



WORK STRESS AND ITS PREVENTIVE MEASURES OF GOVERNMENT BUS DRIVERS IN NORTHERN TAMILNADU

R. Hemanth Kumar¹, Dr. D. Jagadeesan², Dr. G. Veeramani³

¹ Research Scholar, Ph.D - Part time(External), Department of Business
Administration, Annamalai University, India &

Assistant Professor, Department of Business Administration, Sri Sankara
Arts and Science College (Autonomous), Kanchipuram, India

² Research Supervisor, Assistant Professor, Department of Business
Administration, Annamalai University, India

³ Research Co-Guide, Professor and Head, Department of Business
Administration, Sri Sankara Arts and Science College, Kanchipuram, India

Email: ¹ rhemanthkumarcareer@gmail.com

Abstract

After Covid-19 pandemic period, people started living and travelling like before. Our Indian people are majorly depending on public transportation only especially the bus. Here the bus drivers are playing the crucial role on the safe and happy journey of passengers. Their working conditions and the environmental factors are highly influencing their work stress. Thus work stress becomes inevitable to the bus drivers. There are various stressors to them. This study carried out the survey of 320 respondents from Northern TamilNadu (TNSTC – Vilupuram Division) through convenience sampling. Research findings are exhibited after the analysis and interpretation of collected data through percentage analysis, chi-square test, weighted average method and Anova Methods. This research paper highlights the work stressors, environmental stressors and various stress management measures of the government bus drivers in the study areas. It has found that demographic profile (Age, work experience, working hours, sleeping hours and nature of route) are highly influencing their work stress level. Government bus drivers can manage their work stress through Hearing songs, Regular Vacations / outings, Chat with friends/ family members, Positive thinking, and Surfing mobile phones.

Keywords: *Work Stress, Stressors, Government Bus Drivers, Stress Management measures*

1. Introduction

Stress is “A state, which is accompanied by physical, psychological or social complaints or dysfunctions and which results from individuals feeling unable to bridge a gap with the requirements or expectations placed on them” in accordance with European Agreement on stress at work.

Bus drivers are the main pillars of the bus transportation service to make safe and happy journey to the passengers. Thus the bus drivers’ working conditions, safety and stress are significant factors to make them happy, safe and healthy. Ariharan. V and Dr. Rajandran (2019) When comparing to government bus drivers, private sectors transport employees are

facing more challenges and stress due to their demanding job nature and demands. Durgamani, Suresh & Sethuraman (2022) Private drivers should be service oriented and had expected to maintain good contact with passengers. Also they got stressed because of reaching the destination on time with safe journey.

Town bus drivers are working with most demanding, stressful, & unhealthy working conditions with high mortality & morbidity rates. Bus drivers encounter considerable occupational stressors including traffic congestion, conflicts from passengers, rotating shift schedules, poor cabin ergonomics, and tight time schedules. The working environment and job characteristics of professional bus drivers make them vulnerable to specific health problems, leading many to retire earlier owing to disability.

Margherita Bergomi. et. al (2017) There are various stress management interventions such as ergonomic seats, barriers between drivers and passengers, specific individual training for possible behaviors, providing information to workers about risks & adequate rest intervals between shifts. These measures are improving their health & also safety of passengers.

2. Literature Reviews

Dev, Samrat & Gangopadhyay, Somnath. (2022). this study is aimed on evaluating Kolkata city bus drivers' occupational stress factors & their effects among their social and professional life. WHO's "Quality of Life Questionnaire" & Occupational Stress Index (OSI) had used for this study. Results indicated that bus drivers had stressful work environments so they had poor quality of life (social and professional). This had direct impact with drivers' safety, comfort & overall productivity.

Nataliia Borodina.et.al (2021), study aimed at improvement of procedure for professional risk assessment of passenger bus drivers, considering individual, psychosocial, ergonomic, as well as hygienic factors. The developed checklist for rapid assessment of occupational risk of drivers, taking into account the influence of harmful production factors, contributing to the manifestation of occupational diseases, has been developed. The peculiarity of this approach is a certain interrelation between the integral criterion of occupational risk of a driver and the indicators characterized by: ergonomic, psychosocial, individual and hygienic factors, formed by working conditions of a driver while transporting the passengers.

Ching-Fu Chen*, Yuan-Chun Hsu (2020), The study concluded that work-family conflict & role overload (job demand factors) was positively related with emotional exhaustion, & organisational support (job resource factor) was negatively related with emotional exhaustion. Job satisfaction positively led to life satisfaction, while organisational commitment negatively related with turnover intention.

Margherita Bergomi. Et. al (2017) it has an objective of integrated, objective and subjective assessment of work stress with consideration of the role of personality traits of Italian bus drivers. Research findings are that certain personality characteristics had remarkable role over vulnerability of bus drivers to stress especially "neurotic" & "impulsive" traits had highly associated with higher stress perception. Also the stress management interventions are ergonomic seats, barriers between drivers and passengers, specific individual training for possible behaviors, providing information to workers about risks & adequate rest intervals between shifts. These measures are improving their health & also safety of passengers.

Zhao Y (2019) Work shifts and Scheduling should be well-established since they are highly harmful to health and well-being of any workers. M.R Winkler (2017) Workers with more control over their schedules and shifts are feeling higher health issues than those with little control. Also, Brauner. et. al. (2019) Less sleeping hours (<6 h per day) & Long work hours are greatly associating with metabolic and cardiovascular diagnoses. Thus it is clear that work scheduling and work hours are major determinants of drivers' health outcomes. With the help of latest technology, the transport operators should make proper work scheduling and shifts to their drivers in order to reduce the impacts over drivers' fatigue, health and well-being. Sekkay F (2019) Musculoskeletal injuries and accidents are happening a lot because of bus drivers' physical environment and external factors like weather or road conditions.

3. Research Objectives

- 1) To study the various work stressors related to their working conditions, Job design, and Environmental factors of the Government bus drivers (TNSTC – Vilupuram division) in Northern TamilNadu.
- 2) To know the work stressors and its preventive measures on managing their stress at work in the selected study area.
- 3) To offer suitable suggestions to improve their working conditions & reduce their work stress of Government bus drivers (TNSTC – Vilupuram division).

4. Methodology

Proper research work depends on its data collection of both primary and secondary data. Here Researcher collected its primary data through issuing structured questionnaire among private bus drivers of Northern TamilNadu. Also we gathered research oriented secondary data with the help of previous research papers, news paper articles, reports, websites, etc. Research study's population covers Government town bus drivers (TNSTC Vilupuram) of Northern TamilNadu. It has 1300 government drivers in northern TamilNadu. From the finite population size of 1300, sample size is measured as 320 in Northern TamilNadu through following formula Simple random sampling method was used to select the sample. Collected data is analysed and interpreted through Percentage analysis, Chi Square Test and Regression Analysis. Research findings and conclusion are proposed through the outcomes of this data analysis and interpretation.

5. Demographic Profile Of Government Drivers

Here the demographic profile of government drivers is studied with their marital status, age, work experience and weekly working hours.

Table No.1 DEMOGRAPHIC PROFILE OF GOVERNMENT DRIVERS

| DEMOGRAPHIC PROFILE | RESPONDENTS | PERCENTAGE |
|-----------------------|-------------|------------|
| MARITAL STATUS | | |
| Unmarried | 51 | 16 |
| Married | 269 | 84 |

| AGE | | |
|-----------------------------|-----|----|
| Below 25 Yrs | 14 | 4 |
| 26-35 Yrs | 52 | 16 |
| 36-45 Yrs | 130 | 41 |
| 46 - 55 Yrs | 105 | 33 |
| More than 55 Years | 19 | 6 |
| WORK EXPERIENCE | | |
| Below 5 yrs | 31 | 10 |
| 5.1 - 10 yrs | 71 | 22 |
| 10.1 - 15 yrs | 87 | 27 |
| 15.1 – 20 yrs | 88 | 27 |
| Above 20 yrs | 43 | 13 |
| WEEKLY WORKING HOURS | | |
| Less than 40 hours | 0 | 0 |
| 41 to 50 hours | 86 | 27 |
| 51 to 60 hours | 119 | 37 |
| 61 to 70 hours | 44 | 14 |
| More than 70 hours | 71 | 22 |

Above table inferred that more than 80 per cent of bus drivers are married. Majority (75 per cent) of the bus drivers are aged between 35 and 55 years. More than sixty per cent of drivers have more than 10 years of work experience. More than 70 per cent of drivers are working 50 to 70 hours per week.

CHI SQUARE TEST

ASSOCIATION BETWEEN LEVEL OF WORK STRESS BASED ON THEIR DEMOGRAPHIC PROFILE OF GOVERNMENT BUS DRIVERS

Here chi square test has been done to find the significant relationship between the demographic profile and level of work stress of Government bus drivers.

Null hypothesis (Ho): There is no significant relationship between demographic profile and level of work stress of the Government Bus Drivers.

Alternative hypothesis (H1): There is a significant relationship between demographic profile and level of work stress of the Government Bus Drivers.

Chi-square test has the following computed results presented at below table:

| S. No | Association - Factors | Chi Square Value | 'p' Value | Result |
|-------|---|------------------|-----------|-----------------------------|
| 1 | Age and Level of Work Stress | 101.343 | 0.000 | Null hypothesis is rejected |
| 2 | Work Experience & Level of Work Stress | 110.506 | 0.000 | Null hypothesis is rejected |
| 3 | Weekly Working Hours and Level of Work Stress | 81.432 | 0.000 | Null hypothesis is rejected |
| 4 | Nature of Driving route and | 27.03 | 0.000 | Null hypothesis |

| | | | | |
|---|---|-------|-------|-----------------------------|
| | Level of Work Stress | | | is rejected |
| 5 | Sleeping Hours and Level of Work Stress | 51.62 | 0.000 | Null hypothesis is rejected |

As significant 'p' value is below 0.05, null hypothesis has been rejected. So there is a significant relationship between demographic profile and level of work stress of the Government Bus Drivers.

Thus the demographic profile factors like age, work experience, working hours, sleeping hours and nature of route are highly influencing their work stress level.

WORK STRESS MANAGEMENT MEASURES

There are various stress management strategies among the government bus drivers towards their management of work stress. Those strategies are Sports/Exercise/Walking/Swimming, Regular Vacations / outings, Chat with friends/ family members, Using mobile phone, Hearing songs, Meditation / prayer, Alcohol, Smoking, Take Deep breath and relax and Positive thinking.

TABLE NO. GOVERNMENT BUS DRIVERS' OPINIONS ON THEIR WORK STRESS MANAGEMENT MEASURES

| WORK STRESS MANAGEMENT MEASURES | SA | A | N | DA | SDA |
|-----------------------------------|-----|-----|-----|----|-----|
| Sports/Exercise/Walking/Swimming | 48 | 71 | 97 | 82 | 22 |
| Regular Vacations / outings | 105 | 115 | 46 | 40 | 14 |
| Alcohol | 42 | 59 | 65 | 97 | 57 |
| Chat with friends/ family members | 71 | 136 | 52 | 30 | 31 |
| Using mobile phone | 55 | 177 | 35 | 22 | 31 |
| Hearing songs | 97 | 184 | 23 | 16 | 0 |
| Meditation / prayer | 31 | 80 | 113 | 90 | 6 |
| Smoking | 17 | 73 | 92 | 99 | 33 |
| Take Deep breath and relax | 73 | 69 | 128 | 24 | 26 |
| Positive thinking | 74 | 146 | 25 | 49 | 26 |

Major government bus drivers are controlling work stress with "Regular Vacations / outings, Hearing songs, Positive thinking, Chat with friends/ family members and Using mobile phones".

**WEIGHTED AVERAGE RANK – RESPONDENTS’ OPINION TOWARDS
STRESSORS REGARDING JOB DESIGN OF GOVERNMENT BUS DRIVERS**

| S. No. | Stressors regarding Job Design | Sum | Mean | Rank |
|--------|------------------------------------|------|------|------|
| 1 | Time Pressure | 1140 | 3.56 | 6 |
| 2 | Challenging and difficult route | 1265 | 3.95 | 4 |
| 3 | Less break time between rides | 1056 | 3.30 | 8 |
| 4 | Irregular work schedule | 1126 | 3.52 | 7 |
| 5 | Driving For Long Hours or Distance | 1400 | 4.38 | 1 |
| 6 | High Temperature on work | 1279 | 4.00 | 3 |
| 7 | High vibration & Noise on work | 1262 | 3.94 | 5 |
| 8 | Tiring or painful seating position | 1372 | 4.29 | 2 |

Regarding the Stressors regarding Job Design of Government bus drivers, the above table inferred that Government bus drivers are ranked “Driving For Long Hours or Distance” as first rank; “Tiring or painful seating position” as Second rank; “High Temperature on work” as Third rank.

Also the above table expressed that Government bus drivers are ranked “Less break time between rides” as the last rank (8); “Irregular work schedule” as Seventh rank; “Time Pressure” as Sixth rank regarding the Stressors regarding Job Design of Government bus drivers.

Thus majority of the Government bus drivers are feeling stressed on Driving For Long Hours or Distance, Tiring or painful seating position and High Temperature on work.

6. Results And Discussion

More than 80 per cent of bus drivers are married. Majority (75 per cent) of the bus drivers are aged between 35 and 55 years. More than sixty per cent of drivers have more than 10 years of work experience. More than 70 per cent of drivers are working 50 to 70 hours per week.

Chi Square Test found that there is a significant relationship between demographic profile and level of work stress of the Government Bus Drivers. Thus the demographic profile factors like age, work experience, working hours, sleeping hours and nature of route are highly influencing their work stress level

Government bus drivers are getting out of their work stress with “Regular Vacations / outings, Hearing songs, Positive thinking, Chat with friends/ family members and Using mobile phones”.

Regarding the Stressors regarding Job Design of Government bus drivers, majority of the Government bus drivers are feeling stressed on Driving For Long Hours or Distance, Tiring or painful seating position & High Temperature on work.

7. Conclusion

Bus drivers are the main pillars of the bus transportation service to make safe and happy journey to the passengers. Thus the bus drivers’ working conditions, safety and stress are significant factors to make them happy, safe and healthy. From this Research study, it has

found that More than sixty per cent of drivers have more than 10 years of work experience. More than 70 per cent of drivers are working 50 to 70 hours per week. Chi Square Test found that there is a significant relationship between demographic profile and level of work stress of the Government Bus Drivers. Thus the demographic profile factors like age, work experience, working hours, sleeping hours and nature of route are highly influencing their work stress level. Regarding the Stressors regarding Job Design of Government bus drivers, majority of the Government bus drivers are feeling stressed on Driving For Long Hours or Distance, Tiring or painful seating position & High Temperature on work. Government bus drivers are getting out of their work stress with “Regular Vacations / outings, Hearing songs, Positive thinking, Chat with friends/ family members and Using mobile phones”. They should have proper driving hours per day, proper seating arrangements or ergonomics and better working environment for making them peaceful and happy.

References

1. European Commission (2011), “Report on the implementation of the European social partners’ Framework Agreement on Work-related Stress.” Brussels, 24.2.2011. SEC (2011) 241 from. http://erconline.eu/wpcontent/uploads/2015/03/COM_SEC20110241_EN.pdf
2. Chung YS, Wong JT(2011). “Developing effective professional bus driver health programs: An investigation of self-rated health”, *Accid Anal Prev*; 43 (6), 2093 - 103.
3. Tse JL, Flin R, Mearns K.(2007), “Facets of job effort in bus driver health: Deconstructing “effort” in the effort-reward imbalance model”, *J Occup Health Psychol*, 12(1), 48.
4. Rydstedt LW, Johansson G, Evans GW.(1998), “A longitudinal study of workload, health and well-being among male and female urban bus drivers.” *J Occup Organ Psychology*; 71 (1) , 35 - 45.
5. Margherita Bergomi. Et. al (2017), “Work-related stress and role of personality in a sample of Italian bus drivers”., *Work* 57, IOS Press, 433 – 440
6. Ching-Fu Chen*, Yuan-Chun Hsu (2020), “Taking a Closer Look at Bus Driver Emotional Exhaustion and Well- Being: Evidence from Taiwanese Urban Bus Drivers“, *Safety and Health at Work*, 353 – 360
7. Nataliia Borodina.et.al (2021), “Occupational risk assessment of passenger bus drivers”, *Journal of Scientific Papers “Social Development and Security”*, Vol. 11, No. 2, – 2021
8. Bradley, C.J.; Grossman, D.C.; Hubbard, R.A.; Ortega, A.; Curry, S.J (2016), “Integrated Interventions for Improving Total Worker Health”, A Panel Report from the National Institutes of Health Pathways to Prevention Workshop: Total Worker Health—What’s *Work Got to Do with It?* *Ann. Intern. Med.*, 165, 279–283.
9. Brauner, C.; Wöhrmann, A.M.; Frank, K.; Michel, A (2019), “Health and work-life balance across types of work schedules: A latent class analysis”, *Appl. Ergon.*, 81, 102906.
10. Durgamani, Suresh & Sethuraman (2022), “Occupational Stress Among Private Bus-Drivers And Conductors In Thanjavur District”, *International Journal of Pure and Applied Mathematics*. 119(10), 289 - 304.