

REVIEW ARTICLE

# OCCUPATIONAL STRESS, BURNOUT, AND INTENTION TO QUIT AMONG MALAYSIAN FIREFIGHTERS

*Mohd Sharif MOHAMAD\**, *Nur Faizah ALI\*\**, *Zafir Khan MOHAMED MAKHBUL\**

\*Faculty of Economics and Management, Universiti Kebangsaan Malaysia

\*\*Department of Psychiatry, Faculty of Medicine, Universiti Teknologi MARA (UiTM), Sg. Buloh, Selangor, Malaysia

## ABSTRACT

The study on occupational stress, burnout, and intention to quit among Malaysian firefighters is rare. Therefore, there is a need to focus on this topic. The objective of this study is to review the relevant literature on Malaysian firefighters' sources of occupational stress, burnout, and intention to quit a job. The sources of occupational stress are measured by using Sources of Occupational Stress (SOOS-14), burnout is measured by using Maslach Burnout Inventory – General Survey (MBI-GS), and intention to quit is measured using intention to quit scale. The sample of this study is Malaysian firefighters. This study provides a framework for the study of the effects of occupational stress towards burnout and intention to quit among Malaysian firefighters and supports the Transactional Theory of Stress and Coping especially by proving the effects of emotion-focused and problem-focused coping methods. *ASEAN Journal of Psychiatry, Vol. 22(7): September 2021:1-8.*

**Keywords:** Occupational Stress, Burnout, Intention to quit, Firefighters

## Introduction

Occupational stress is a genuine issue that needs to be addressed in many professions around the world. In Europe, occupational stress is considered as one of the major problems which can cause negative effects on the workers' mental and physical health [1-4]. The firefighter is one of the highly demanding professions and it carries a significant degree of risk. Every year, some firefighters get killed while on their duty have a unique cause of stress such as traumatic events which involve horrific deaths and serious injuries [6-8]. As the first responders in emergencies such as accidents or natural disasters, firefighters are exposed to traumatic events that may cause them occupational stress and post-traumatic stress disease (PTSD). According to a systemic review done in 2013, professions such as police, firefighters, and ambulance paramedics often experience

in the United States of America (USA) [5]. It is vital to conduct more studies on stress among the fire fighters and rescuers because, apart from the common sources of occupational stress such as high job demands, poor work conditions, lack of organizational support, career development burdens, and conflicts among colleagues, careers in the emergency lines.

incidents of PTSD but the effects of PTSD on the job will diminish over time [9].

Uncontrolled occupational related stress can eventually cause firefighters to be burnout. As a result, they might have intention to quit their jobs. Thus, this study's main objective is to review the relevant literature on Malaysian firefighters' sources of occupational stress, burnout, and intention to quit the job.

## **Literature Review**

### *Occupational stress studies*

Work is one of the main contributors to stress among working people. Occupational stress occurs when high demands of work cannot be offset by the work control from the resources available to an employee. Job control refers to the capability of the employee to control and make decisions about the work performed [10]. Among the contributing factors to occupational stress are high job demands [11], poor work conditions and low job control [12], lack of organizational support [13], lack of social support [14], career development burden, co-worker conflict, long working hours, lack of sleep or sleep disturbance [15] and the impact of traumatic events at work [16,17].

### *Firefighter's Occupational Stress*

Global problems faced by current communities such as accidents, terrorists, mass fires, and increased crime activity have resulted in emergencies, thus increasing the need for emergency and security services to be involved [18,19]. Firefighters are among the professional group and first responders in the event of an accident or a disaster. However, the job is seen by many researchers as one of the most stressful jobs involved in many experiences of trauma, dead bodies, loss of life, and high stress compared to other occupations. There have been studies about the effects of occupational stress among firefighters [20,21]. In the field of psychology, many researchers have found that many physiological indicators such as cortisol, blood pressure, skin conductance, and heart rate variability (HRV) are the leading indicator of stress among firefighters [22]. The accumulation of stress among firefighters can have a significant impact on their overall work and personal life. Many studies have been conducted in this area where researchers have studied the effects of job stress that firefighters face on family members. Occupational stress among firefighters may harm their families [23].

However, the impact of pressure on families will depend on the level of stress experienced by firefighters (24). Some studies have found that firefighters who face stress at their workplace may influence their intention to quit their job [24-26].

### *Firefighters' sources of occupational stress*

According to Work Stress Model by [27], stress factors include demands, controls, relationships, changes, roles, and supports. Work demands refer to psychological demands such as mental burdens, organizational constraints, or overlapping demands that prevent employees from completing tasks [28]. These work demands include past tragic incidents that impact trauma [29,30] and high workload. Workloads and occupational norms that require high physical intensity can result in high physical energy consumption. A memory of traumatic incidents encountered in daily work can also lead to optimal emotional use. It can also be affected by uncomfortable work environments and irregular working hours [31]. These job demands factors can cause stress when the physical and psychological resources used are not returned to the normal level.

Control refers to the freedom of workers to make decisions about work. Low levels of work control give employees difficulties to perform tasks in their way and ensure organizational objectives are met. High work demands and low job control can negatively affect an individual's psychological and physiological health [32]. Relationship factors refer to positive interactions between employees to avoid conflict and to deal with unacceptable behaviors in the workplace environment such as conflict, bullying, and harassment [33]. Relationships with top managers, colleagues, and subordinates in terms of low trust and mutual support can increase stress among staff [34].

The change factor refers to how a change, whether big or small which to be implemented in an organization is being organized and communicated to employees. Changes that are

not well managed including the planning and implementation can put pressure and trigger occupational stress among employees when introduced.

The role factor refers to whether employees understand their role in the organization and whether the organization can ensure that employees do not have overlapping roles. Stress can be triggered when employees do not understand the proper role they play in the organization and thus lead to overlapping roles and responsibilities.

The support factor includes encouragement, funding, and resources from the organization, top management, or colleagues such as job training. In addition, to support from organizations and coworkers, family support can also have an impact where family conflict can be stressful for individuals [35]. Workers suffering from occupational stress will blame their organization for their lack of support in helping to reduce the causes or factors of stress in the workplace.

However, it is important for researchers who study the occupational stress factors among firefighters to focus on the experiences of trauma associated with the daily stress factors encountered in the organization [36]. Thus, the researcher uses the Source of Occupational Stress [37] developed specifically to assess the various sources of job stress experienced by firefighters including traumatic events that occurred during their work time.

### *Transactional Theory of Stress and Coping*

This theory was developed by Lazarus and Folkman in 1984. Fundamentally, this theory stated that occupational stress occurs when there are transactions between individuals and environmental factors that cause stress. Individual reactions depend on the individual's interpretation and ability to cope with the sources of stress. When dealing with a situation in the workplace that could potentially cause stress, an individual will make the first appraisal of whether the situations can cause negative

effects (distress), positive effects (eustress) or it will not have any impact.

In the second appraisal, the individual will evaluate the choice of measures to cope with the sources of stress including available resources to deal with the stress. Resources to deal with stress are available internally such as character strengths and from external sources such as finances and support from friends. Stress can occur when resources available to deal with stress are insufficient. Therefore, when it comes to having sufficient internal and external resources to deal with the causes of work stress, individuals will consider steps to address the causes of stress.

Coping with sources of occupational stress can be problem-focused or emotion-focused. When dealing with the sources of occupational stress by focusing on the problems, individuals tend to avoid or eliminate the sources of stress such as by changing their job scope or leave their job [38]. When using emotion-focused methods, individuals remain exposed to the sources of occupational stress. This prolonged state of stress can cause individuals to experience emotional and physical exhaustion leading to burnout [39, 40]. In other words, burnout is the last effect that can occur on individuals when attempts to cope with work stress are failed (38).

### *Burnout*

Burnout occurs when employees experience prolonged stress responses due to the influence of uncontrolled occupational stress [41]. This is in line with the explanation by [42] that burnout is a form of extreme cumulative stress. It is generally noted by most researchers that firefighters are often exposed to physical, physiological, and psychologically traumatic experiences [43]. Moreover, [44,45] stated that firefighters may experience "chronic stress", which is often associated with constant tension and shift work as a result of working conditions. These conditions can in turn trigger great stress for firefighters, which in turn can have a significant impact on their quality of life which may cause long-term physical and mental harm (4,20,46). Various researchers have studied the

concept of burnout, in particular [47] suggesting that burnout is characterized by "chronic emotional exhaustion, interpersonal cynicism, personal identity, and personal and professional effectiveness." In essence, burnout is considered a mental problem, however, it can have adverse psychological and physical effects on firefighters. Several recent studies have documented that burnout has emerged as a dominant form of employment in dangerous and high-risk occupations, such as doctors, nurses, police officers, and firefighters among others [48-51]. Longitudinal studies involving emergency workers have shown that work-related stress is associated with fatigue, burnout, and post-traumatic stress [52]. The effects of burnout among firefighters can prompt an individual to stop working if he or she cannot control the source of stress that causes burnout. According to Berkeley Planning Associates in 1997, it was concluded that burnout often results in behavioral symptoms, which can lead to job dissatisfaction, complaints, or quit work. The choice to leave work may be associated with emotional symptoms such as "feeling helpless" or emotional exhaustion associated with dissatisfaction with a firefighter's job [53].

#### *Intention to quit*

The intention to quit can be defined as an employee's plan to leave or quit his current job and seek a better offer, or a desire to move out of the current organization [54,55]. Many factors can contribute to or motivate individuals to quit their jobs such as low pay and benefits, better career options, and occupational stress [56]. The desire to leave the current organization may be due to the assumption that quitting and leaving the organization is an easy thing to do and may benefit the employee himself [57]. In the context of firefighters, occupational stress can play an important role in influencing individuals to quit their jobs. In a study conducted by aimed at examining the types of occupational stress that firefighters often encounter, it is concluded that infant death, corpse discovery, bodily injury, chemical exposure, and large fires are among the most likely causes of occupational stress to firemen. In addition, a study conducted by to

study occupational stress and endurance among firefighters and rescuers in the United Kingdom found a significant relationship between occupational stress and intention to quit. Similarly, a study conducted by [58] to study the relationship between occupational stress and employee resilience in Malaysian banks concluded that there was a significant positive relationship between occupational stress and intention to quit.

#### **Conclusion**

This study provides a framework for the study of the effect of occupational stress towards burnout and intention to quit among Malaysian firefighters. The findings contributed to theoretical and practical implications. Theoretically, this study supports the Transactional Theory of Stress and Coping especially by proving the effects of the emotion-focused and problem-focused coping methods. By choosing to focus on emotion or problem to cope with sources of occupational stress, those two methods can cause burnout or trigger the intention to quit among firefighters. This study also provides practical implications for the authorities responsible for firefighters such as the government and the fire department itself.

#### **References**

1. Dipboye RL. The Emerald Review of Industrial and Organizational Psychology. Occupational Stress. 2018; 213–263.
2. Gerber M, Schilling R, Colledge F, Ludyga S, Pühse U, et al., More Than a Simple Pastime? The Potential of Physical Activity to Moderate the Relationship between Occupational Stress and Burnout Symptoms. International Journal of Stress Management. 2019; 27(1): 53–64.
3. Makara-Studzińska M, Wajda Z, Lizińczyk S. Years of service, self-efficacy, stress and burnout among Polish firefighters. International Journal of Occupational Medicine and Environmental Health. 2020; 33(3): 283–297.

4. Soteriades E, Psalta L, Leka S, Spanoudis G. Occupational stress and musculoskeletal symptoms in firefighters. *International Journal of Occupational Medicine and Environmental Health*. 2019; 32(3): 341–352.
5. Britton C, Lynch CF, Ramirez M, Torner J, Buresh C, et al., Epidemiology of injuries to wildland firefighters. *The American Journal of Emergency Medicine*. 2013; 31(2): 339–345.
6. Katsavouni F, Bebetos E, Malliou P, Beneka A. The relationship between burnout, PTSD symptoms and injuries in firefighters. *Occup Med (Chic Ill)*. 2016; 66(1): 32–37.
7. Kimbrel NA, Flynn EJ, Carpenter GSJ, Cammarata CM, Leto F et al. Internal consistency, test-retest reliability, and predictive validity for a Likert-based version of the Sources of occupational stress-14 (SOOS-14) scale. *Psychiatry Research*. 2015; 228(3): 961–962.
8. Klimley KE, Van Hasselt VB, Stripling AM. Posttraumatic stress disorder in police, firefighters, and emergency dispatchers. *Aggression and Violent Behavior*. 2018; 43:33–44.
9. Skogstad M, Skorstad M, Lie A, Conradi HS, Heir T, et al., Work-related post-traumatic stress disorder. *Occupational Medicine*. 2013; 63(3): 175–182.
10. Karasek Robert A. Job Demands, Job Decision Latitude, and Mental Strain: Implications for Job Redesign. *Adm Sci Q [Internet]*. 1979; 24(2): 285–308.
11. Duran F, Woodhams J, Bishopp D. An Interview Study of the Experiences of Firefighters in Regard to Psychological Contract and Stressors Employee Responsibilities and Rights *Journal*. 2018; 34(2): 184–198.
12. Mosadeghrad AM. Occupational stress and turnover intention: Implications for nursing management. *International Journal of Health Policy and Management*. 2013; 1(2): 169–176.
13. Xu Z, Yang F. The impact of perceived organizational support on the relationship between job stress and burnout: a mediating or moderating role? *Curr Psychol*. 2018; 40: 402–413.
14. Bakker AB, Costa PL. Chronic job burnout and daily functioning: A theoretical analysis. *Burnout Research*. 2014; 1(3): 112–119.
15. Wolkow AP, Barger LK, O'Brien CS, Sullivan JP, Qadri S, et al., Associations between sleep disturbances, mental health outcomes and burnout in firefighters, and the mediating role of sleep during overnight work: A cross-sectional study. *Journal of Sleep Research*. 2019; 1–15.
16. Harvey SB, Milligan-Saville JS, Paterson HM, Harkness EL, Marsh AM, et al., The mental health of fire-fighters: An examination of the impact of repeated trauma exposure. *Australian & New Zealand Journal of Psychiatry*. 2016; 50(7): 649–658.
17. Schonfeld IS, Bianchi R. Burnout in firefighters: A word on methodology. *Occupational Medicine*. 2016; 66(1): 79.
18. Peterson C, Seligman MEP. Character strengths before and after September 11. *Psychological Science*. 2003; 14(4): 381–384.
19. Kulachai W, Amaraphibal A. Developing a causal model of turnover intention of police officers in the eastern region of Thailand. *Int J Arts Sci*. 2017; 10(01): 473–86.
20. Kales SN, Soteriades ES, Christophi CA, Christiani DC. Emergency Duties and Deaths from Heart Disease among Firefighters in the United States. *The New England Journal Medicine*. 2007; 356(12): 1207–1215.
21. Perrin MA, DiGande L, Wheeler K, Thorpe L, Farfel M, et al., Differences in PTSD prevalence and associated risk factors among World Trade Center disaster rescue and recovery workers. *The American Journal of Psychiatry*. 2007; 164(9): 1385–1394.
22. Castaldo R, Melillo P, Bracale U, Caserta M, Triassi M, Pecchia L. Acute mental stress assessment via short term HRV analysis in healthy adults: A systematic review with meta-analysis. *Biomedical*

- Signal Processing and Control. 2015; 18: 370–377.
23. Smith TD, Dejoy DM, Dyal MA, Huang G. Impact of Work Pressure , Work Stress and Work- Family Conflict on Firefighter Burnout. *Archives of Environmental & Occupational Health.* 2017; 8: 215-222.
24. Chung I, Lee M, Jung S, Nam C. Minnesota multiphasic personality inventory as related factor for post traumatic stress disorder symptoms according to job stress level in experienced firefighters : 5 – year study. *Ann Occup Environ Med [Internet 2015; 27(1): 16.*
25. Jong-Hyun L, Lee J, Kyung-Sun L. Moderated mediation effect of mindfulness on the relationship between muscular skeletal disease, job stress and turnover among Korean firefighters. *Safety and Health at Work.* 2020; 11: 222–227.
26. Ryu H, Hyun D, Jeung D, Kim C, Chang S. Organizational Climate Effects on the Relationship Between Emotional Labor and Turnover Intention in Korean Fire fighters. *Safety Health at Work.* 2020; 11(4): 479–484.
27. Palmer S, Cooper C, Thomas K. Model of organisational stress for use within an occupational health education/promotion or wellbeing programme - A short communication. *Health Education Journal.* 2001; 60(4): 378–380.
28. Pelfrene E, Vlerick P, Mak RP, De Smet P, Kornitzer M, et al., Scale reliability and validity of the Karasek 'Job Demand-Control-Support model in the belstress study. *Work Stress.* 2001; 15(4): 297–313.
29. Beaton RD, Murphy SA. Sources of Occupational Stress Among Firefighter/EMTs and Firefighter/Paramedics and Correlations with Job-related Outcomes. *Prehospital and Disaster Medicine.* 1993; 8(2): 140–150.
30. Malek MDA, Mearns K, Flin R. Stress and psychological well-being in UK and Malaysian fire fighters. *Cross Cult Manag.* 2010; 17(1): 50–61.
31. Bakker AB, Oerlemans WGM. Subjective well-being at work in organizations. *Handb Posit Organ Scholarsh.* 2011; 178–189.
32. De Vos J, Schwanen T, van Acker V, Witlox F. Travel and Subjective Well-Being: A Focus on Findings, Methods and Future Research Needs. *Transport Reviews.* 2013; 33(4): 421–442.
33. Palmer S, Cooper C, Thomas K. A model of work stress. *Couns Work [Internet].* 2004; 2–5.
34. Blaug R, Kenyon A, Lekhi R. Stress at Work A report prepared for The Work Foundation ' s Principal Partners. *Stress at Work.* 2007; 6(4).
35. Ismail A, Mohamed HA-B, Sulaiman AZ, Ismail Z, Wan Mahmood WN. Relationship between work stress, coworker's social support, work stress and work inteferece with family conflict: an empirical study in Malaysia. *International Business Management.* 2010; 4(2): 76–83.
36. Brough P. Comparing the influence of traumatic and organizational stressors on the psychological health of police, fire, and ambulance officers. *International Journal of Stress Managment.* 2004; 11(3): 227–244.
37. Beaton, Randal D. Murphy S. Sources of Occupational Stress Among Firefighter/EMTs and Firefighter/Paramedics and Correlations with Job-related Outcomes. *Prehospital and Disaster Medicine.* 1993; 8(2): 140–150.
38. Hämmig O. Explaining burnout and the intention to leave the profession among health professionals - A cross-sectional study in a hospital setting in Switzerland. *BMC Health Services Research.* 2018; 18(1): 1–11.
39. Büssing A, Falkenberg Z, Schoppe C, Recchia DR, Poier D. Work stress associated cool down reactions among nurses and hospital physicians and their relation to burnout symptoms. *BMC Health Services Research.* 2017; 17(1): 1–13.

40. Maslach C, Schaufeli WB, Leiter MP. Job Burnout. *Annual Review of Psychology*. 2001; 52: 397–422.
41. Schaufeli WB, Leiter MP, Maslach C. Burnout: 35 years of research and practice. *Career Development International*. 2009; 14(3): 204–220.
42. Murphy SA, Beaton RD, Pike KC, Cain KC. Firefighters and Paramedics. *AAOHN J*. 1994; 42(11): 534–540.
43. Jo I, Lee S, Sung G, Kim M, Lee S, Park J, et al. Relationship between burnout and PTSD symptoms in firefighters: The moderating effects of a sense of calling to firefighting. *Int Arch Occup Environ Health*. 2018; 91(1): 117–123.
44. Görgens-Ekermans G, Brand T. Emotional intelligence as a moderator in the stress-burnout relationship: A questionnaire study on nurses. *Journal of Clinical Nursing*. 2012; 21(16): 2275–2285.
45. Park J, Yoon S, Moon SS, Lee KH, Park J. The Effects of Occupational Stress, Work-Centrality, Self-Efficacy, and Job Satisfaction on Intent to Quit Among Long-Term Care Workers in Korea. *Home Health Care Services Quarterly*. 2017; 36(2): 96–111.
46. Wang Z, Liu H, Yu H, Wu Y, Chang S, et al., Associations between occupational stress, burnout and well-being among manufacturing workers: Mediating roles of psychological capital and self-esteem. *BMC Psychiatry*. 2017; 17(1): 1–10.
47. Maslach C, Leiter MP. Understanding the burnout experience: Recent research and its implications for psychiatry. *World Psychiatry*. 2016; 15(2): 103–111.
48. Frajerman A, Morvan Y, Krebs MO, Gorwood P, Chaumette B. Burnout in medical students before residency: A systematic review and meta-analysis. *European Psychiatry*. 2019; 55: 36–42.
49. Scanlan JN, Still M. Relationships between burnout, turnover intention, job satisfaction, job demands and job resources for mental health personnel in an Australian mental health service. *BMC Health Service Research*. 2019; 19(1): 1–11.
50. Jeung D, Chang S. Moderating Effects of Organizational Climate on the Relationship between Emotional Labor and Burnout among Korean Firefighters. 2021.
51. Lee JY, Kim SY, Bae KY, Kim JM, Shin IS, et al. The association of gratitude with perceived stress and burnout among male firefighters in Korea. *Personality and Individual Differences*. 2018; 123: 205–208.
52. Ploeg E Van Der, Kleber RJ. Acute and chronic job stressors among ambulance personnel: predictors of health symptoms. *Occup Environ Med*. 2003; 60: 40–46.
53. Maslach C, Jackson SE. The measurement of experienced burnout. *Journal of Organizational Behaviour*. 1981; 2(2): 99–113.
54. Mobley WH. Intermediate linkages in the relationship between job satisfaction and employee turnover *Journal of Applied Psychology*. 1977; 62(2): 237–240.
55. Steel RP, Lounsbury JW. Turnover process models: Review and synthesis of a conceptual literature. *Human Resource Management Review*. 2009; 19(4): 271–282.
56. Shields MA, Ward M. Improving nurse retention in the National Health Service in England: The impact of job satisfaction on intentions to quit. 2001; 20: 677–701.
57. Hoonakker P, Carayon P, Korunka Cx. Using the Job-Demands-Resources model to predict turnover in the information technology workforce – General effects and gender. *Psihološka obzorja*. 2013; 22: 51–65.
58. Mansor M, Idris A. Employee retention in the Malaysian banking industry: Do flexible practices work? *South African J Bus Manag*. 2015; 46(1): 0–9.

**Corresponding Author: Nur Faizah ALI, Department of Psychiatry, Faculty of Medicine, Universiti Teknologi MARA (UiTM), Sg. Buloh, Selangor, Malaysia**

*E-mail:* [faizah7761@uitm.edu.my](mailto:faizah7761@uitm.edu.my)

Received date: 25 August 2021

Accepted date: 15 September 2021