

# OCCUPATIONAL STRESSORS AMONG SRI LANKAN CONSTRUCTION PROFESSIONALS

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## ABSTRACT

*The construction industry is widely recognized as a high-pressure work environment due to demanding workloads, strict deadlines, and challenging work conditions. Occupational stress is a significant concern among construction professionals. Despite growing attention to mental health in construction, limited empirical evidence exists on the relative significance of occupational stressors affecting construction professionals, particularly in the Sri Lankan context. Therefore, this study aims to identify and rank the most significant occupational stressors among Sri Lankan construction professionals and highlight their implications for psychological resilience. A quantitative research approach was adopted using a structured questionnaire survey. Data were collected from 41 construction professionals across engineering, quantity surveying, architecture, and site supervision/management through snowball sampling. A five-point Likert scale was used to assess the significance of identified stressors, and Weighted Mean Rating (WMR) was employed to rank them. The findings indicate that task-related stressors are the most dominant. High workload and strict deadlines jointly emerged as the highest-ranked stressors, followed by long working hours, lack of resources and task complexity. Among organisational stressors, workplace injustice recorded was identified as the most significant factor. Poor work environment and exposure to dangerous working conditions were the most prominent physical stressors, while poor work-life balance was identified as the leading personal stressor. The study concludes that occupational stress among Sri Lankan construction professionals is systemic and multidimensional. By identifying the most critical stressors, the research provides a context-specific basis for targeted stress management interventions and resilience-building strategies within the construction industry.*

**Keywords:** Construction Professionals; Occupational Stress; Sri Lanka; Stressors.

## 1. INTRODUCTION

The construction industry is widely recognized as one of the riskiest sectors for poor mental health in the world due to high job demands, tight deadlines, the dynamic nature of construction projects, poor interpersonal relationships, and work-life imbalance

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(Campbell & Gunning, 2020; Chan et al., 2020; Duckworth et al., 2022; Rahman et al., 2025).

Moreover, there was a significant impact from the COVID-19 pandemic, which introduced additional stressors such as uncertainty, increased workloads, and isolation (Pamidimukkala & Kermanshachi, 2021). These conditions generate significant stress among construction professionals (CPs), including Project Managers, Architects, Engineers, and Quantity Surveyors (Pamidimukkala & Kermanshachi, 2021). In addition, CPs also bear the responsibility of supporting subordinates and maintaining a psychologically healthy work environment. Research demonstrates that such stress significantly affects both workers and their organizations (Campbell & Gunning, 2020). Therefore, the mental well-being of professionals in the construction industry should be seriously considered as a strategic priority rather than an afterthought.

Empirical evidence highlights the seriousness of this issue. A survey conducted by (Lawani et al., 2023), in the UK reported that sixty-eight percent (68%) of CPs experience stress-related disorders, with many suffering from anxiety, depression, and suicidal ideation. A 2020 global survey consisting of 2,081 construction industry professionals indicates high rates of stress (97%), anxiety (87%), depression (70%), fatigue (96%), poor concentration (95%), feeling overwhelmed (91%), and low self-confidence (86%), experienced at least once within the past twelve months (Van Heerden et al., 2024). Furthermore, one in four construction workers has considered taking their own life underscoring the severity of mental health challenges within the sector (Campbell & Gunning, 2020).

The consequences extend beyond individual well-being. Poor mental health among CPs is associated with low performance, high turnover and absenteeism, poor internal communication, rising conflicts (Duckworth et al., 2022). For instance, Chan et al. (2020), highlight that there is a direct correlation between psychological distress and the likelihood of occupational injury. Supporting this, a study by Carnide et al. (2015), revealed that workers with depressive symptoms are three times more likely to experience workplace injuries and fatalities.

Although occupational stress and mental health issues in the construction industry have been widely researched all around the world, most research on this topic have been conducted in developed countries such as the United Kingdom (Sarhan et al., 2024), Australia (Hon et al., 2023), and New Zealand (Kaur, 2024). The construction sector functions in an environment that is different economically, socially, and culturally and has its own impacts on the types and levels of stress experienced by professionals (Liu et al., 2022). Sri Lanka has recently faced with economic instability, shortage of resources, labour issues, and uncertainty in delivering projects (Firose et al., 2025). Therefore, findings from international studies cannot be directly generalised to the Sri Lankan construction context.

Furthermore, current studies are mostly centered on either general construction workers, specific professions, or occupational stressors in isolation (Fagbenro et al., 2023). Limited research has undertaken comprehensive analysis to understand and rank the importance of occupational stressors among varied categories of construction professionals in Sri Lanka. Since psychological resilience and stress coping mechanisms depend on knowledge of the major stressors in a particular setting (O'Dowd et al., 2018), this knowledge gap is quite critical. Therefore, the aim of this study was to identify and rank

the most significant occupational stressors affecting Sri Lankan construction professionals, thereby providing a context-specific foundation for future stress management and resilience-building initiatives.

## **2. LITERATURE REVIEW**

### **2.1 OCCUPATIONAL STRESS IN THE CONSTRUCTION INDUSTRY**

Pich (2018) defines occupational stress as the “harmful physical and emotional responses that occur when the requirements of the job do not match the capabilities, resources, or needs of the worker”. In the construction industry, stress is not episodic but structurally embedded within its operational characteristics (Sarhan et al., 2024). This stems from its project-based nature, tight deadlines, cost pressures, reliance on temporary teams, strict contractual obligations, all of which create a highly stressful environment (Bayhan et al., 2022). Unlike routine industries, construction projects are inherently dynamic and uncertain, often requiring rapid decision-making under conditions of incomplete information (Love et al., 2023; Wang et al., 2023).

From a theoretical perspective, the Job Demands–Resources (JD-R) model provides a useful lens for examining this dynamic. JD-R theory shows that job demands can be classified as the stressors faced by the CPs and job resources are the physical, mental, social aspects that are functional in achieving work goals, reduce job demands (Bakker & Demerouti, 2007). The model posits that high job demands contribute to strain when not balanced by sufficient resources, while personal resources such as resilience, buffer the negative impact of job demands and promote well-being. In the construction industry, where many stressors are structural and unavoidable, enhancing personal and organizational resources becomes essential. Psychological resilience therefore operates as a mediating factor that strengthens the effectiveness of coping strategies and mitigates adverse outcomes.

Although stress has been widely acknowledged as prevalent in construction, much of the literature treats it as a general industry phenomenon rather than examining its structured sources or differentiating between occupational roles. Consequently, there remains limited clarity regarding the relative significance of specific stressors affecting CPs.

### **2.2 STRESSORS AFFECTING CONSTRUCTION PROFESSIONALS**

Stressors are stimuli or events that disrupt an individual's balance triggering a stress response (Alla et al., 2022). They are essential components of stress and have the potential to cause physiological and psychological reactions (Enshassi & Al.Swaity, 2015). In the context of occupational settings, stressors can generally be divided into four major categories: task-related, personal, physical, and organizational (Senaratne & Rasagopalasingam, 2016).

- Task-related stressors, such as work overload, poor role congruence, long working hours, lack of resources,
- Organizational stressors, such as poor organizational structure, workplace injustice, insufficient remuneration, job insecurity,
- Physical stressors, such as exposure to dangerous working conditions, non-ergonomic situation, poor work environment,

- Personal stressors, such as work group cooperation, poor work-life balance, lack of social support, gender-based impacts, language barriers, age.

Haynes and Love (2004) revealed that workload was the highest-ranking stressor in the UK construction industry followed by working long hours and conflict between family and work. In addition, Leung et al. (2005) surveyed on stressors of construction cost estimators in Hong Kong which showed work overload, role conflict, job ambiguity, and the working environment were the most significant stressors. Overall, the literature reviewed in this study identified 22 specific stressors, which were categorized into task-related (5), organizational (6), physical (3), and personal (8) stressors. Given the wide range of stressors identified in the construction industry, many of them are difficult to remove entirely (Lingard & Francis, 2006). Hence it is critical to search how CPs can adapt to these stressful environments and maintain their wellbeing.

### **2.3 ROLE OF PSYCHOLOGICAL RESILIENCE IN STRESS ADAPTATION**

Psychological resilience refers to the capacity to adapt positively and maintain functional stability in the face of adversity and prolonged stress (Wu et al., 2020). It is an important protective factor against stress which acts as an internal resource (Kocjan et al., 2020) that mobilizes positive emotions to deal with stressful events (Su et al., 2023). High levels of psychological resilience can reduce the risk of various mental disorders such as anxiety, depression, post-traumatic stress disorder (Ren et al., 2017).

Empirical research supports these findings in construction settings. Nwaogu et al. (2021) found that tradesmen who were more resilient were less prone to suffer from depressive and anxiety symptoms as well as suicide ideation. Similarly, in the Canadian construction industry, psychological resilience was identified as a secondary preventer of job stress for trade workers due to its significant negative impact on stress (Li et al., 2017). In addition to mitigating stress, it has been discovered that high psychological resilience enhances job satisfaction across various professions, including healthcare and construction (Matos et al., 2010). Therefore, building resilience is essential in developing employee satisfied work environment (Ren et al., 2017).

During adverse events, resilience influences the way stressors are appraised, while the behavioral and emotional responses that follow are known as coping strategies (Thompson et al., 2017). Resilience develops through repeated engagement in effective coping strategies (Booth & Neill, 2017). Mainly high levels of resilience are associated with the use of positive coping strategies (Li et al., 2017). Furthermore, resilience has the ability to mediate and moderate the relationship between coping strategies and psychological outcomes (Smith et al., 2015; Wu et al., 2020). This correlation can be illustrated in Figure 1.

Despite its importance, research on psychological resilience as a protective factor within the construction industry remains relatively scarce (Nwaogu et al., 2022) highlighting the need for further empirical investigation. Effective coping strategies contribute to resilience over time; however, these strategies must be aligned with the dominant stressors faced by professionals. Therefore, a clear understanding of the most significant occupational stressors is essential to enhance one's psychological resilience.

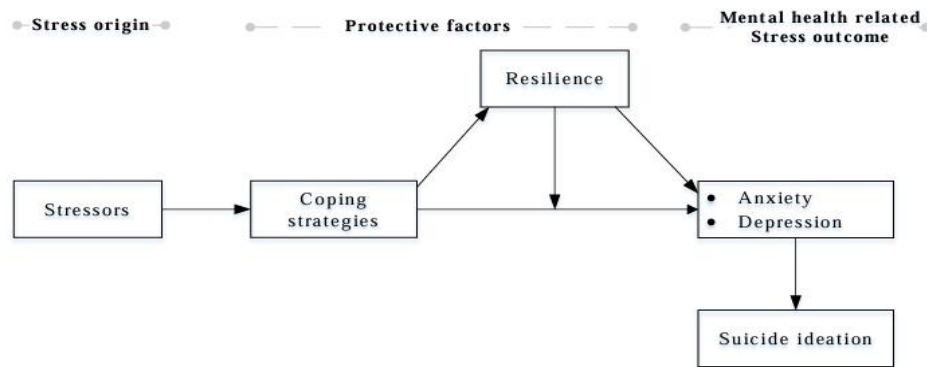


Figure 1: The stress-coping-resilience framework

### 3. METHODOLOGY

A structured questionnaire survey was selected as the primary data collection method, as it enables systematic measurement and comparative ranking of stressors comparison of perceived stressors across respondents (Zurlo et al., 2020). The quantitative approach was considered appropriate because the study aimed to quantify the relative significance of occupational stressors and establish their prioritisation.

The sampling technique adopted in this research was snowball sampling. Snowball sampling was selected because construction professionals are distributed across numerous organisations, projects, and geographical locations (Kirchherr & Charles, 2018). This makes it difficult to obtain a comprehensive sampling frame of eligible participants. Furthermore, access to experienced professionals often relies on professional networks and referrals. Therefore, snowball sampling was considered appropriate for identifying and recruiting participants with relevant industry experience while improving response rates within the limited time available for data collection.

In this study, the term 'construction professional' can be defined as a person who performs a technical, management, and professional function related to the planning, designing, coordination, supervision, and management of construction projects (Hoxley, 2000). Consequently, architects, engineers, quantity surveyors, were selected as they represent main construction professionals in Sri Lankan context.

The questionnaire survey has adopted a five-point Likert Scale, which allows easy quantification. A total of 41 valid responses were obtained among professionals in the field of engineering, quantity surveying, architecture and site supervising and managing. Initially, respondents were asked to rank the stressors and strategies which were collected through the literature review on a Likert Scale of 1-5 where 1 refers to 'Strongly Disagree', 2 - 'Disagree', 3 - 'Neutral', 4 - 'Agree' and 5 - 'Strongly Agree'.

Profiles of the questionnaire survey respondents are illustrated in the Figure 2. Throughout the questionnaire survey, most of the responses were gathered from Quantity Surveyors and who has Bachelor of Science (B.Sc.) degree as the highest educational qualification. Most of them had 1-5 years of construction experience.

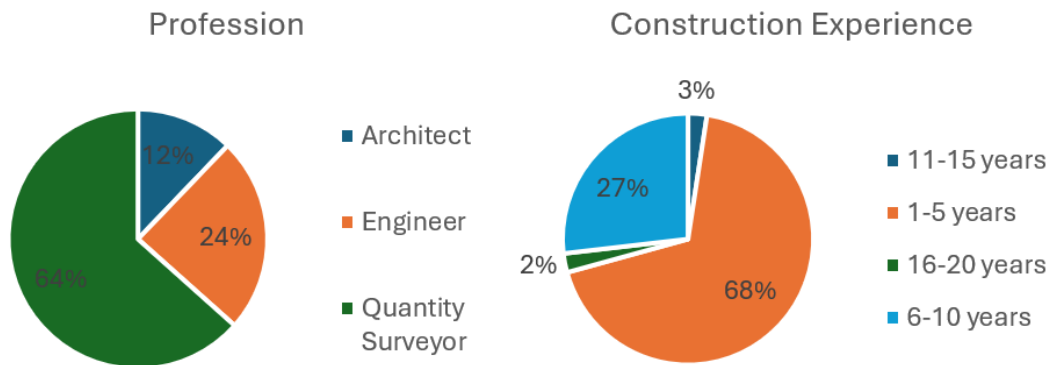


Figure 2: Professions and construction experience of respondents

### Weighted Mean Rating (WMR)

The data collected via questionnaires was analysed based on the Weighted Mean Rating (WMR) given in following formula, which reflected the importance given to each of the selection of stressor and strategy by the respondents.

$$(1)$$

Where: WMR= Weighted Mean Rating for an attribute;  $fi$  = Frequency of responses for an attribute,  $X_i$ = Likert scale for an attribute (ranging 1 to 5),  $n$ = Total number of respondents.

According to Miller et al. (2018) 3 is considered to be the neutral point in the statistical arena and  $>3$  is considered to be influential in a study. This was further emphasized in a study done by Nelumdeniya et al. (2023). Thus, in this study the cut-off level for significant stressors and for the strategies is considered as 3. Stressors were ranked in descending order based on their WMR values to identify priority areas requiring attention.

## 4. ANALYSIS AND FINDINGS

### 4.1 MOST SIGNIFICANT STRESSORS IN THE CONSTRUCTION INDUSTRY

Twenty-seven stressors were identified from the literature as stressors for CPs. Professionals were asked to rank them through their observations and experience. Significant stressors were ranked based on the WMR.

#### 4.1.1 Task- Related Stressors

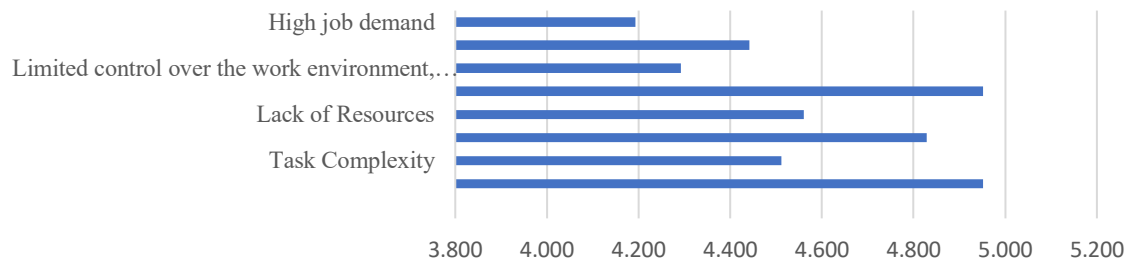


Figure 3: Task stressors in the construction industry

All task-related stressors recorded WMR values above the cut-off value of 3.0, indicating agreement among respondents regarding their significance. As illustrated in Figure 3 “High Workload and “Strict Deadlines” were marked as the most significant task stressors in the current construction industry gaining a weighted mean rating of 4.95. This indicates that excessive job demands are a central source of stress within the construction industry.

Further Long Working Hours” followed with a high WMR of 4.829. In addition, Lack of Resources” (WMR=4.561) and “Task Complexity” (WMR=4.512) were also highlighted as significant stressors. These findings suggest that stress is not only driven by workload intensity but also by insufficient support and increasing task demands.

“High Job Demand” (4.194) was also perceived as substantial but relatively less critical compared to the others. Overall, the results highlight that task-related stressors are the most dominant category, reflecting structurally embedded pressures in project delivery environments.

#### 4.1.2 Organizational Stressors

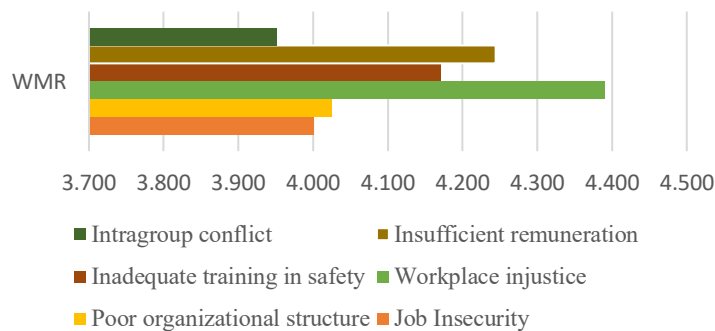


Figure 4: Organizational stressors in the construction industry

According to the data presented in Figure 4 reveal that among the six organizational stressors evaluated, “Workplace injustice” was rated as the most critical, with the highest WMR of approximately 4.39. Moreover, 20 respondents strongly agreed that workplace injustice is a significant organizational stressor which also has affected to get a higher WMR value. Considering the WMR of all the six stressors, they all fall under the most significant category which poses values of more than 3.

#### 4.1.3 Physical Stressors

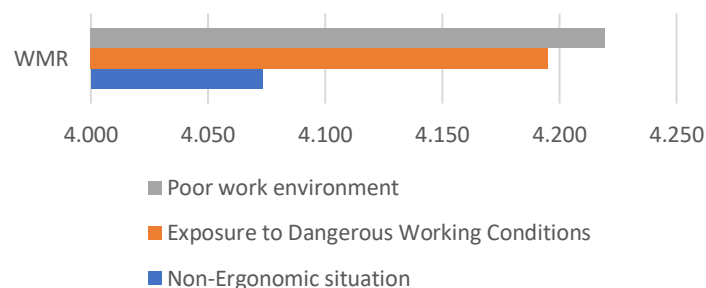


Figure 5: Physical stressors in construction industry

Regarding physical stressors, as illustrated in Figure 5 **Error! Reference source not found.** WMR of three key physical stressors indicate significant levels of concern among respondents. Among them, “Poor Work Environment” was rated the highest, with a WMR above 4.220. The second most significant physical stressor was “Exposure to Dangerous Working Conditions”, which received a slightly lower WMR but still ranked prominently. “Non-Ergonomic Situations” scored the lowest among the three but still had a WMR exceeding 4.0. Therefore, these physical stressors also come under most significant category.

#### 4.1.4 Personal Stressors

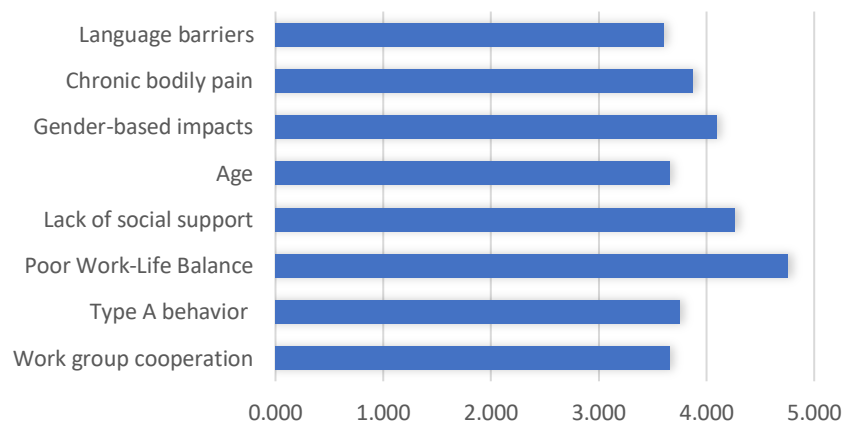


Figure 6: Personal stressors of construction industry

According to multiple personal stressors were identified with nearly equal significance. All these stressors recorded WMR values above 3, indicating its significant. They highlight the multifaceted nature of personal burdens experienced by CPs. Among the listed factors, Poor Work-Life Balance emerged as the most significant personal stressor among the other 7 personal stressors which accounts for 15% of the total. In addition, “Gender based impacts and “lack of social support” were marked with same percentages (13%), showing their second most significance after the poor work life balance stressor. Likewise, “work group cooperation”, “chronic bodily pain” and “Type A behaviour” got the same percentages (12%) representing the third most significant stressors. the least most significant stressor is “language barrier” with a percentage of 11%.

Across all categories, task-related stressors were identified as the most dominant, followed by organisational, physical, and personal stressors. This indicates that occupational stress among construction professionals is primarily driven by work demands, but is further intensified by organisational practices, physical conditions, and personal constraints. The results demonstrate that stress in the construction industry is multidimensional, requiring integrated management approaches rather than isolated interventions.

## 4.2 DISCUSSION OF FINDINGS

The findings indicate that High Workload and Strict Deadlines (WMR = 4.95) represent the dominant task-related stressors affecting construction professionals. The prominence of workload and deadline pressures suggests that stress in the construction industry is not episodic but systemic. This sustained demand increases the likelihood of chronic stress

accumulation. Long Working Hours (WMR = 4.829) further reinforces this demand overload. Within JD-R theory, prolonged exposure to high demands without sufficient recovery periods accelerates energy depletion, thereby increasing burnout risk. Importantly, the high ranking of Lack of Resources (WMR = 4.561) suggests a simultaneous deficiency in job resources. This creates a compounded effect where high demands paired with inadequate resource support. JD-R theory predicts that such imbalance magnifies psychological strain.

These findings are consistent with Gunasekara and Perera (2022), who identified "high workload" as the most prevalent task stressor in Sri Lanka. In contrast, Enshassi and Al.Swaity (2015), emphasized "long working hours" as the most critical stressor in Palestine construction industry, which ranked only third in this study with a WMR of 4.829. Additionally, the stressor "lack of resources" was found to be significant which aligns with previous findings by Oladinrin et al. (2014) which highlighted about the Nigerian construction industry. This shows that resource constraints are a key stressor in construction project delivery.

Furthermore, regarding organizational stressors, "Workplace injustice" was rated as the most critical, with the highest WMR of approximately 4.39. This finding supports previous assertions by Leung et al. (2005), who highlighted the impact of perceived injustice and inequality on professional stress. Unlike other studies that prioritized job insecurity or organizational culture as top contributors, this research underscores the role of fairness and transparency in reducing occupational stress among CPs.

Regarding physical stressors "Poor work environment" and "exposure to dangerous working conditions" were revealed as the most significant physical stressors. These align with findings by Bowen et al. (2013) psychological health. "Poor work-life balance" was the most significant personal stressor identified. This corroborates the observations by Lingard and Francis (2006), who found that CPs often face difficulties balancing professional and personal responsibilities. Interestingly, stressors such as "gender-based impacts" and "lack of social support" also emerged prominently. These stressors were not commonly prioritized in earlier Sri Lankan studies, suggesting a shifting awareness toward diversity and support systems in the workplace.

Overall, the findings demonstrate that occupational stress among construction professionals is multidimensional and influenced by the interaction of task, organisational, physical, and personal factors. This highlights the need for integrated stress management approaches that address both structural work conditions and individual coping capacities. In this context, psychological resilience plays an important role, as it enables individuals to adapt to high-demand environments. However, resilience alone is insufficient if organisational and task-related stressors remain unaddressed, indicating the importance of combined individual and organisational intervention.

## **5. CONCLUSIONS**

The aim of this study to identify and rank the most significant occupational stressors affecting Sri Lankan construction professionals. Four main stressor groups were identified: task, organizational, physical and personal. The results of this study indicated that task-related factors were the most influential. High workload and strict deadlines emerged as the dominant stressors, followed by long working hours, lack of resources,

and task complexity. This indicates that CPs operate within a highly demanding work environment where sustained pressure has become embedded in normal practice.

Regarding organizational stressors, the current study showed that workplace injustice was the most critical stressor which highlights the importance of fairness and transparency in the work environment. Physical stressors such as poor work environment and exposure to dangerous working conditions also remained significant, while poor work-life balance emerged as the most prominent personal stressor.

Since resilience depends on the ability to respond to specific occupational pressures, identifying the dominant stressors is a necessary first step toward developing effective resilience-building strategies. In this sense, the study contributes not only by ranking stressors, but also by providing a practical basis for targeted interventions to strengthen adaptive capacity among professionals.

Overall, this research offers context-specific evidence on occupational stressors affecting Sri Lankan construction professionals. The findings offer a practical foundation for developing targeted stress management strategies and improving working conditions within the construction industry. The study provides valuable empirical evidence to support future efforts aimed at creating healthier, more sustainable, and psychologically supportive construction workplaces in Sri Lanka.

## **6. CONTRIBUTION TO KNOWLEDGE**

This study contributes to the existing body of knowledge in three important ways. First, it provides a contemporary and context-specific assessment of occupational stressors affecting construction professionals in Sri Lanka. Second, it systematically ranks stressors across task-related, organisational, physical, and personal dimensions. This enables practitioners and researchers to identify priority areas requiring intervention. Third, the findings establish an empirical foundation for future studies examining psychological resilience, coping strategies, and mental health interventions within the Sri Lankan construction industry.

## **7. PRACTICAL AND RESEARCH IMPLICATIONS**

The findings have important implications for construction organisations, project managers, and professional bodies. As high workload, strict deadlines, and long working hours emerged as the most significant stressors, organisations should adopt realistic project planning, effective workload management, and adequate resource allocation practices. Additionally, the prominence of workplace injustice highlights the need for transparent management and fair work environments. From a research perspective, the findings provide a basis for future studies on psychological resilience among construction professionals. Future research may examine the relationships among stressors, coping strategies, resilience, mental health outcomes, and organisational performance using larger samples and advanced analytical techniques.

## **8. FURTHER RESEARCH**

The research presented in this paper is considered an initial step to identify the key stressors that lead to stress among construction professionals in Sri Lanka, using a questionnaire survey. Therefore, additional qualitative approaches, such as semi-

structured interviews, case studies and focus groups, are required to further explore in detail the causes, contributing factors and the effects of the stressors identified in this study. In addition, further research is needed to investigate the coping strategies and organisational interventions most suitable for addressing these stressors within construction project environments. Examining how such strategies contribute to stress reduction, psychological resilience, and professional productivity would provide more practical guidance for the industry.

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