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Title:

Using a Motorcycle Rider Behaviour Questionnaire (MRBQ) to Investigate the Predictors of Motorcyclists' Crash Risk

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Abstract: (Your abstract must use **Normal style** and must fit in this box. Your abstract should be no longer than 300 words. The box will 'expand' over 2 pages as you add text/diagrams into it.)

In 2005, there were over 23,000 motorcyclists (including moped riders) involved in injury road traffic crashes in Great Britain and 6,142 of these riders were killed or seriously injured (Department for Transport, 2006). In order to reduce the casualty rates it is necessary to understand why motorcycle crashes happen. The present study approached this issue by investigating the role of aberrant rider behaviour, using a Motorcycle Rider Behaviour Questionnaire (MRBQ) as a framework. The aims of the study were to test the reliability and discriminant validity of the MRBQ and to examine which MRBQ behaviours relate to crash risk. Following the Driver Behaviour Questionnaire (e.g., Reason et al., 1990), which classifies driver behaviour into a system of errors ("the failure of planned actions to achieve their intended consequences") and violations ("deliberate deviations from those practices necessary to maintain the safe operation of a potentially hazardous system"), the MRBQ measured errors and violations, but with regard to motorcycling rather than car driving (see Elliott, Baughan & Sexton, 2007). The questionnaire consisted of 43 items to measure the self-reported frequency of specific riding behaviours. The questionnaire was administered to a sample of motorcyclists via a postal survey ($N = 8,666$). Principal components analysis revealed a 5-factor solution (TRAFFIC ERRORS, CONTROL ERRORS, SPEED VIOLATIONS, performance of STUNTS, and use of SAFETY EQUIPMENT). Generalised linear modelling showed that, while controlling for the effects of age, experience and annual mileage, TRAFFIC ERRORS were the main predictors of crash risk. For crashes in which respondents accepted some degree of blame, CONTROL ERRORS and SPEED VIOLATIONS were also significant predictors of crash risk. Implications of the findings will be discussed in relation to deciding on which countermeasures may be most effective at reducing motorcycle casualty rates.

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