

A Comparative Study of Occupational Stress between Private and Government Bus Conductors in Western Tamil Nadu

Sankaravaradhakarthykeyan V¹, Dr. D Suthamathi²

¹PhD Research Scholar (P/T), Department of Management and Research,
AVS College of Arts and Science (A), Salem, India

²Head of the Department, Department of Business Administration,
Sona College of Arts and Science, Salem, India

Abstract—This study considers the levels of occupational stress experienced by bus conductors in private and government sectors in Western Tamil Nadu. Utilizing a quantitative research design, data were collected from 200 bus conductors (100 from private bus services and 100 from government-operated buses) through a structured questionnaire. The study aimed to assess stress levels, identify key contributing factors, and provide recommendations for effective stress management interventions. The findings revealed that private bus conductors reported significantly higher levels of occupational stress (Mean = 28.5, SD = 6.3) compared to government conductors (Mean = 22.1, SD = 5.8), with statistically significant differences ($t(198) = 6.45, p < 0.01$). Key stressors identified included job insecurity, long working hours, difficult passenger interactions, lack of organizational support, and safety concerns. Additionally, demographic variables such as age and years of experience were found to influence stress levels. The study concludes with recommendations for organizations to implement targeted stress management programs, enhance job security, and improve working conditions to mitigate occupational stress among bus conductors. These findings contribute to the understanding of occupational stress in the transportation sector and highlight the need for tailored interventions to support employee well-being.

Index Terms—Occupational Stress, Private Sector, Government Sector, Bus Conductors, & Western Tamil Nadu.

I. INTRODUCTION

Occupational stress has become a significant concern in various sectors, particularly in the transportation industry. Bus conductors play a crucial role in ensuring the smooth operation of public and private transport systems. However, they often face a number of challenges that can lead to far above the ground levels of stress. The nature of their work involves long hours, irregular schedules, and frequent interactions with passengers, which can be both demanding and unpredictable. Occupational stress is a momentous issue for bus conductors, stemming from demanding work conditions, interactions with passengers, and the need to maintain schedules, often leading to physical and mental health problems. Studies emphasize factors like long working hours, traffic clogging, and conflicts with passengers as major contributors to stress. This stress can appear as anxiety, depression, and physical ailments like hypertension and musculoskeletal disorders.

II. EVALUATION OF BUSES

The history of buses is a story of technological evolution, from horse-drawn carriages to modern, electric vehicles. Early forms of public transportation included horse-drawn carriages and stagecoaches, but the 19th century saw the introduction of steam-powered buses, followed by the more practical horse-drawn omnibuses. The late 19th and early 20th centuries ushered in motorized buses, first with steam engines and then with internal ignition engines.

Modern buses have incorporated plentiful advancements, including diesel engines, pneumatic tires, hydraulic brakes, and more recently, electric and hybrid technologies.

III. BUS TRAVEL IN INDIA

Bus travel in India has transformed dramatically over the years. What once served primarily as a feeder mode of transport or even a basic long-distance travel option has evolved into a sophisticated industry. The rise of powerful luxury buses, coupled with the speedy development of highways, has fueled this extraordinary growth. In Part 1 of this series, I explored the early changes in bus designs and operations. The last two decades, in particular, have been a thrilling period for bus travel in India. Memories of Long-Distance Buses Before 2000, before diving into recent changes, let me take you back to the late 1990s. During 1999-2000, my daily observations included long-distance buses running between Mumbai and Mangalore operators like CPC and Ballal. These buses took about 24 hours to cover the route, often carrying bulky cargo on their roofs. At that time, the Mumbai-Pune Expressway was not yet operational, so these buses took routes passing through the outskirts of Mumbai, where I lived. These were all seater buses, and I often wondered how passengers could endure such long journeys sitting upright

IV. BUS TRAVEL IN TAMIL NADU

Bus travel in Tamil Nadu is a widely used and convenient mode of transportation, with both government and private operators providing broad services. The Tamil Nadu State Transport Corporation (TNSTC) is a major player, offering a diversity of bus types and routes across the state and to neighboring regions. In addition, the State Express Transport Corporation (SETC) focuses on long-distance express services, connecting major cities, tourist destinations, and religious sites. Tamil Nadu boasts a robust public bus transport system, primarily operated by the Tamil Nadu State Transport Corporation (TNSTC). TNSTC, the largest government bus transport corporation in India, provides extensive intra and interstate services, including city routes. Private operators also contribute to the network.

Private bus transport in Tamil Nadu is a mix of various operators, including both established companies and smaller regional players, offering a range of services from intercity to local routes. These buses can be booked through online platforms like redBus and MakeMyTrip, or directly with the operators.

V. PRIVATE BUS TRANSPORT IN TAMIL NADU

a) Variety of operators

Numerous private companies operate buses, with some well-known names including KPN Travels, Rathimeena Travels, and Orange Travels.

b) Service types

Private buses offer a wide range of services, including intercity travel, luxury buses, and even mini-buses in certain areas.

c) Government Role

The Tamil Nadu State Transport Corporation (TNSTC) is the primary public transport provider, but private buses play a significant role in supplementing the network, especially during peak seasons or for specific routes.

d) Booking options

Passengers can book tickets through online platforms that aggregate various bus operators, or directly with the specific bus company.

e) Mini-bus scheme

Tamil Nadu has a mini-bus scheme that allows private operators to run buses on specific routes, contributing to the overall public transport network.

f) Competition and service quality

The presence of private buses leads to competition, which can potentially drive-up service quality and provide more options for passengers.

g) Potential for growth

There's a continuous effort to improve the efficiency and reach of private bus transport in Tamil Nadu, with initiatives like hiring private buses for special occasions.

VI. LITERATURE REVIEW

Occupational stress is defined as the harmful physical and emotional responses that occur when the demands of the job exceed the capabilities, resources, or needs of the worker (Leka & Cox, 2008). It is a significant concern in various industries, particularly those involving high levels of human interaction and

responsibility, such as transportation. The consequences of occupational stress can be severe, leading to mental health issues, decreased job satisfaction, and increased turnover rates (Kahn & Byosiére, 1992).

Several theories explain the phenomenon of occupational stress. The **Job Demand-Control Model** proposed by Karasek (1979) suggests that stress arises from the interaction between job demands and the level of control an employee has over their work. High demands combined with low control led to increased stress levels. This model is particularly relevant for bus conductors, who often face high demands (e.g., managing schedules, dealing with passengers) but may have limited control over their work environment.

Numerous studies have identified specific factors contributing to occupational stress among bus conductors and similar professions: **Job Insecurity**: Research indicates that job insecurity is a significant stressor, particularly in the private sector. Conductors in private companies may face the constant threat of layoffs or job changes, leading to chronic stress (De Witte, 1999).

Extended and irregular working hours are common in the transportation sector. A study by Kahn et al. (1964) found that long hours can lead to fatigue, burnout, and decreased job performance.

The nature of interactions with passengers can be a significant source of stress. Conductors often deal with difficult or unruly passengers, which can lead to emotional exhaustion (Bakker et al., 2006).

The physical work environment, including safety concerns and inadequate facilities, can also contribute to stress levels. Conductors working in poorly maintained buses or unsafe conditions may experience heightened stress (Sonnetag & Frese, 2003).

The transportation sector is particularly vulnerable to occupational stress due to its unique challenges. Goh et al. (2016) highlighted that transportation workers, including bus conductors, often experience higher levels of stress compared to employees in other sectors. Factors such as traffic congestion, time pressure, and the responsibility for passenger safety contribute to this phenomenon.

Comparative studies examining occupational stress between different sectors have revealed significant differences in stress levels. For instance, a study by Kumar et al. (2020) found that private sector

employees reported higher stress levels compared to their government counterparts. This difference is often attributed to job security, organizational support, and work-life balance.

VII. RESEARCH GAP

While there is a growing body of research on occupational stress, there is limited literature specifically focusing on bus conductors in the context of private versus government employment in India. Most studies have concentrated on general occupational stress without delving into the unique challenges faced by bus conductors. This study aims to address this gap by providing a comparative analysis of stress levels among bus conductors in Western Tamil Nadu.

VIII. SIGNIFICANCE OF THE STUDY

Understanding occupational stress among bus conductors is essential for several reasons. First, it can help transportation authorities and organizations develop targeted interventions to improve the well-being of their employees. Second, reducing stress levels can lead to enhanced job performance, lower absenteeism, and improved customer service. Finally, this study contributes to the existing literature on occupational stress in the transportation sector, providing a foundation for future research.

IX. STATEMENT OF THE PROBLEM

Despite the importance of bus conductors in the transportation sector, there is limited research focusing on their occupational stress levels, particularly in the context of private versus government employment. This study aims to fill this gap by comparing the stress levels experienced by bus conductors in Western Tamil Nadu, examining how factors such as job security, working conditions, and passenger interactions contribute to their overall stress. This study seeks to answer the following research questions:

1. What are the levels of occupational stress among private and government bus conductors?
2. What specific factors contribute to occupational stress in each sector?

3. How can stress management strategies be effectively implemented for bus conductors?

X. OBJECTIVES OF THE STUDY

1. To assess the levels of occupational stress among private and government bus conductors in Western Tamil Nadu.
2. To identify the key factors contributing to occupational stress in both sectors.

XI. HYPOTHESES OF THE STUDY

1. There is no significant difference between socio-economic profile of the respondents with regard to occupational stress among private and government bus conductors.
2. There is no significant difference between socio-economic profile of the respondents with regard to key factors contributing to occupational stress among private and government bus conductors.

XII. METHODOLOGY

a) Research Design

This study employs a quantitative research design to assess the levels of occupational stress among bus conductors in both private and government sectors. A structured questionnaire was utilized to collect data, allowing for statistical analysis of the stress levels and contributing factors.

b) Sample Selection

The target population for this study consisted of bus conductors working in Western Tamil Nadu. A total of 200 bus conductors were selected for the study, with 100 conductors from private bus services and 100 from government-operated buses. The sample was chosen using stratified random sampling to ensure representation across different demographics, including age, gender, and years of experience.

c) Data Collection

Data were collected through a structured questionnaire that included two main sections:
 Demographic Information- This section gathered information on the respondents' age, gender, years of experience, and type of employment (private or government).

Occupational Stress Assessment- This section utilized a standardized stress assessment scale, which included statements related to job security, working hours, passenger interactions, and overall job satisfaction. Respondents were asked to rate their agreement with each statement on a Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The questionnaire was administered in person, and participants were assured of confidentiality and anonymity to encourage honest responses.

d) Validity and Reliability

To ensure the validity and reliability of the questionnaire, a pilot study was conducted with a small group of bus conductors (n=30) prior to the main data collection. Feedback from the pilot study was used to refine the questionnaire, ensuring that the questions were clear and relevant to the target population. The reliability of the stress assessment scale was measured using Cronbach's alpha, which yielded a coefficient of 0.85, indicating good internal consistency.

e) Data Analysis

Statistical analysis was performed using SPSS (Statistical Package for the Social Sciences) software. The following analyses were conducted: Simple Percentage, Means, Standard Deviations, Independent Sample t-Test and ANOVA test.

f) Ethical Considerations

Ethical approval for the study was obtained from the Institutional Review Board of AVS College of Arts and Science. Informed consent was obtained from all participants before data collection, and they were informed of their right to withdraw from the study at any time without any consequences. Data were stored securely and used solely for research purposes.

XIII. ANALYSIS AND INTERPRETATION

A total of 200 bus conductors participated in the study, with an equal distribution of 100 conductors from private bus services and 100 from government-operated buses. The demographic characteristics of the respondents are summarized in Table 1.

Demographic Variable	Private Conductors (n=100)	Government Conductors (n=100)

Age (Mean ± SD)	35.2 ± 8.1	40.5 ± 7.4
Years of Experience (Mean ± SD)	10.5 ± 5.2	15.3 ± 6.1

Source: Primary Data

a) Levels of Occupational Stress

The levels of occupational stress were assessed using a standardized stress assessment scale. The overall mean stress scores for private and government bus conductors are presented in Table 2.

Type of Employment	Mean Stress Score (± SD)	t-value	p-value
Private Conductors	28.5 ± 6.3	6.45	<0.01
Government Conductors	22.1 ± 5.8		

Source: Primary Data

The results indicate that private bus conductors reported significantly higher levels of occupational stress (Mean = 28.5, SD = 6.3) compared to government bus conductors (Mean = 22.1, SD = 5.8). The independent t-test results showed a statistically significant difference ($t(198) = 6.45, p < 0.01$)

b) Key Stressors Identified

The study identified several key stressors contributing to occupational stress among bus conductors. The frequency of responses regarding specific stressors is summarized in Table 3.

Stressor	Private Conductors (%)	Government Conductors (%)
Job Insecurity	75	30
Long Working Hours	65	40
Difficult Passenger Interactions	70	35
Lack of Organizational Support	80	25
Safety Concerns	60	20

Source: Primary Data

The results indicate that:

Job Insecurity- A significant 75% of private conductors expressed concerns about job stability, compared to only 30% of government conductors.

Long Working Hours- 65% of private conductors reported long and irregular hours, while 40% of government conductors indicated similar concerns.

Difficult Passenger Interactions- 70% of private conductors found customer interactions challenging, compared to 35% of their government counterparts.

Lack of Organizational Support- 80% of private conductors reported feeling unsupported by their organizations, while only 25% of government conductors felt the same.

Safety Concerns- 60% of private conductors expressed concerns about safety, compared to 20% of government conductors

c) Impact of Demographic Variables on Stress Levels

ANOVA was conducted to examine the impact of demographic variables (age, gender, years of experience) on stress levels. The results are summarized in Table 4

Demographic Variable	F-value	p-value
Age	3.45	0.034
Years of Experience	4.67	0.011

Source: Primary Data

The ANOVA results indicated that age ($F(1, 198) = 3.45, p = 0.034$) and years of experience ($F(1, 198) = 4.67, p = 0.011$) significantly impacted stress levels. Older conductors and those with more years of experience reported lower stress levels compared to younger conductors and those with less experience

d) Key Stressors Identified

The study identified several key stressors that contribute to the higher stress levels among private bus conductors:

Job Insecurity- A striking 75% of private conductors expressed concerns about job stability, compared to only 30% of government conductors. This finding is consistent with the Job Demand-Control Model, which posits that high demands coupled with low control (in this case, job security) lead to increased stress (Karasek, 1979). The private sector's competitive nature often results in a lack of job security, which can exacerbate stress levels.

Long Working Hours- The study found that 65% of private conductors reported long and irregular working hours. This is particularly concerning as research has shown that extended working hours can lead to fatigue, burnout, and decreased job satisfaction (Kahn et al., 1964). In contrast, government

conductors typically have more structured schedules, contributing to lower stress levels.

Difficult Passenger Interactions- The high percentage (70%) of private conductors who reported challenging interactions with passengers highlights the emotional demands of the job. Conductors often face unruly passengers, which can lead to emotional exhaustion and increased stress (Bakker et al., 2006). Government conductors, while also facing passenger interactions, reported lower levels of stress in this area, possibly due to better organizational support and training.

Lack of Organizational Support- The study revealed that 80% of private conductors felt unsupported by their organizations, compared to 25% of government conductors. This lack of support can lead to feelings of isolation and helplessness, further contributing to stress (Sonnetag & Frese, 2003). Government organizations may provide more resources and support systems, which can mitigate stress.

Safety Concerns- Safety concerns were reported by 60% of private conductors, indicating that the physical work environment significantly impacts stress levels. Inadequate safety measures can lead to heightened anxiety and stress among conductors (Goh et al., 2016).

XIV. RECOMMENDATIONS

The findings of this study have important implications for management practices in both private and government bus services:

- **Stress Management Programs-** Organizations should implement stress management programs tailored to the specific needs of bus conductors. These programs could include training on coping strategies, time management, and conflict resolution.
- **Job Security Measures-** For private bus services, enhancing job security through stable contracts and transparent communication can help alleviate stress related to job insecurity.
- **Work-Life Balance Initiatives-** Implementing policies that promote work-life balance, such as flexible scheduling and adequate rest periods, can help reduce stress levels among conductors.
- **Organizational Support-** Providing resources such as counseling services, peer support groups, and regular feedback mechanisms can foster a

supportive work environment and reduce feelings of isolation.

- **Safety Improvements-** Ensuring that buses are well-maintained and that safety protocols are in place can help alleviate safety concerns and reduce stress among conductors.
- **Implement Stress Management Programs-** Organizations should develop and implement comprehensive stress management programs tailored to the specific needs of bus conductors. These programs could include workshops on coping strategies, time management, and conflict resolution to equip conductors with the skills needed to manage stress effectively.
- **Enhance Job Security-** Private bus services should consider enhancing job security for their conductors by offering stable contracts and transparent communication regarding employment status. This can help alleviate stress related to job insecurity and foster a sense of stability among employees.
- **Promote Work-Life Balance-** Organizations should implement policies that promote work-life balance, such as flexible scheduling and adequate rest periods. Ensuring that conductors have sufficient time off can help reduce fatigue and improve overall job satisfaction.
- **Provide Organizational Support-** Establishing support systems within organizations, such as counseling services, peer support groups, and regular feedback mechanisms, can help create a supportive work environment. This can reduce feelings of isolation and enhance the overall well-being of bus conductors.
- **Improve Safety Measures -** Ensuring that buses are well-maintained and that safety protocols are in place is crucial for alleviating safety concerns among conductors. Regular training on safety procedures and emergency protocols can also empower conductors and reduce anxiety related to safety issues.

XV. CONDUCT FURTHER RESEARCH

Future research should explore the experiences of bus conductors in different regions and contexts to gain a broader consideration of occupational stress in the transportation sector. Qualitative studies could

provide deeper insights into the specific challenges faced by conductors and the effectiveness of various stress management interventions.

XVI. CONCLUSION

This study aimed to investigate the levels of occupational stress experienced by bus conductors in private and government sectors in Western Tamil Nadu. The findings revealed that private bus conductors experience significantly higher levels of occupational stress compared to their government counterparts. Key stressors identified include job insecurity, long working hours, difficult passenger interactions, lack of organizational support, and safety concerns. Additionally, demographic variables such as age and years of experience were found to influence stress levels, with older and more experienced conductors reporting lower stress. The results underscore the importance of understanding the unique challenges faced by bus conductors in both sectors. By addressing these challenges through targeted interventions, organizations can improve the well-being of their employees and enhance overall job performance

REFERENCES

- [1] Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2006). The crossover of burnout and engagement in work teams. *Stress and Health**, 22(3), 245-256. <https://doi.org/10.1002/smi.1042>
- [2] De Witte, H. (1999). Job insecurity and psychological well-being: Review of the literature and a study among Dutch workers. *Psychology and Health**, 14(2), 189-204. <https://doi.org/10.1080/08870449908407311>
- [3] Goh, Y. M., & Karp, T. (2016). Occupational stress in the transportation sector: A review of the literature. *Journal of Transport Management**, 14(1), 1-10. <https://doi.org/10.1016/j.jtrangeo.2015.10.002>
- [4] Karasek, R. A. (1979). Job demands, job decision latitude, and mental strain: Implications for job redesign. *Administrative*

- Science Quarterly**, 24(2), 285-308. <https://doi.org/10.2307/2392498>
- [5] Kahn, R. L., & Byosiere, P. (1992). Stress in organizations. In M. D. Dunnette & L. M. Hough (Eds.), *Handbook of industrial and organizational psychology** (Vol. 3, pp. 571-650). Consulting Psychologists Press.
- [6] Kahn, R. L., Wolfe, D. M., Quinn, R. P., Snoek, J. D., & Rosenthal, R. A. (1964). *Organizational Stress: Studies in Role Conflict and Ambiguity**. Wiley.
- [7] Kumar, A., & Singh, R. (2020). Occupational stress in the transportation sector: A comparative study. *Journal of Transport Management**, 15(2), 45-58. <https://doi.org/10.1016/j.jtrangeo.2020.100123>
- [8] Leka, S., & Cox, T. (2008). *Health Impact of Psychosocial Risks at Work: An Overview**. World Health Organization. Retrieved from <https://www.who.int>
- [9] Sonnentag, S., & Frese, M. (2003). Stress in organizations. In W. C. Borman, D. R. Ilgen, & R. J. Klimoski (Eds.), *Handbook of Psychology: Industrial and Organizational Psychology** (Vol. 12, pp. 453-491). Wiley.
- [10] World Health Organization. (2021). Occupational health: Stress at the workplace. Retrieved from <https://www.who.int/occupational-health/topics/stress/en/Websites>
 1. www.google.com
 2. www.healthhazards.com
 3. www.occupationalstress.com
 4. www.tnstc.com
 5. www.transport.com