



**CHRIST**  
(DEEMED TO BE UNIVERSITY)  
BANGALORE · INDIA

## Notice for the PhD Viva Voce Examination

Ms Maria Celine Liya (Registration Number: 1750077), PhD scholar at the School of Psychological Sciences, CHRIST (Deemed to be University), Bangalore will defend her PhD thesis at the public viva-voce examination on Monday, 07 October 2024 at 9.00 am in Room No. 044, Ground Floor, R & D Block, CHRIST (Deemed to be University), Bengaluru - 560029.

**Title of the Thesis** : **Road-Traffic Congestion in Bengaluru:  
Psychological and Social Consequences**

**Discipline** : **Psychology**

**External Examiner** : **Dr N Annalakshmi**  
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The members of the Research Advisory Committee of the Scholar, the faculty members of the Department and the School, interested experts and research scholars of all the branches of research are cordially invited to attend this open viva-voce examination.

**Place:** Bengaluru  
**Date:** 23 September 2024



**Registrar**

## ABSTRACT

The study investigated the commuting experiences of frequent travelers during congestion using a three-phase sequential exploratory design. Using semi-structured interviews, phase-1 explored the experiences of a sample of ten (4 women and 6 men) regular commuters on Bengaluru's congested roads. Thematic analysis revealed that psychological experiences due to travel adversities during congestion generated negative affect that narrowed thought-action repertoire of the commuters into fight or flight responses. Fight responses caused negative road occurrences that intensified travel adversities further, creating a vicious cycle showing a non-linear loop.

Social consequences included challenges for personal time and activities, family time, health and health care activities, work, social, community, and recreational activities, increase of virtual socialization, and social Darwinism. In phase 2, a check-list of psychological consequences was developed based on the thematic analysis. Phase 3 statistically validated the vicious cycle in a sample of 190 (87 women and 103 men) commuters using structural equation modelling. The model substantiated the probability of the vicious cycle. Based on the model, a mathematical model was developed that could be used to test the non-linear relationship between the components of the vicious cycle.

*Keywords: Traffic, road traffic, road traffic congestion, travel adversities, mathematical model, mathematical model of traffic congestion*

### **Publications:**

1. Liya M. C., Rajan S. K., & Kenath, A. (2024). Psychological experiences and travel Adversities: A Mixed-Method study of the regular commuters in traffic congestion. *Transportation Research. Part F, Traffic Psychology and Behaviour*, 101, 130–141. <https://doi.org/10.1016/j.trf.2024.01.006>
2. Liya, M., Rajan, S., & Kenath, A. (2023). Mathematical modelling of traffic behaviour. *Mapana Journal of Sciences*, 22(3), 159–164. <https://doi.org/10.12723/mjs.66.9>