

## OBSERVATIONS

Table1: Highway Safety Outcomes

Occurrence	Weighted National Estimate*
<b>Near miss in the past 7 days:</b>	24%
At least one near miss	
<b>Near miss</b>	12%
<b>Nodding off/ falling asleep/ drowsiness:</b>	34%
Drivers who have nodded off or fallen asleep while driving	
<b>Nodding off/falling asleep/ drowsiness:</b>	7%
Drivers feeling very drowsy almost every day driving	

\*Weighted national estimates using 1,265 survey responses (NIOSH).

Table 2: Descriptive Statistics of Continuous Variables

Variables	Mean	Median	Std. Dev.
Annual Income	52516.81	50000.00	29347.34
Annual Mileage Driven	114715.80	120000.00	42235.63
Weekly Non-Driving Duty Hours	15.11	10.00	16.87

## DISCUSSION

- Based on the S.E.M. used for this study, better financial and non-financial work incentives leads to less fatigue, better quality and quantity of sleep and reduces the probability of hazardous events. Therefore, having a positive impact towards the occupational safety of the truck drivers. This is in agreement with the findings of Belzer and Sedo (2018) which state that with higher compensation drivers reach their target earnings sooner and therefore need to drive fewer miles per hour..
- Additionally, the study found that the quality of sleep has a significant and direct effect on work fatigue. As shown in the model, sleep also acts as a mediator between financial incentives and work fatigue.

## REFERENCES

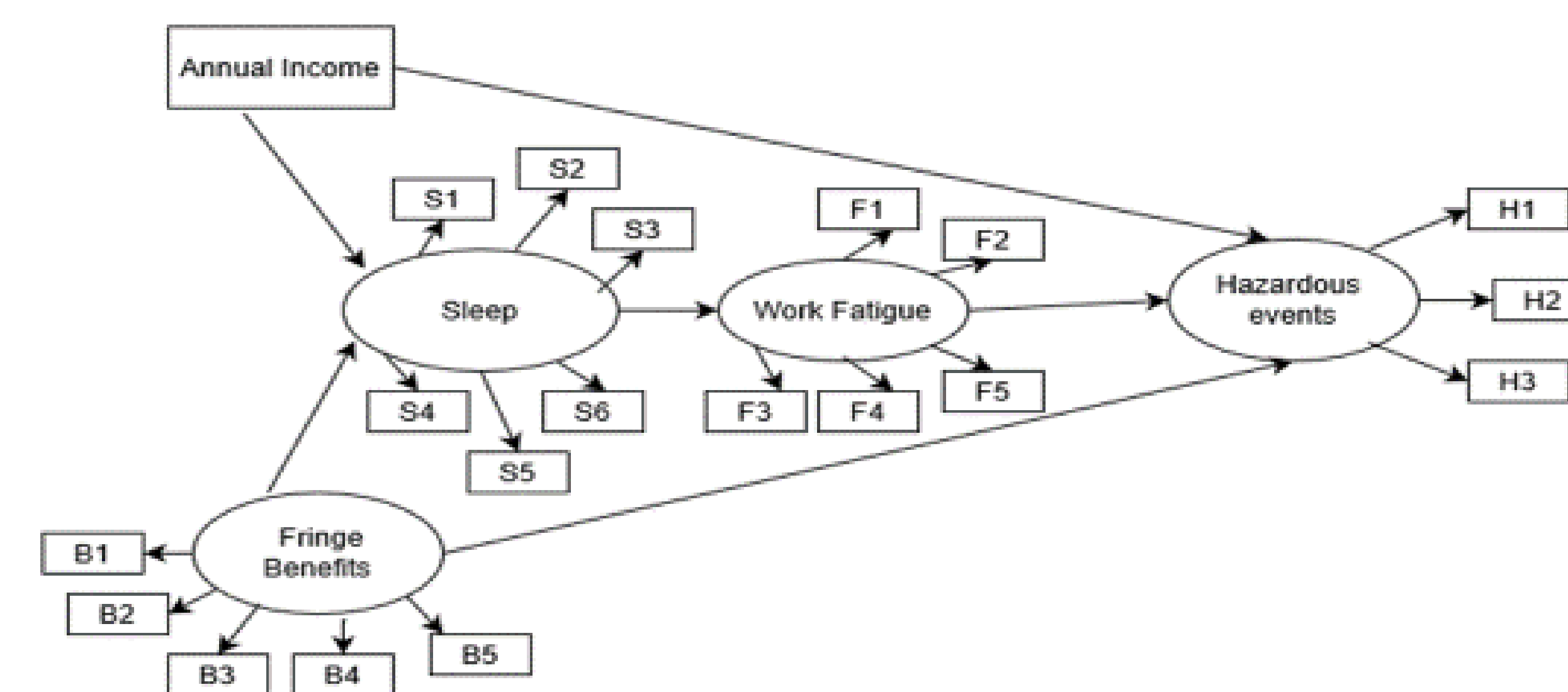
- Arlinghaus A, Lombardi DA, Willetts JL, et al. (2012) A Structural Equation Modeling Approach to Fatigue-related Risk Factors for Occupational Injury. *American Journal of Epidemiology* 176: 597–607.
- Belzer MH and Sedo SA. (2018) Why Do Long Distance Truck Drivers Work Extremely Long Hours? *Economic and Labour Relations Review* 29: 59-79.
- NIOSH. (2015) *The National Institute for Occupational Safety and Health (NIOSH): Long-haul Truck Drivers.*

Compensation is indirectly related to hazardous events by the intermediary of sleep and work fatigue. Whereas the direct relationship between compensation and hazardous events is statistically insignificant.

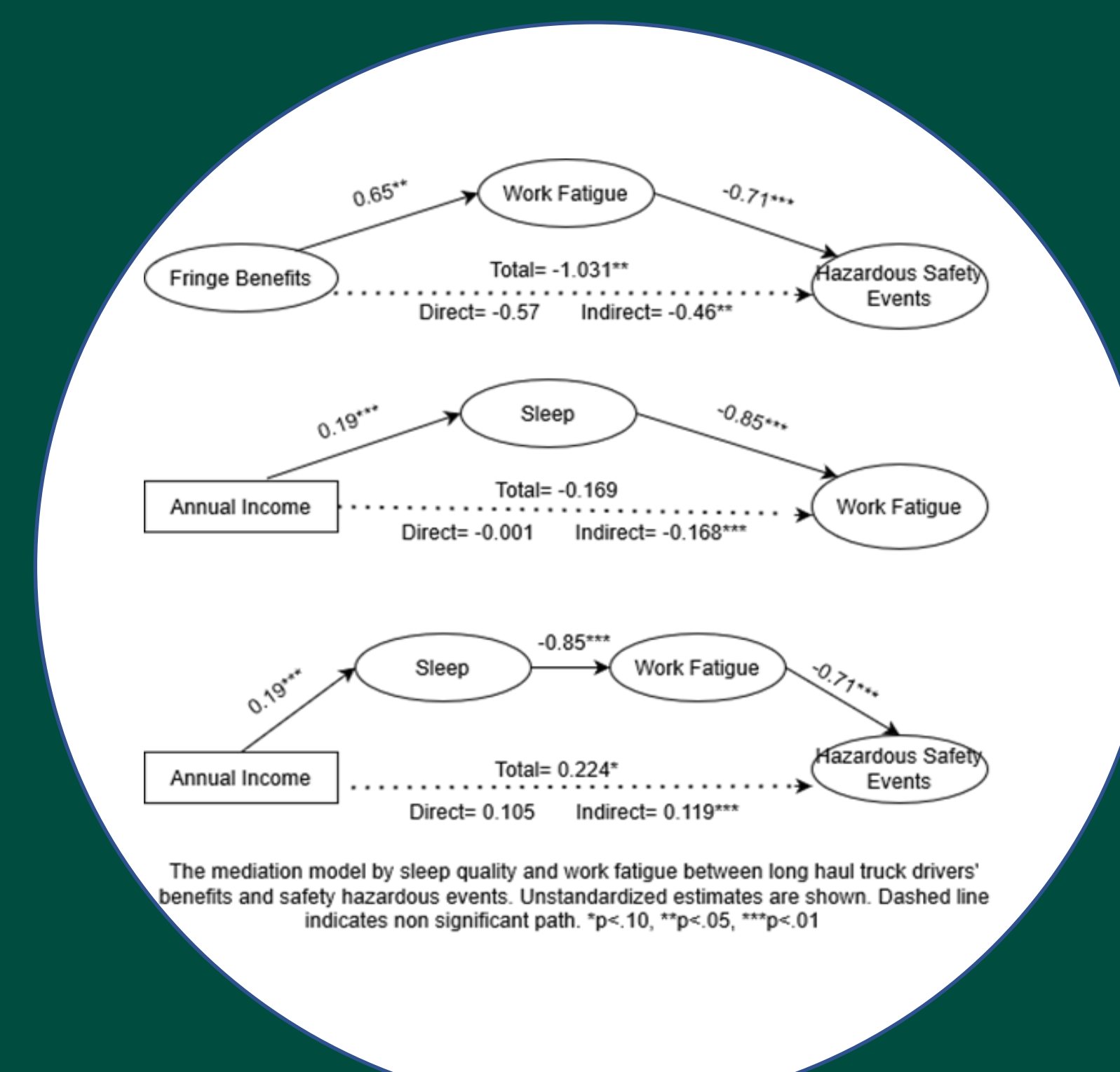
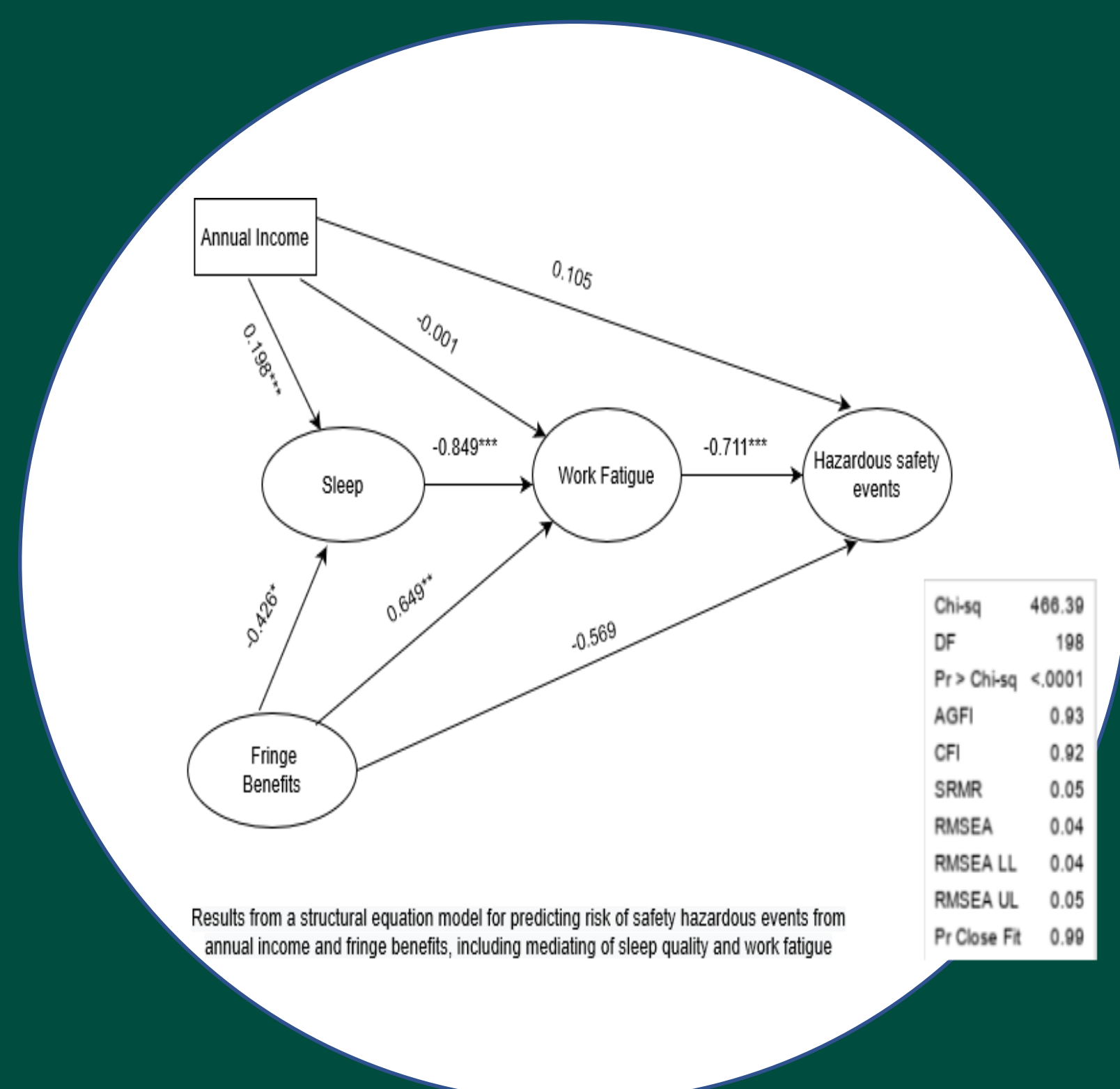
41% report not being offered health insurance coverage



## Model



Specification of a structural equation model for predicting hazardous safety events from annual income and fringe benefits, including mediating effect of sleep quality and fatigue. Rectangles indicate observed variables, and ellipses represent latent variables/constructs.



## COMPENSATION AND RISK FACTORS FOR OCCUPATIONAL SAFETY: A S.E.M. approach to Long-Haul Truck Driving

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## INTRODUCTION

- Trucking is a large industry in the United States, having approximately 1.75 million heavy and tractor-trailer truck drivers as reported in U.S. Bureau of Labour Statistics(BLS) 2017, responsible for transporting 61 per cent of the total freight (by value) in 2016 (BLS 2019). With the market being \$796 billion in 2017, this industry accounted for 3.5 percent of U.S. Gross Domestic Product (BLS 2017).
- Long haul trucking has been recognized as an occupation that is disproportionately detrimental to the health, occupational safety, and well-being of drivers (US Bureau of Labor Statistics 2010).
- Thus, it is essential to study the nature of trucking operations, incentivization, the risk factors that affect the working conditions of the truck drivers.
- Structure and operation of the trucking industry being complex there has been insufficient study conducted for this sector (World Bank 2020).
- This study focuses on establishing a direct and indirect relationship between long-haul truck drivers' compensation, sleep, fatigue and hazardous events.

## METHOD

- This study uses a sample size of 1265 participants in accordance with the dataset from National Institute of Occupational Safety and Health (NIOSH) comprising of both employee drivers and owner operator drivers with approximately 60 percentage of them being employee drivers.
- Face-to-face interview were conducted for all the participants at 32 truck stops across 20 states.
- Taking at least one mandatory 10-hour rest period during each delivery run was one of the criteria for the study.
- This paper analyzes data from employee truck drivers as their working conditions are different from the owner operator drivers.