

# **ABSTRACT**

## **RESEARCH ON DRIVING BEHAVIOURS AND ON-ROAD CRASH RISKS AMONG MOTORCYCLISTS IN DANANG, VIETNAM**

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Research into driving behaviours and on-road risks of motorcyclists, who account for more than 40% of all traffic fatalities in Southeast Asia, can support the development of more effective and efficient traffic safety initiatives in motorcycle-dominant countries. However, prior research efforts to improve road safety in Vietnam, the Southeast Asian country most reliant on motorcycles, mainly focus on accident reporting or transitory interventions, which does not guarantee the validations of underlying reasons leading to aberrant motorcycling and adverse traffic outcomes. This dissertation's primary purpose is to apply valid measuring instruments to characterise motorcycling behaviours better and determine the relationships between those behaviours and motorcycle-related risks of Vietnamese motorcyclists.

This article-based dissertation comprises six chapters, and each one deals with a specific topic. Chapter 1 provides an overview of the study area, previous motorcycling-related research in Vietnam, and the structure of this dissertation. Chapter 2 focuses on the relationships between personality traits, traffic safety attitudes, risky driving behaviours, and driving-related outcomes among Vietnamese motorcyclists. Chapter 3 explores the factor structure of the Vietnamese version of the Motorcycle Rider Behaviour Questionnaire (MRBQ), the most widely used instrument for investigating motorcycling behaviours. In addition, this chapter also examines which MRBQ factors, driving information, and demographic variables predict motorcyclists' crash risks and traffic violations. Chapter 4 validates the Vietnamese versions of the Driving Anger Scale and Driving Anger Expression Inventory, the most popular instruments for measuring driving anger experience and expression. This chapter also assesses the relationships between driving anger and on-road risks

among Vietnamese motorcyclists. Chapter 5 investigates the Vietnamese version of the Prosocial and Aggressive Driving Inventory (PADI), a self-reported questionnaire that comprehensively evaluates safe and unsafe driving behaviours. This chapter also explores the associations between the PADI's factors and traffic outcomes in Vietnam. Finally, Chapter 6 provides the main conclusion, including this dissertation's primary results and contribution.

The significance of this study is that it is beneficial for advancing traffic safety by exploring the under-researched driving behaviours in Vietnam, a country with extensive motorcycling culture. Furthermore, it contributes to safety science by applying validated measures to investigate risk-conducive motorcycling behaviours and clarify their relationships with motorcyclists' on-road risks. It is also essential in providing a base for making efficient comparisons between road use behaviours in Vietnam and other countries and laying the groundwork for developing appropriate measuring instruments regarding Vietnam's motorcycling culture in the future. Last but not least, by completing this PhD dissertation, the author got a better knowledge and the opportunity to collaborate with other specialists to conduct extensive research projects on motorcycling behaviour and traffic safety in motorcycle-dependent countries.