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The long-term crash involvement of unlicensed drivers and riders in Queensland, Australia

Barry Watson and Dale Steinhardt

Centre for Accident Research & Road Safety – Queensland (CARRS-Q), Queensland University of Technology, Beams Road, Carseldine 4034, Australia

Abstract

Australian and international research has consistently found that unlicensed drivers and motorcycle riders are over-represented in serious crashes, and that these crashes are more likely to involve high-risk behaviours like drink driving and speeding. This paper reviews the long-term crash involvement of unlicensed drivers and riders in the Australian state of Queensland, utilising police-reported crash data for the years 1995 – 2004. Over this ten year period, the involvement of unlicensed controllers in reported crashes remained relatively stable. They consistently represented between 3% - 4% of all controllers involved in total crashes, and between 6% - 10% of those involved in fatal crashes, confirming their over-representation in more serious crashes. However, the proportion of unlicensed riders involved in motorcycle crashes was more variable and higher than was the case for unlicensed drivers, at all crash severity levels. For example, during the period, unlicensed riders accounted for between 7% - 14% of motorcycle riders involved in total crashes and 9% - 30% of all those involved in fatal crashes. The involvement of key contributing factors in the crashes involving unlicensed controllers also appears relatively stable. Among those unlicensed controllers involved in serious casualty crashes, 23% - 33% had alcohol or drugs in their system (compared to 3% - 7% for licensed controllers), 10% - 14% were judged to be speeding (compared to 2% - 3% for licensed controllers), and 25% - 34% were judged to be inattentive/negligent (compared to 17% - 19% for licensed controllers). Although more variable over time, unlicensed controllers were also consistently over-represented in single vehicle crashes compared to their licensed counterparts. Together, the findings of this study confirm that both unlicensed drivers and riders remain a concern for road safety. The relative stability in their crash-involvement patterns, particularly among unlicensed drivers, suggests that more targeted countermeasures are required to better address this problem. In particular, unlicensed riders represent a special sub-group of concern.

Introduction

Unlicensed driving remains a serious problem in many countries, despite ongoing improvements in traffic law enforcement practices and technology (Sweedler & Stewart, in press). In the USA, over 10% of the drivers involved in fatal crashes do not hold a valid licence, while approximately 20% of all fatal crashes involve at least one of these drivers (Griffin & DeLaZerda, 2000). In Australia, unlicensed drivers represent over 5% of the drivers involved in fatal crashes, while crashes involving unlicensed drivers and riders account for almost 10% of the national road toll (FORS, 1997a).

Unlicensed driving represents a major problem for road safety in two respects. Firstly, it undermines the effectiveness of driver licensing systems by preventing the allocation of demerit points and reducing the impact of licence loss, which has otherwise been demonstrated to be a very effective deterrent to illegal behaviour (Watson 2004a,b). Secondly,

there is a growing body of evidence linking unlicensed driving to a cluster of high-risk behaviours including drink driving, speeding, failure to wear seat belts and motorcycle use (Griffin & DeLaZerda, 2000; Watson, 1997, 2004a). Consistent with this, DeYoung, Peck & Helander (1997) utilised a quasi-induced exposure method to estimate that suspended/revoked drivers and other unlicensed drivers in California were over-involved in fatal crashes by a factor of 3.7:1 and 4.9:1, respectively, compared to licensed drivers. Using a similar method, Watson (2004a,b) estimated that unlicensed drivers in Queensland were almost three times more likely to be involved in a reported crash than licensed drivers. In the event of a crash, those involving unlicensed drivers were twice as likely to result in a fatality or serious injury.

The majority of the research in this area has focussed on either unlicensed drivers as a whole or on unlicensed car drivers. However, there is growing evidence suggesting that unlicensed motorcycle riding is a particular issue of concern for road safety. In a recent Queensland study, Watson & Steinhardt (2006) found that the proportion of unlicensed riders involved in motorcycle crashes was higher than that for unlicensed drivers, at all crash severity levels.

Over the last decade, the fatality rate per 100,000 persons has fallen in both Australia and Queensland, from 10.76 to 7.77 and 11.53 to 8.29, respectively (ATSB, 2007). While a range of road safety countermeasures have been introduced or enhanced throughout this period, very few have specifically targeted unlicensed driving. Consequently, this study was undertaken to explore the long-term crash involvement of unlicensed drivers and riders in Queensland. Consistent with Australian conventions, the term unlicensed driver is used in this study to cover all those people who drive or ride a motor vehicle without a valid licence, including those who have never held a licence.

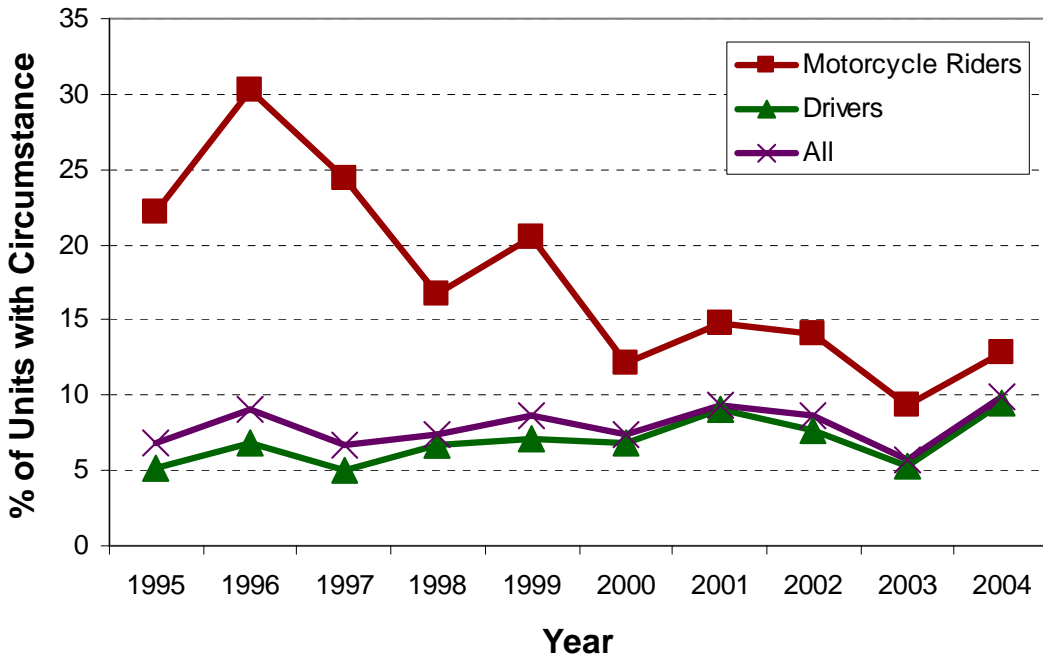
Method

The data used in this study was extracted from the Queensland Road Crash Database for the years 1995 - 2004. This database contains records for all crashes reported to the police in the state (which is required where the crash results in a death, an injury or property damage exceeding \$2,500). Age, gender, licence and crash details were obtained for all controllers of motorised vehicles (including cars, trucks, buses and motorcycles) involved in crashes during the period, irrespective of whether they were judged by the police to be at fault for the crash or not. This ensured that the overall crash involvement of unlicensed drivers was assessed and avoided any biases related to the reporting practices of the police. The categories of unlicensed drivers included in the database are: drivers with an expired licence; disqualified/suspended drivers; drivers with an inappropriate class of licence; drivers who have never held a licence; and other unlicensed drivers. The severity of the crashes is coded at four levels: fatal, hospitalisation, minor injury and property damage only. It should be noted, that the generic term 'controller' is used in the paper to refer to both the drivers of motorised vehicles (referred to as 'drivers') and motorcycle riders (referred to as 'riders').

Results

Figure 1 reports the overall proportion of controllers involved in fatal crashes who were unlicensed during the period, as well as separate breakdowns for motorcycle riders and motor vehicle drivers. As can be seen, unlicensed controllers as a whole consistently represented between 6% - 10% of all controllers involved in fatal crashes. The trend for unlicensed drivers closely parallels that for all controllers. However, the proportion of unlicensed riders involved in fatal motorcycle crashes was more variable, falling from a high of 30% to 9%.

Figure 1: Proportion of unlicensed controllers involved in fatal crashes, by vehicle type (1995 – 2004)



As shown in Figure 2, a similar pattern of results emerged for total reported crashes during the period. Unlicensed controllers as a whole consistently represented between 3% - 4% of all controllers involved in total crashes. Once again, the proportion of unlicensed riders involved in total motorcycle crashes was more variable (ranging from 7% - 14%) and was relatively higher than that for the unlicensed drivers. Indeed, the higher relative involvement of unlicensed riders in crashes compared to unlicensed drivers was evident at all crash severities.

Figure 2: Proportion of unlicensed controllers involved in total crashes, by vehicle type (1995 – 2004)

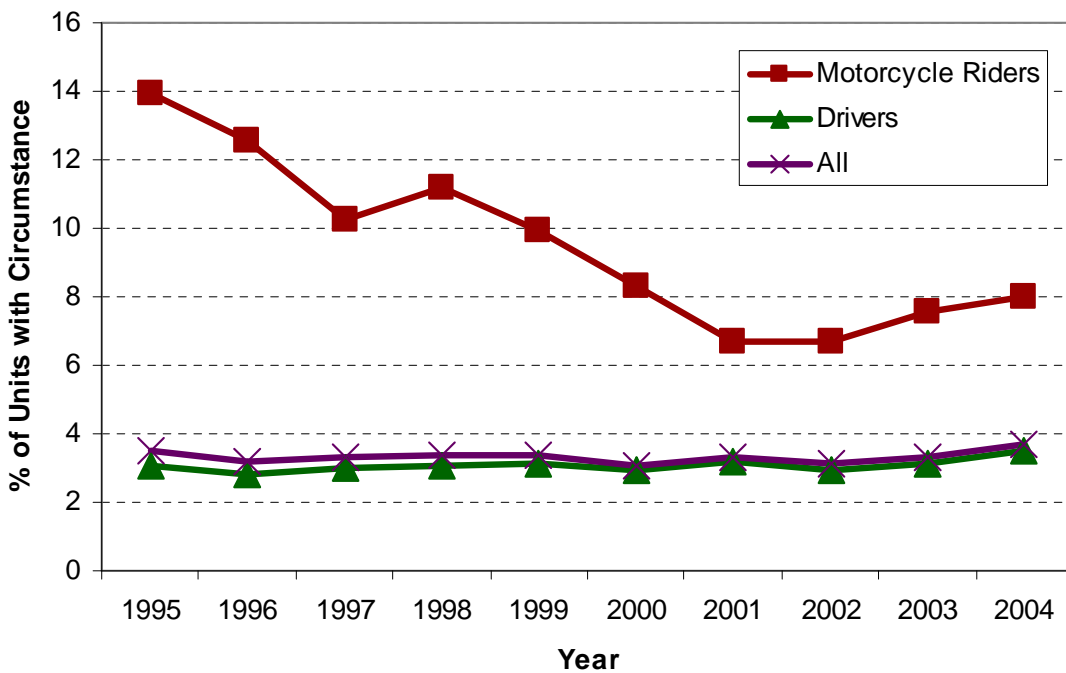


Figure 3: Proportion of licensed and unlicensed controllers involved in serious casualty crashes, by vehicle type and contributing factor (1995 – 2004)

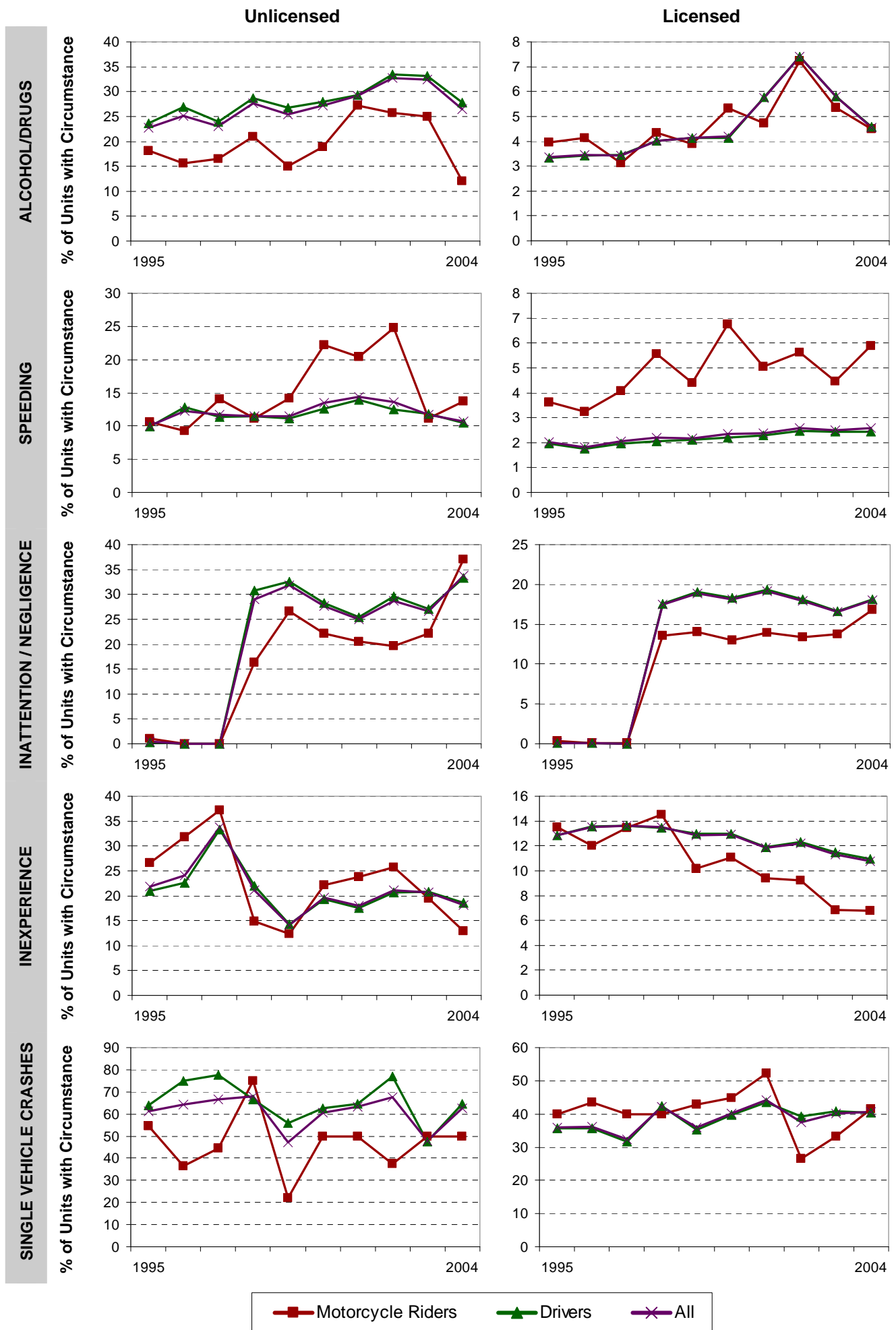


Figure 3 compares the relative involvement of unlicensed and licensed controllers in serious casualty crashes (ie. those resulting in a fatality or hospitalisation) during the period, in terms of the key factors contributing to the crash. (This category of crashes was selected to enable a focus on serious crashes, without relying solely on those resulting in a fatality.) The data confirms the over-involvement of various risk factors in the crashes involving unlicensed controllers found in other studies. For example, among all the unlicensed controllers involved in serious casualty crashes during the period, between 23% and 33% had alcohol or drugs in their system compared to only 3% - 7% of the licensed controllers. While the pattern of the data was reasonably similar between the unlicensed riders and drivers, the involvement of alcohol and drugs was consistently lower among the unlicensed riders. Similarly, between 10% and 14% of the unlicensed controllers were judged to be speeding, compared to only 2% - 3% of the licensed controllers. Interestingly, while there was some evidence of a higher involvement of speeding in the crashes involving unlicensed riders compared to unlicensed drivers, this difference was more evident among the licensed riders and drivers.

The data relating to whether the controllers were judged to be inattentive or negligent by the police appears to show a change in police reporting practices in the late 1990s. Since that time, however, this factor was consistently over-represented in the crashes involving unlicensed controllers (ranging from 25% - 34%) compared to their licensed counterparts (17% - 19%). While the pattern of the data was reasonably similar between the unlicensed riders and drivers, the involvement of inattention or negligence was generally lower among the unlicensed riders. The data relating to the role of inexperience among unlicensed controllers shows more variability than that for the other factors, perhaps reflecting the more subjective nature of this judgement. Nonetheless, inexperience was consistently over-represented in the serious casualty crashes involving the unlicensed controllers (ranging from 14% to 34%) compared to the licensed controllers (11% - 14%).

Finally, consistent with the above data, unlicensed controllers as a whole were over-represented in single vehicle crashes. During the period, between 48% and 71% of the unlicensed controllers were involved in single vehicle crashes compared to 32% - 44% of the licensed controllers. However, this over-representation was more consistently evident among the unlicensed drivers than the unlicensed riders.

Discussion

Two potential constraints need to be borne in mind when interpreting the findings of this study. Firstly, since the analyses only considered those crashes reported to the police, the under-reporting of crashes may introduce a potential source of bias. For example, it is possible that the crashes involving unlicensed drivers and riders are systematically under-reported, particularly in instances where no other road users are involved. Secondly, many of the details recorded about crashes are based on the opinion or judgement of the attending police. It is possible that some of these judgements may be influenced by the discovery that a driver involved in a crash is unlicensed. To minimise any potential bias in police reporting or prosecution practices, this study included all controllers involved in crashes, irrespective of whether they were judged by the police to be at fault for the crash or not.

Bearing in mind the above caveats, the results of this study provide further evidence confirming the over-representation of unlicensed drivers and motorcycle riders in serious crashes. Moreover, the crash involvement of unlicensed drivers appears to be relatively stable over time. Over the ten year period examined, their involvement in fatal crashes only varied

between 6% - 10% and, in total crashes, between 3% - 4%. This suggests that the various countermeasures that have been introduced or enhanced over this period in Queensland, along with other factors influencing crash involvement (such as economic factors), have not had a differential impact on unlicensed drivers compared to licensed drivers. Alternative explanations are possible, including the possibility that the effect of countermeasures have been mitigated by other factors. However, it is worth noting that very few countermeasures were introduced over this period specifically targeting unlicensed drivers (Watson, 2004b).

In contrast, the long-term involvement of unlicensed riders in crashes is more variable and appears to reflect a downward trend. Their involvement in fatal motorcycle crashes fell from a high of 30% in 1996 to 9% in 2003, while their involvement in total crashes fell from 14% in 1995 to 7% in 2001. Some of the variability in the data may reflect the lower numbers of unlicensed riders involved in crashes compared to unlicensed drivers. However, it is possible that certain factors have acted differentially on unlicensed riders. For example, it has been suggested that the Q-Ride motorcycle licensing scheme introduced in Queensland in August 2001 may have had a positive impact on unlicensed riding. In particular, it has been argued that the scheme has encouraged some unlicensed riders to rejoin the licensing system by allowing them to 'fast-track' through to a higher licence class that enables them to ride larger capacity motorcycles (Watson et al, 2005). This is an issue requiring further investigation.

During the period examined, the serious crashes involving both unlicensed drivers and riders were more likely to involve alcohol or drugs, speeding, inattention/negligence and inexperience. These findings support other evidence questioning the common assumption that unlicensed controllers drive in a more cautious manner to avoid detection. While many unlicensed controllers may reduce their overall exposure in order to avoid detection, this does not necessarily result in *safer* road use (Watson, 2004a, b).

Conclusion

Together, the findings of this study demonstrate that both unlicensed drivers and riders remain a concern for road safety in Queensland. The relative stability in the crash-involvement patterns of unlicensed controllers as a whole, and in particular unlicensed drivers, suggests that more targeted countermeasures are required to better address this problem. While the long-term involvement of unlicensed riders in motorcycle crashes appears to be falling, they represent a special sub-group of concern.

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