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Occupational stress among bus drivers: A literature review

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Abstract
Worldwide, occupational stress amongst bus drivers is now on the rise. Occupational stress has long been considered a serious workplace hazard. The purpose of this study is to synthesize the findings of a review of the literature on bus driver occupational stress. Bus driving is a well-known example of a high-stress job. However, the review has revealed a better knowledge of how certain stressors cause distinct physical, psychological and behavioural effects. Injuries to bus drivers will have an effect on organizational performance in relation to employee absenteeism, labour turnover, and accidents. Poor interior ergonomics, rotating shift patterns, and inflexible running times are all stressors for bus drivers. As a result, absenteeism and staff turnover are higher. Bus drivers' working conditions might have a negative impact on their health and well-being. Fatigue can be caused by erratic shift scheduling, stress can be caused by the high demands of the job, back pain can be caused by prolonged sitting and vibration, and a bad diet can be caused by a lack of time for breaks and rest. This study emphasis the importance of a bus driver occupational health and safety programme. It is critical to determine the prevalence of job stress and the factors that contribute to it in order to manage it amongst bus drivers.

Keywords: Occupational stress, bus drivers, physical, psychological, health and well-being

Introduction
Occupational stress is defined as the stress that workers experience as a result of their working environment or the natural world (Rohany, 2003) [38]. Occupational stress is an important factor that has gotten great attention on an individual, group, and community level (Mukherjee, 2018) [35]. Some factory workers, including those in senior and lower levels, are feeling occupational stress as a result of the pursuit of excellence and employment demand. Occupational stress can also be classified as a result of a worker's inability or lack of expertise to meet the increased demand, and the working environment (Lazarus, 1993) [28]. Workplace stress can come from a variety of sources, including the job itself, the organisation and the worker's role in it, career advancement, work relationships, organisational structure, and atmosphere. Long shifts, workload, time pressure, tough or complex tasks, a lack of breaks, a lack of variety, and poor physical work circumstances (space, temperature, light) are all intrinsic sources of stress (Michie, 2002) [33]. Because of the nature of the profession, work stress is a major factor for bus drivers. A bus driver's life is enriched by being exposed to "daily stress" behind the wheel. Bus driving is a classic example of a high-stress job, with an increased risk of physiological and psychological problems (Durgamini and Sethuraman, 2016) [12]. A work like bus driving is a good illustration of one of the moderate to severely hard vocations, with high potential for both physically and mentally passiveness, resulting in the absence and lowering employees and organisational productivity. The drivers must undoubtedly respond to a variety of unforeseeable conditions over which they have no control. A bus driver's key responsibilities include ensuring safe on-road mobilisation while adhering to the daily timetable (Mukherjee, 2018) [35]. Professional drivers have been the subject of much research, and it has been found that they are among those who have encountered the highest level of work-related psychological risk (Cendales, 2014) [7].
Operating public transportation vehicles is one of the most stressful and risky jobs available today (Taklikar, 2016) [45]. Bus drivers are more prone than other employees to suffer from cardiovascular illnesses, gastrointestinal problems, and musculoskeletal disorders, according to research published over the previous four decades, and occupational stress is thought to have a key part in their development (Schnall, *et al.*, 2019) [42]. Drivers' behavioral changes and job behavior are linked to occupational stress (Fida, 2015) [14]. Shift at work timings, inappropriate eating practices and poor nutrition, heavy traffic, excessive driving duration, similar visual and

mental alertness, and driving at odd hours in the presence of unfavorable climatic conditions are all occupational factors that contribute to the development of stress in bus drivers. Occupational stress relates to inattentive driving, which results in accidents (Taklikar, 2016) [45]. Road traffic accidents with a high death rate have the potential to cause serious problems, particularly on highways. Even in city bus drivers, OSA (Obstructive Sleep Apnea) is associated with a high risk of traffic accidents due to long term daytime sleepiness (Ravindran, 2016) [36]. To alleviate weariness and sleepiness, drivers have a tendency to consume nicotine in large quantities while driving, and the workplace culture informally supports this behaviour (Taklikar, 2016) [45]. The time it takes to use tobacco for the first time after waking up in this community, which indicates the degree of dependency, suggests that driver addiction is at a greater level, and it is thought that it enhances the experience in this profession. It would be useful to have long-term preventative strategies that focus on new hires in this category. Due to a lack of a consistent lifestyle and on-road eating habits, it is difficult to maintain a regular and frequent workout routine. It is hard to maintain such lives without adequate drive and peer support (Jadhav, 2017) [20]. According to Bigelow's (2010) [4] study of commercial truck and bus drivers' health and well-being. Bus drivers, according to him, must be familiar with the bus, the bus route, all laws, standards, driving procedures, and scheduling systems. Knowledge on how to deal with passengers, particularly those with special needs, is also crucial, according to Seik (1997) [43], in order to ensure that bus passengers have a positive experience with the service.

Impact of occupational stress on physical health

There are several major risk factors linked to the development of chronic heart disease, and many studies have found that bus drivers are at an increased risk of acquiring CHD primarily as a result of these variables. Those who work in high-traffic regions have an 80 percent higher risk of IHD than those who work in low-traffic areas. Intervention research which examined well-being in relation to enhanced traffic flow initiatives revealed that a greater sense of control formed for drivers, while systolic blood pressure, pulse rate, and self-reported stress were considerably reduced (Rydstedt *et.al.,* 1998) [39]. Bus drivers who work irregular shifts experience more psychological fatigue and stress than those who work regular schedules, which is partly related to body clock shifts (Miller and Mackie, 1988) [34]. Repeated shift changes cause social issues such as marital troubles, less family contact, problems detaching at home, and sleeping problems (Kompier, 1996) [25]. Cardiovascular illness has also been associated with higher threat-avoidant vigilant employment, which necessitates a high level of constant vigilance (Belkic *et al.,* 2000) [3]. A bus driver is essentially confined to the driver's cabin, which provides a little area for limb flexing and movement. With little relaxation, a static posture agitates accumulating muscle tension. This is aggravated by long periods of time spent behind the wheel. Back pain, in particular, is a common source of stress for drivers, while pain from the neck, shoulder, and knee are also common (Kompier, 1996) [25]. Musculoskeletal disorders (MSDs) are closely linked to a person's physical development, as well as their health condition, psychosocial, and physiological (quantity and quality) load. Lower back discomfort is caused by physical agents such as whole-body vibration combined with static positions and frequent spine twisting (Bovenzi and Zadini, 1992) [5]. The frequent quick twists of the neck to the left and right while boarding passengers and driving have been linked to neck pain (Anderson, 1992) [2].

Fatigue has also been reported as a result of being exposed to physical violence (Bultmann *et al.,* 2000) [6]. Individuals with social support are less likely to experience stress. In two ways, bus driving disrupts social support. The job itself is isolated, with few opportunities for face-to-face interaction with coworkers, and the work schedule interferes with both family and social life (Taklikar, 2016) [45]. Moderate to severe musculoskeletal pain associated with bus driving is caused by the design of the driver's cabin as well as how the work is structured. One of most major factors to dangerous driving habits is fatigue (Useche, 2017) [46]. During their journeys, 51% of professional large vehicle drivers felt weary (Amundsen, 2003) [1]. Khanam *et al.,* (2019) [21] studied work-related musculoskeletal morbidity among brickfield workers and the preventive practices used to reduce morbidity.

Impact of occupational stress on psychological health

Depression and anxiety are the most common psychological health effects related to stress in the general population. Lower back discomfort has been linked to these states, as well as paranoid ideation (feelings of suspicion and being persecuted) and psychoticism in Turkish bus drivers (Issever *et al.,* 2002) [19]. The hypertension was higher among bus drivers, according to Lakshman *et al.,* (2014) [27]. Hypertension was found to be linked with age > 35 years, increased BMI, supporting a big family, and job-related food habits. It's also been proven that traumatic exposure that leads to PTSD is associated with more health issues (back abnormalities, gastrointestinal disorders, chronic bronchitis, among other things) than persons who haven't been exposed to trauma or have been treated to trauma but don't acquire PTSD (Vedantham *et al.,* 2001) [48]. Fear of danger appears to play a moderating role in the development of mental health outcomes which could be significant given the high incidence of physical attacks against UK bus drivers (Schat and Kelloway, 2000) [41]. Following a physical assault, fear tends to cause long-term weariness as well as poor driving performance (Hogh *et al.,* 2003) [18]. Bus drivers, like professional truck drivers, have emotional labour qualities in their jobs because they must not only drive safely but also provide acceptable customer service. When on duty, bus drivers must balance multiple requests from passengers and management while also adhering to traffic rules and regulations. Burnout is a sort of psychological job stress that occurs as a result of long-term exposure to stresses at work (Useche, 2017) [46]. The physical and mental health of the bus driver is a major element in his or her ability to drive safely. Any impairment could result in unfavourable outcomes for travellers. They are more stressed and have more acute and chronic health problems than the average working population, including a higher risk of cardiovascular disease, obesity, and musculoskeletal issues (Useche, *et al.,* 2018) [47]. Long shifts and hectic schedules create driver fatigue, which has been linked to an increased risk of fatalities and injuries on the roads (Sabbagh, 2005) [40]. Professional drivers' mental health is frequently impacted by their irregular work patterns, resulting in despair or stress (Garbarino, 2018) [15]. According to Medeiros *et al.,* (2017) [9], bus drivers reported various symptoms based on the chronological assessment of stress, with an increased variety of psychological symptoms

throughout the time intervals studied. Working time, an excessive daily burden, a lack of rest, and poor sleep conditions are all linked to stress.

Behavioural outcomes of Occupational stress

Consumption and self-reported frequency of job stress, as well as consumption and self-reported strain reactions, were both found to have a positive relationship. This research backs with the theory that using alcohol as a coping mechanism helps to control the psychological impacts of stress in some way. More recently, it has been discovered that measures of burnout are linked to alcoholism among transport drivers (Cunradi *et al.,* 2003) [8]. Professional drivers smoke more, consume more alcohol, exercise less, and have less access to healthcare than the general population. Smoking is frequently associated with stress relief. Various studies have looked at the smoking rates among bus drivers (Maciulyte, 2000) [29]. It has been demonstrated that increased smoking is associated with increased levels of on-the-job stress, particularly under monotonous working situations. Medications can help drivers who are suffering from back pain. The impact of shift work appears to exacerbate such habits, with a pattern of using stimulants at night to stay awake at work and sleeping drugs when seeking to sleep during the day (Grandjean, 1988) [17]. Stressful work environments, such as excessive noise, might contribute to occupational stress. Noise and lighting in the workplace have been studied and proven to be significant variables to occupational stress (Manshor, 2003) [30].

According to Gangopadhyay *et al.,* (2012) [16], bus drivers are highly stressed in their jobs due to hazardous working conditions, which might negatively impact their health and whole work performance overtime run. When compared to city bus drivers, long-haul bus drivers face long work hours and tedious driving conditions, while city bus drivers face higher demands due to the higher traffic volume, more frequent stops, and unpleasant passenger interaction (Sekkay *et al.,* 2018) [44]. Some drivers, such as charter or interurban bus drivers, are exposed to a combination of issues that affect both long-haul and city bus drivers. Interventions aimed at improving the health of experienced drivers must take into account the organization and demands of their jobs, as well as how these needs may fluctuate depending on the position and organization. There is a growing amount of evidence indicating the physical environment of buses is the primary source of musculoskeletal incidents and fatalities (Kim, *et al.,* 2018) [22].

Organizational outcomes of Occupational stress

Naturally, one of the most important predictors of absence is one's physical and mental wellbeing. The rate of absenteeism among Dutch drivers has been observed to be twice that of the general population (Kompier *et al.,* 1990) [24]. The driver's priority for safety or scheduling indicated which illnesses (psychosomatic symptoms and musculoskeletal difficulties) contributed to absenteeism. Absenteeism was lower among drivers who prioritized safe driving. Those who attempted to keep up with the pace at the price of safety had greater absence rates. Furthermore, drivers who were unable to work as a result of their jobs favored balancing safety and scheduling (Meijman and Kompier, 1998) [32]. Accidents involving buses, coaches, and minibusses resulted in 10,781 fatal and non-fatal injuries in the United Kingdom in 2002. (Department for Transport, 2003). The association between stress and accident results may be mediated by physical health consequences. According to Issever *et al.,* (2002) [19], 74 percent of bus drivers who experienced lower back pain claimed it had a negative impact on their driving efficiency. The duties of the bus driver will be increased by taking into account traffic risks such as poor weather conditions and irregular driving behavior of other road users. As a result, the higher the stress level, along with a lack of personal coping skills, the greater the chance of an accident. The seat is unpleasant for bus drivers as they have to sit for long periods of time while driving, according to the ergonomic stressor. All of the bus drivers in the survey had the same issues: uncomfortable seating & driving on a seat that was poorly designed. Bus drivers have been reported to experience occupational stress as a result of the seat's qualities and the materials utilized for the bus seat. Excessive working hours and a lack of institutional support are two factors that contribute to occupational stress. Two triggers for occupational stress include an irregular work schedule and extended working hours. Stress is increased by psychological stressors such as frequent inspection by upper management. Occupational stress is compounded by the lack of acknowledgment and self-esteem because of unsafe and unclean working circumstances (Kloimuller *et al.,* 2000) [23].

Mukherjee, *et al.,* (2018) [35] discovered that Jaundice, dermatological illnesses, and Malaria were the most common among some of the two groups of bus drivers. Furthermore, it was discovered that the majority of bus drivers in both groups had numerous addictions and used them on a regular basis. They were forced to labour in a variety of physically demanding conditions, all of which had a negative impact on their working capacity as well as their physiological and psychological behaviour. Kompier (1994) [26] identified the following reasons for workplace stress among drivers: insufficient time to complete the job to one's satisfaction; lack of a clear job description; lack of recognition or reward for good job accomplishment; inability or lack of opportunity to express complaints; lots of duties but little power or judgment capacity; uncooperative superiors, coworkers, or subordinates, and so on. Peak traffic circumstances were linked to an increase in stress hormones during driving, according to Evans *et al.,* (1991) [13]. Furthermore, surveys show that the threat of physical violence, traffic congestion, the risk of losing a large sum of money, a lack of knowledge on how the company manages no possibilities to suggest work changes, and peak running times are among the most difficult things about working as a bus driver.

Conclusion

To summarize, ergonomic stressors, i.e. the condition of the seat is uncomfortable owing to long hours of sitting, are the major reasons for occupational stress among bus drivers. The most noticeable impacts of occupational stress on bus drivers include being easily fatigued even when seated for the whole journey, headaches, and dizziness. A number of initiatives to mitigate work hazards are supported by research, including reducing traffic congestion, weariness, and interference with personal life (better work scheduling), and enhancing the ergonomic design of buses (seat design, steering wheel design, etc.). Absenteeism, substance misuse, poor productivity, and increased accident rates are all linked to stress in bus drivers. Tension, mental stress, fatigue, and sleeping issues are all common complaints among bus drivers. Bus drivers also miss work more frequently and for longer periods of time than workers in other jobs. As they believe,

every driver has the potential to cause accidents owing to unstable mental circumstances, such as mood or emotions that develop in a certain setting. As a result, methods to prevent accidents should be explored after looking for psychological elements of instability that are linked to bus accidents and then verifying the variables involved. The findings of the review study revealed that most bus drivers do not spend enough time with their families as a result of their demanding work schedules, which has an impact on their psycho-social behaviour and may add to the stress they suffer. It was discovered that a large number of drivers had unhealthy habits such as drinking and smoking, which could impair their judgement while driving and lead to bus passenger accidents. Bus driving is highly difficult to work, with greater psychological demand and little judgement authority, as well as a lack of social support. Bus drivers' primary responsibilities are to drive carefully and on time, however, two of these responsibilities are intrinsically incompatible. Shift work schedules, irregular mealtimes and poor nutrition, traffic congestion, continuous driving, constant visual and mental vigilance, and driving at night in terrible weather conditions are all elements that lead to the development of stress among bus drivers. When confounding effects were taken into account, the study discovered many factors linked to occupational stress.

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