aimed at improving their mental health and job satisfaction.

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