

ECONOMIC AND MOTIVATIONAL FACTORS AFFECTING THE MENTAL HEALTH OF TRUCK DRIVERS

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Abstract

This article examines the economic and motivational factors that influence the mental health of truck drivers. Particular attention is given to the effects of inadequate remuneration, excessive workloads, sleep deprivation, fatigue, and motivation associated with financial incentives. Based on the findings of contemporary international studies, the paper demonstrates that poor working conditions, long driving hours, and performance-based payment systems adversely affect drivers' psychological well-being, occupational safety, and overall quality of life. Furthermore, the study highlights the relationship between economic pressure, work motivation, and the increasing prevalence of fatigue-related road accidents, emphasizing the importance of improving working conditions to protect drivers' mental health and ensure road safety.

Keywords: Truck drivers' mental health, motivational factors, economic factors, road safety, driving fatigue, sleep deprivation, occupational stress.

Introduction

Underpayment within the freight transportation industry and among long-haul truck drivers (LHTDs) has been associated with several critical factors, including prolonged working hours, excessive overtime, and insufficient financial resources available for vehicle maintenance during non-working periods. These conditions substantially increase occupational risks and may ultimately contribute to fatal road accidents.

Belzer (2018) investigated the extent of underpayment and excessive workload among truck drivers. According to his findings, although the number of fatal truck-related accidents in the United States remained below 3,500 in 2009, this figure increased to 4,317 by 2015. Furthermore, truck drivers worked an average



of approximately 60 hours per week in 2010. A survey conducted by the National Institute for Occupational Safety and Health (NIOSH) revealed that a considerable proportion of drivers' labor remained uncompensated because substantial amounts of off-duty work were not included in paid working hours (Belzer, 2018)¹.

In a qualitative investigation, Belzer and Sedo (2018) explored why better-paid truck drivers generally demonstrated significantly safer driving performance. Applying a two-stage least squares estimation to data obtained from a national survey of truck drivers, the researchers employed a regression model demonstrating that higher compensation could substantially improve both driver availability and operational efficiency. Adequate wages enable drivers to reduce excessive working hours, thereby improving both their physical and psychological health. Conversely, inadequate remuneration was closely associated with increased fatal accidents, highway crashes, and deteriorating health outcomes caused by excessive fatigue among drivers working more than 30 hours per week (Belzer, 2018; Belzer & Sedo, 2018).²

Truck drivers experiencing chronic fatigue as a consequence of insufficient compensation are more likely to encounter serious occupational hazards, particularly excessive daytime sleepiness while driving. Such conditions substantially increase the likelihood of traffic accidents, reduce transportation efficiency, and contribute to delays throughout the supply chain.

Insomnia and insufficient rest constitute some of the most persistent challenges affecting both truck drivers and transportation organizations at individual and organizational levels. In a cross-sectional study involving 670 truck drivers, Giroto et al. (2019) reported that many participants experienced episodes of stopping their vehicles during nighttime driving or suddenly becoming sleepy while performing their professional duties. Survey respondents indicated that prolonged periods without adequate sleep were largely attributable to formal employment contracts based on productivity and performance indicators (Giroto et al., 2019)³.

¹ Belzer, M. H. (2018). Truck Drivers are Overtired, Overworked, and Underpaid. *The Conversation*. July 25. <https://theconversation.com/truck-drivers-are-overtiredoverworked-and-underpaid-100218>

² Belzer, M. H., & Sedo, S. A. (2018). Why do long distance truck drivers work extremely long hours? *The Economic and Labour Relations Review*, 29(1), 59-79. <https://doi.org/10.1177/1035304617728440>

³ Giroto, E., Bortoletto, M. S. S., González, A. D., Mesas, A. E., Peixe, T. S., Guidoni, C. M., & de Andrade, S. M. (2019). Working conditions and sleepiness while driving among truck drivers. *Traffic injury prevention*, 20(5), 504-509. <https://doi.org/10.1080/15389588.2019.1609670>



In another cross-sectional study, Hege et al. (2019) reported that long-haul truck drivers (LHTDs) typically spent an average of 11 hours driving each day while simultaneously consuming elevated amounts of caffeine. Occupational stress and chronic sleep deprivation were also identified as major contributing factors to drivers' deteriorating health. The combination of insufficient sleep, extended working hours, excessive caffeine consumption, and having only approximately one hour available for food preparation and meals during work significantly increased the likelihood that truck drivers would experience serious physical health problems in the future (Hege et al., 2019)⁴.

Whereas Giroto et al. (2019) primarily focused on the general sleep schedules and sleeping patterns of truck drivers, Hege et al. (2019) provided a more comprehensive explanation of the underlying causes of fatigue, sleep deprivation, and overwork among long-haul truck drivers. Together, these studies substantially enrich the existing body of literature concerning sleep-related problems experienced by truck drivers and offer valuable insights into the factors compelling drivers to work excessively long hours.

Furthermore, Pylkkönen et al. (2018) demonstrated that alertness management training significantly reduced sleepiness among long-haul truck drivers. Their randomized controlled trial provided strong empirical evidence that structured intervention programs can effectively alleviate many of the sleep-related problems experienced by professional drivers, thereby contributing to improved occupational safety and psychological well-being⁵.

Sleep duration and opportunities for adequate rest differ considerably among truck drivers due to variations in work schedules and the amount of time available between long-distance trips. Wise et al. (2019) conducted a concept analysis focusing specifically on fatigue among long-haul truck drivers. Their findings indicated that fatigue substantially reduces drivers' quality of life while simultaneously increasing road safety risks⁶.

⁴ Hege, A., Lemke, M. K., Apostolopoulos, Y., Whitaker, B., & Sonmez, S. (2019). Work-life conflict among us long-haul truck drivers: Influences of work organization, perceived job stress, sleep, and organizational support. *International journal of environmental research and public health*, 16(6), 984. <https://doi.org/10.3390/ijerph16060984>

⁵ Pylkkonen, M., Tolvanen, A., Hublin, C., Kaartinen, J., Karhula, K., Puttonen, S., ... & Sallinen, M. (2018). Effects of alertness management training on sleepiness among long-haul truck drivers: A randomized controlled trial. *Accident Analysis & Prevention*, 121, 301-313. <https://doi.org/10.1016/j.aap.2018.05.008>

⁶ Wise, J. M., Heaton, K., & Patrician, P. (2019). Fatigue in long-haul truck drivers: a concept analysis. *Workplace Health & Safety*, 67(2), 68-77. <https://doi.org/10.1177/2165079918800509>

Using Rodgers' evolutionary concept analysis method, Wise et al. (2019) examined the physical, cognitive, and emotional dimensions of fatigue. Physical fatigue was primarily characterized by reduced physical functioning, cognitive fatigue by impaired cognitive functioning, and emotional fatigue by emotional exhaustion and psychological detachment.

Garbarino et al. (2018) emphasized the urgent need to address the fragile psychological well-being of truck drivers. Appropriate treatment is frequently replaced by alcohol, prescription medications, illicit substances, and excessive caffeine consumption as drivers attempt to compensate for fatigue.⁷

The findings of Garbarino et al. (2018) and Wise et al. (2019) demonstrate that fatigue extends beyond road accidents and logistical disruptions, negatively affecting drivers' motivation, work engagement, and long-term psychological health.

Motivational Factors Influencing Truck Drivers The motivation encouraging truck drivers to work prolonged hours under performance-based payment systems can be interpreted through Skinner's (1938) theory of reinforcement. Financial rewards function as positive reinforcers that strengthen work behavior⁸.

Mittal et al. (2018) reported that many truck drivers continued working primarily because they were the sole financial providers for their families. Road conditions and transportation accessibility also influenced occupational motivation⁹.

Ju and Belzer (2022) found that low income and persistent economic pressures compel drivers to work longer hours, resulting in fatigue and violations of working-time regulations¹⁰.

Lalla-Edward et al. (2019) reported average workloads of approximately 10 hours per day, while Crizzle et al. (2021) found that after COVID-19 many drivers worked even longer hours without corresponding increases in compensation¹¹.

⁷ Garbarino, S., Guglielmi, O., Sannita, W. G., Magnavita, N., & Lanteri, P. (2018). Sleep and mental health in truck drivers: descriptive review of the current evidence and proposal of strategies for primary prevention. *International journal of environmental research and public health*, 15(9), 1852. <https://doi.org/10.3390/ijerph15091852>

⁸ Skinner, B. F. (1938). *The behavior of organisms: an experimental analysis*. Appleton-Century.

⁹ Mittal, N., Udayakumar, P. D., Raghuram, G., & Bajaj, N. (2018). The endemic issue of truck driver shortage-A comparative study between India and the United States. *Research in transportation economics*, 71, 76-84. <https://doi.org/10.1016/j.retrec.2018.06.005>

¹⁰ Ju, S., & Belzer, M. H. (2022). Pay Incentives, Working Time, and Safety: Evidence from US Intrastate Trucking Companies. *Working Time, and Safety: Evidence from US Intrastate Trucking Companies*. <https://dx.doi.org/10.2139/ssrn.4046436>

¹¹ Lalla-Edward, S. T., Fischer, A. E., Venter, W. F., Scheuermaier, K., Meel, R., Hankins, C., ... & Vos, A. G. (2019). Cross-sectional study of the health of southern African truck drivers. *BMJ open*, 9(10), e032025. <http://dx.doi.org/10.1136/bmjopen-2019-032025>

Matsumoto et al. (2020) demonstrated that extensive overtime, night shifts, fewer rest days, and insufficient sleep significantly undermine physical recovery and psychological resilience¹²¹³.

Thomas et al. (2019) emphasized that organizational structures and labor regulations influence overtime and rest opportunities, thereby affecting drivers' physical and mental well-being¹⁴.

Overall, economic pressure, organizational policies, workload, sleep quality, fatigue, and motivational processes interact to shape truck drivers' mental health. Improving remuneration, limiting excessive overtime, strengthening occupational health policies, and implementing fatigue-management interventions are essential for protecting drivers' mental health and improving road safety.

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