

Explaining risky driving behaviour among the young motor riders in Manipal, Karnataka, India

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Impact of this dissertation

My doctoral dissertation attempts to understand risky riding behaviour and explore its psychosocial determinants among young motorized two-wheeler riders. In this section, implications for future research and interventions are discussed. Given the paucity of evidence on the underlying evidence on psychological determinants of risky riding behaviours in India, the findings of this dissertation will serve as baseline data for future studies. Furthermore, the findings of this dissertation highlight the importance of the utilization of crash data at the local level for any kind of meaningful localized interventions. Nevertheless, it must be noted that awareness related to crash data utilization is seemingly low in India. Also, the crash data findings of the dissertation can be replicated in other cities in India for evidence generation and subsequent intervention. The findings also provide impetus for researchers working in this field to consider helmet and mobile phone usage behaviour and incorporate these two components in the MRBQ to further use it in other settings in India using a larger population and broader age group involvement. This will help to come to a more generalizable overview of the factor structure of the MRBQ in the Indian context.

The findings of this dissertation also provide the first hands-on information regarding the perspective of the traffic police personnel to understand the risky riding behaviour among young riders and plan out targeted interventions. The aforementioned interventions are necessary as the enforcement authorities are the key stakeholders in ensuring the sustainability of any targeted intervention programmes. The findings of this dissertation are of interest to both practitioners and policymakers. For instance, the practitioners can engage young riders for behavioural change programmes like behaviour change communication and persuasive communication programmes targeting speeding and mobile phone usage behaviour with support from government authorities, university officials, and the regional transport office. For the policymakers, the dissertation outlines the importance of strict licensing procedures, MTWs safe systems, road safety information database, strict law enforcement and road infrastructure improvement to achieve “vision zero”.

The findings of this dissertation also consider the perspective of the target population, i.e., young riders, to further explore the underlying causes of risky riding behaviour. They opined that intradepartmental coordination to decide on the crash hot spots in the city to install barricades, cameras, speed breakers, signboards, and signals is the need of the hour. Furthermore, it was suggested that events like hackathons could be conducted in the colleges to encourage the youths to develop creative solutions to prevent road crashes. These findings can provide essential leads for such initiatives at

the local level and in other parts of India. The results of this dissertation can be extrapolated in organizing much intensive mass campaign to sensitize the riders to safe riding practices. Future research should use the Intervention Mapping approach to develop a theory-based intervention to increase awareness about safe riding practices. Intervention Mapping is a protocol for systematic theory-and evidence-based behaviour change planning to form an ecological approach to assess and intervene in health problems and promote community participation (Bartholomew Eldredge et al., 2016). The Intervention Mapping protocol can inform the development, implementation and evaluation of interventions. Noteworthy, Intervention Mapping technique can be used in other settings to identify, modify or create new interventions that will comprehensively tackle road crashes. To the best of our knowledge, Intervention Mapping approach has not been used in India to study road crashes and design intervention programmes. Our current research provides the impetus for road safety researchers and programme managers to utilize the Intervention Mapping approach as a starting point for future targeted interventions.

Publications in this dissertation

1. Sumit, K., Ross, V., Brijs, K., Wets, G., & Ruiter, R. A. C. (2021). Risky motorcycle riding behaviour among young riders in Manipal, India. *BMC Public Health*, 21(1). <https://doi.org/10.1186/s12889-021-11899-y>
2. Sumit, K., Ross, V., Ruiter, R. A. C., Polders, E., Wets, G., & Brijs, K. (2022). An Exploration of Characteristics and Time Series Forecast of Fatal Road Crashes in Manipal, India. *Sustainability*, 14(5), 2851. <https://doi.org/10.3390/su14052851>
3. Sumit, K., Brijs, K., Ross, V., Wets, G., & Ruiter, R. A. C. (2022). A focus group study to explore risky ridership among young motorcyclists in Manipal, India. *Safety (Basel, Switzerland)*, 8(2), 40. <https://doi.org/10.3390/safety8020040>

Conference presentation

1. Kumar Sumit, Veerle Ross, Robert. A.C. Ruiter, Evelien Polders, Geert Wets, Kris Brijs. An Exploration of Characteristics and Time Series Forecast of Fatal Road Crashes in Manipal, India. The 7th International Conference on Public Health 2021, 4th-5th August, 2021
2. Kumar Sumit, Veerle Ross, Robert. A.C. Ruiter, Kris Brijs, Geert Wets. A qualitative study to explore traffic police personnel perception related to road safety among the young riders in Manipal, India. 65th Annual National Conference of Indian Public Health Association – IPHACON, 23rd -26th September 2021, JIPMER, Pondicherry, India.

3. Kumar Sumit, Kris Brijs, Veerle Ross, Geert Wets, Robert. A.C. Ruiter. A Focus Group Study to Explore Risky Ridership among Young Motorcyclists in Manipal, India. 2nd World Conference on Public Health 2021, 26th - 27th November 2021.
4. Kumar Sumit, Kris Brijs, Veerle Ross, Geert Wets, Rob Ruiter. A quantitative analysis of the psychosocial determinants of risky riding behaviour among young motorized two-wheelers riders in Manipal, India. ISTECH, Hasselt University, Belgium. 20th October, 2022.