

Monitoring Victorian motorcycle riders

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Abstract

Motorcycle riding is increasing in popularity. Motorcycle riders are overrepresented in both the road toll and in serious casualty crashes. The aim of this study was to understand the attitudes to road safety and self-reported riding behaviour of motorcycle riders in Victoria, and to gain an insight into types of riding. Using a demographic stratified sampling technique, 2,000 Victorians who held a motorcycle licence, and/or had a motorcycle registered in their name were randomly sampled then invited by mail to participate in the survey online (phone and hardcopy options were available). Only 9% ride their motorcycles more than half the time; around 80% of motorcyclists ride recreationally, and only 4% solely commute. 68% of active riders owned a full set of riding gear but less than half (44%) active riders wear their gear every time they ride - saying trip length, weather and destination affected their decision. Most riders would not speed even if they were sure they wouldn't get caught; however when asked to nominate a travel speed at which they thought they should be allowed to travel without being booked, 45% said they would travel above that speed at least part of the time. This study has provided the Transport Accident Commission with directions for further research, particularly in regard to returning and lapsed riders; and also in relation to protective gear wearing. It also identifies attitudes and behaviours of riders who are more likely to take risks.

Background

Motorcycling is increasing in popularity in Victoria, with around 18,000 people getting a motorcycle learner's permit each year, and about 12,000 more people attaining a motorcycle licence each year. In 2008, there were around 300,000 motorcycle licence holdersⁱ (excluding learners but including probationary licence holders). This increased to close to 350,000 in 2012. In the same period, motorcycle registration numbers have increased by 20% to around 165,000 registrationsⁱⁱ, compared to 136,000 registrations in 2008. In the same period, passenger vehicle registrations have increased by 8%.

However, despite this substantial increase in numbers, motorcycles still make up less than 4% of all vehicles on Victorian roads; and only around 8% of Victorians with a current licence hold a motorcycle licence. According to the latest ABS statisticsⁱⁱⁱ, Victorian motorcyclists travel less than one per cent of all vehicle kilometres travelled.

Motorcyclists are overrepresented in trauma statistics, particularly when compared to the proportion of motorcycles as part of the vehicle fleet and also to the number of licence holders - over the last five years, 220 motorcyclists have been killed, and more than three thousand riders have been hospitalised for injuries received in a motorcycle crash in Victoria. This represents 15% of the Victorian road toll between 2008 and 2012, and 19% of acute hospitalised¹ injuries in this period. Motorcyclists are also more likely to have a longer hospital stay as a result of injuries sustained in a road transport accident compared to other road user groups (for example, motorcyclists have an average hospital stay of 12 days, compared to 10 days for drivers).

When considering the problem of motorcycle riders' overrepresentation in road trauma statistics,

¹ Acute hospitalised is defined as admitted to hospital for more than 1 day

the TAC realised that our knowledge of motorcycle riders, their reasons for riding and their attitudes and behaviours toward road safety issues was limited.

Victorian car drivers' road safety attitudes and behaviours are surveyed regularly by the TAC, using various instruments (including the Road Safety Monitor), and some motorcycle rider attitudes and behaviours have been surveyed on an ad-hoc basis over the last few years, generally as part of other surveys. Capturing sufficient motorcycle riders to form a valid sample that was robust enough for analysis through other surveys was difficult (for every one hundred surveys conducted, only eight would have a motorcycle licence, and potentially less would ride regularly).

The Road Safety Monitor is an instrument that has been successfully used to survey car drivers about various road safety attitudes and behaviours for more than ten years. With improvements to methodologies trialled via the Road Safety Monitor, and access to the Victorian driver licence and registration data base, it was now possible to directly capture motorcycle riders and owners. Because of a desire to further our knowledge of motorcycle riders, in April 2012, the TAC conducted the Motorcycle Monitor survey for the first time. This survey was loosely based on the Road Safety Monitor, but adapted to address the needs of the TAC to discover more about motorcycle riders.

Aim

The purpose of this study was to utilise the framework of the Road Safety Monitor to develop an instrument that would gather detailed information about motorcycle riders, their attitudes toward road safety, and their behaviour while riding, with the intention of gathering a fully representative sample of the motorcycle rider population.

The core aims of this project were to explore the characteristics of the Victorian motorcycle rider population in terms of their general demographic characteristics, riding attitudes and behaviours, and attitudes toward road safety issues.

As well as providing a demographic profile of people who ride, key issues explored included:

- riding history;
- how often people ride (frequency);
- why riders ride (purpose);
- the types/number of bikes owned;
- motorcycle safety features – awareness of and types 'owned'; and
- attitudes and behaviour regarding speeding and protective gear wearing.

Data and Methodology

Access to the VicRoads licence and registration data base has enabled the TAC to more directly focus its social research program toward its target audiences, rather than using more 'scattergun' approaches such as Random Digit Dialling (RDD) or the Electronic White Pages (EWP); which are limited by the age of the database (in the case of the EWP), the increasing number of mobile phone only households, and the inability to determine location of a mobile phone number (for RDD).

It was decided to administer the Motorcycle Monitor 2012 as an online survey with an option for participants to complete the survey via telephone if they preferred. A hard copy complete option was also available; however this was not taken up by any participants.

A random selection of 2,000 Victorians with either a motorcycle licence and/or a motorcycle registered in their name was invited to take part via a hardcopy invitation in the mail. A reminder

letter sent to those who had not completed the survey within 10 days. Those who did not respond to the initial survey and the reminder letter were contacted by telephone (where telephone numbers were available), at which point, potential participants were offered the opportunity to complete the survey over the phone if they preferred.

The sample structure was generated to over-sample and under-sample different categories of riders to compensate for lower anticipated participation rates in certain sub-groups (such as young male riders), and to allow for enough sample to conduct analyses within key groups. A further sub-sample was sent to certain areas where there was a known higher incidence of motorcycle riders.

Overall, 1,952 motorcycle licence or registration holders received at least one letter by mail or a telephone call to invite them take part in the study. The remainder had either opted out of the survey, or were return to senders where there was no valid phone number for a reminder call. There were 548 survey completions in total – 447 were completed online and 101 by telephone interview. The overall response rate for the study was 28%, with response rates for holders of a motorcycle registration and licence higher at 36%, holders of a motorcycle registration only at 22% and motorcycle licence only at 25%.

Responses were weighted by demographic characteristics (age and gender) and whether there was a motorcycle attached to the home address in order to ensure the sample was as representative of the population as possible.

The majority of respondents (96%) to this survey held a full licence, with 2% stating they were learner permit holders or probationary licence holders; the remainder were unlicensed. 84% were male and 16% were female (weighted to population figures of 88% and 12% respectively).

Discussion

Learning to ride – Most (60%) motorcycle riders learned to ride before they turned 18, and one in six riders learned to ride a motorcycle before they turned ten. Off road riders and people living in regional Victoria were more likely to learn to ride to ride a motorcycle at a younger age than their metropolitan counterparts (13% of metro riders compared to 33% of off road riders and 20% of regional riders learned to ride a motorcycle before they were ten years old). Females were less likely than males to take up motorcycling at an early age (10% compared to 16% of all males). Most motorcyclists are either self-taught (51%) or taught to ride by friends and family (38%); however, amongst people who have learned to ride in the last five years, 88% had undertaken some form of learners' course (this reflects the requirement to undertake a learners' course as part of the licencing process). Only 25% of the sample overall had undertaken a learners' course.

In order to better categorise motorcycle licence holders, it was determined that a person who had ridden their motorcycle in the last 12 months, regardless of frequency, and regardless of whether they were returning after a break or had never stopped riding was deemed to be an “active” motorcycle rider. This group represented around 59% of respondents – approximately 191,000 Victorian motorcycle licence holders ride regularly.

Active riders are more likely to be:

- male riders (58% of all male riders surveyed compared to 19% among females);
- aged 18-25 (74%);
- learner/probationary licence holders (89% compared to 55% of full licence holders); and
- have a motorcycle registered in their name (83%); and
- have both a motorcycle licence and registration (91%).

37% of respondents reported they had stopped riding, but would like to ride again in the future, or still considered themselves regular riders despite having not ridden for 12 months or more. This group equates to 128,000 licence holders and for the purpose of this study were classified as “lapsed” riders. The remainder were considered to be “former riders” and indicated they had stopped riding and did not intend to ride in the future. This study concentrated on “active” riders.



Figure 1. Classification of rider groups

Of those participants who indicated they had stopped riding, 58% had stopped riding in the previous five years with the vast majority stopping riding because they no longer own a motorcycle (61%) and/or because of family commitments (54%). Those participants who indicated they did not intend to return to riding also stopped riding for similar reasons, although they also stated they were no longer interested in riding.

Time spent riding – Only a small proportion of active riders rely solely on their motorcycle for transport, with only 3% of active riders stating they rode their motorcycle more than 90% of the time. Only one quarter of respondents rode their motorcycle more than 20% of the time. Younger riders (aged 18-25 – 42%) and those holding learner permits and probationary licences were most likely to ride more frequently (63% rode more than 25% of the time). In addition, those with newer motorcycles were more likely to ride a greater proportion of the time (55% of owners of motorcycles that were less than 2 years old at the time of the survey rode more than 20% of their time compared to only 35% of those with motorcycles built from 2000-2009).

Motorcyclists surveyed rode 4426km per year on average; with a median travel distance per month of 167km (half rode more than 167km a month, the other half rode less). Those who ride a motorcycle more than 20% of the time ride a median of 520km a month compared to a median of 83km a month for those who ride less than 20%.

Purpose of riding - Active riders were asked what type of riding they did in the last 12 months as a proportion of all the time they spent riding a motorcycle. Respondents were grouped into three categories:

- Commuting purposes (i.e. going to work, study, shops);
- Recreational purposes on-road (i.e. riding for leisure on public roads, highways, freeways); or
- Recreational purposes off-road (i.e. riding on tracks in national parks or on private property).

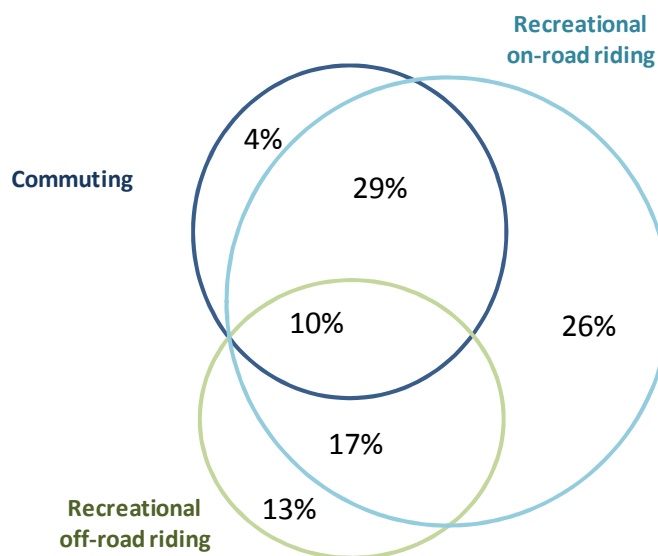


Figure 2. Riding purpose

Active riders were most likely to have taken part in some form of recreational riding on-road (82%) in the last 12 months. 44% reported they had done some commuting by motorcycle in the last year and 41% reported riding off-road for recreational purposes. There were some differences between demographic groups, with younger (18-25 year old) riders (64%) and learner/probationary riders (80%) more likely to commute (compared to 38% of 40+ riders and 42% of full licence holders), and metropolitan riders (89%) being more likely to ride recreationally on-road than those who live in the rest of Victoria (73%). 10% of riders spend time commuting, riding recreationally on road and riding

recreationally off road. On average, riders spend about half their riding time riding recreationally on-road and a quarter of their time commuting and riding recreationally off-road respectively. Riders who lived closer (within 10km) to the CBD of Melbourne were more likely to ride to commute, and those who lived more than 20km from the CBD were significantly more likely to spend time riding recreationally on-road. Older riders (aged 40+) spend more time riding recreationally on-road and less time riding to commute.

Attitudes toward speeding - Respondents were asked a series of questions relating to their attitudes and behaviour in relation to speeding including questions about travel speed and being pulled over by police. Respondents were asked to nominate a speed at which they should be allowed to travel without being booked for speeding in either a 60km/h zone or a 100km/h zone – riders were more likely to nominate the posted speed limit or lower in the 60km/h zone (67%) than in the higher speed zone (55% in 100km/h zones).

When asked about their own speeding behaviour, most (60%) motorcycle riders would not 'ride over the speed limit if I'm sure I'll get away with it'; however, when asked about how often they exceeded the speed limit they nominated in a 100km/h zone, around two thirds stated they would ride above their nominated limit at least some of the time, with around 15% stating they would 'speed' at least half the time. It is important to note here that car drivers report similar behaviours, with 60% of car drivers stating they drive over their nominated speed limit at least some of the time, and 10% stating they would travel over their nominated speed at least half the time in a 100km/h zone.^{iv}

Motorcycle riders are less likely to exceed their 'speed limit' in a 60km/h zone and more likely to adhere to this limit compared to travel speeds in 100km/h zones, with 55% never speeding in this zone and only 12% exceeding their nominated limit at least half of the time. Only 46% of car drivers never exceed their nominated limit in 60km/h zones, and 11% exceed their nominated limit at least half of the time.

Protective clothing wearing - Active riders were asked about the protective motorcycle clothing they owned, how often they wore protective gear and their purchase intentions. Most participants indicated they owned several pieces of protective motorcycle clothing, with 68% stating they owned a complete set of gear (i.e. a helmet, gloves, pants, jacket (or riding suit) and riding boots). There is a relationship between the type of motorcycle mostly ridden and ownership of motorcycle

protective clothing; with riders who primarily ride a road bike being more likely to own a complete set of riding gear, and scooter riders being least likely to own a complete set of gear.

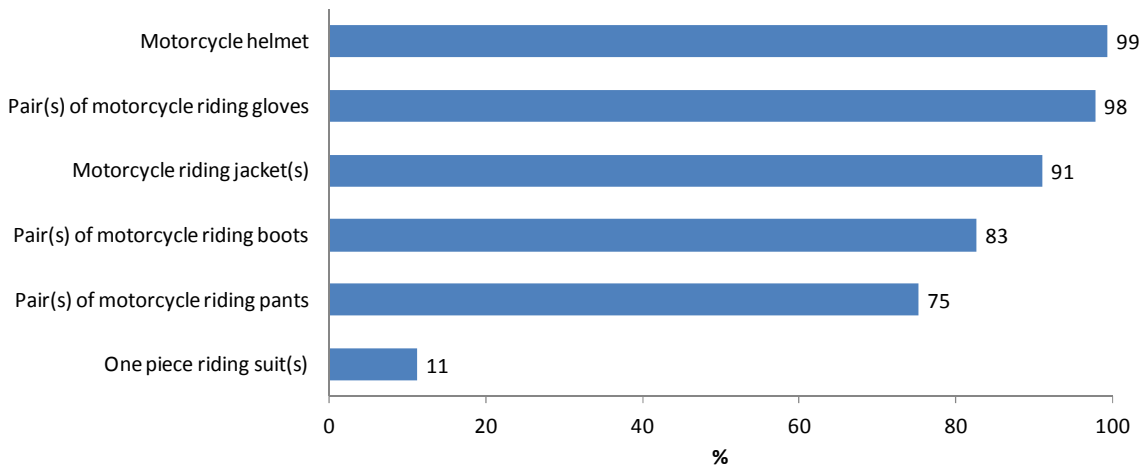


Figure 3. Protective motorcycle clothing owned

Motorcycle riders often have multiple items of gear, with riders having on average at least two helmets, pairs of gloves, pairs of pants and riding jackets, with those riders owning multiple motorcycles or riding larger capacity (701cc+) motorcycles being more likely to have more gear. The reason(s) for this include:

- Different gear for different seasons
- Gear for night and day riding
- Gear for passengers
- Off road and on road gear
- Keeping gear that has been outgrown or upgraded

In order to accommodate riders who may not own gear but borrow it when needed, respondents were also asked about frequency of wearing gear regardless of level of ownership. Riding jackets were the most frequently “borrowed” item with a quarter of riders who don’t own one wearing a riding jacket at least some of the time when they rode.

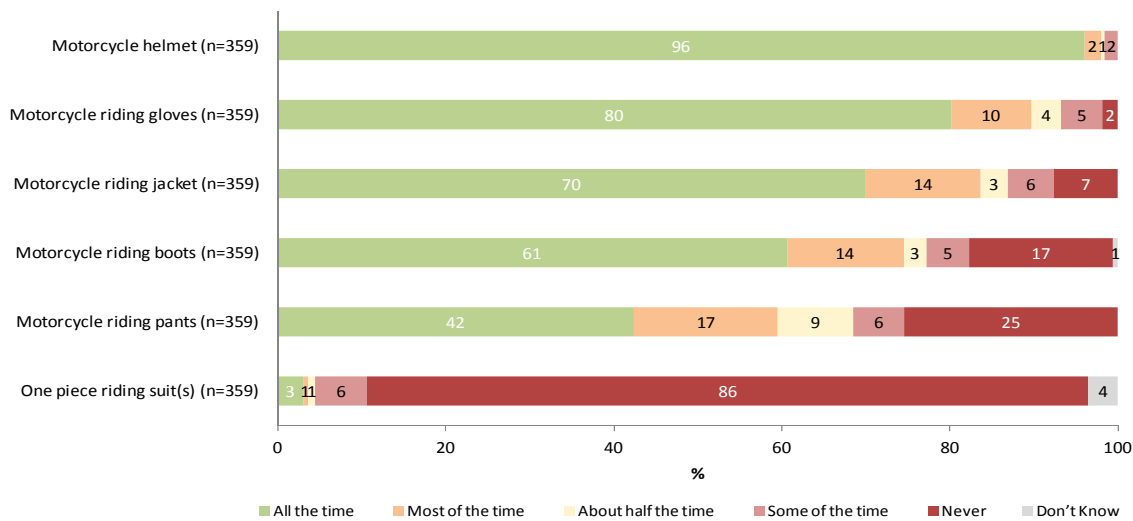


Figure 4. usage of motorcycle protective clothing regardless of ownership

Respondents were also asked why they don't wear protective clothing every time they ride their motorcycle – while 24% stated they wore all the clothing they had, 26% only wear protective clothing in inclement weather, and 14% found motorcycle gear to be uncomfortable.

Motorcycle helmets (96%) and gloves (80%) were the most frequently worn items of clothing (regardless of ownership), with motorcycle pants being the least likely item to be worn all the time (42%). Ownership of protective motorcycle clothing does increase the likelihood of it being worn; however, a number of motorcycle riders don't wear gear regardless of ownership, with the destination and length of the trip being the most common indicator of whether protective clothing is worn or not.

Of the riders who owned a full set of protective clothing, just over half wear it every time they ride their motorcycle, meaning only a third (32%) of active motorcycle riders wear protective clothing every time they ride their motorcycle. However, two thirds of active riders believe riders should always wear gear and 77% believe that motorcycle clothing protects them in the event of a crash.

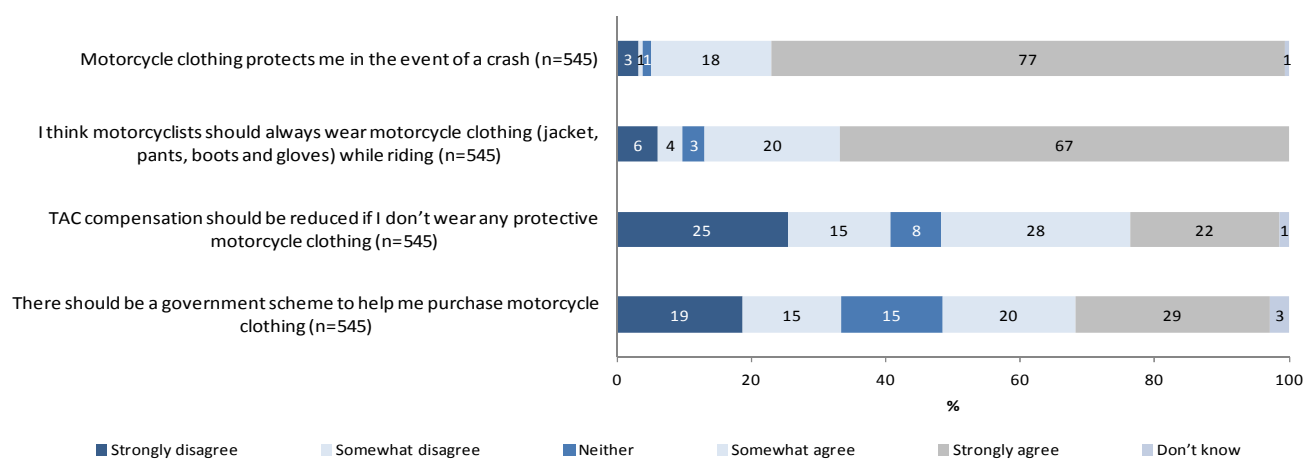


Figure 5. Attitudes to motorcycle protective clothing

Respondents were also asked about their future intentions in relation to gear purchase, with more frequent riders being more likely to purchase more gear. In addition, respondents who already owned a complete set of protective clothing were more likely than those who didn't to be planning to purchase more protective clothing in the future. Riders who did own a full set of motorcycle protective clothing were more likely to strongly approve of a government rebate for the purchase of additional protective clothing (37% compared to 25% of those who do not own a complete set of protective clothing).

Crash history – just over half (54%) of the active motorcyclists surveyed reported that they had experienced a crash at some point in their motorcycle riding history, with male riders (58%), those over 40 (60%) and those with longer riding histories (16+ years – 59%) most likely to report they had crashed. A third of riders who had been riding less than five years also reported they had crashed on their motorcycles.

45% of those who reported crashing stated they needed medical treatment as a result of their crash. Crashes that require medical treatment are more likely to occur in the early years of a rider's experience on a bike. The majority of those with 16 or more years' experience riding a bike reported that their most recent crash requiring medical treatment occurred 11 or more years ago (70%). One in three riders (32%) with less than six years riding experience had also experienced a crash requiring medical treatment.

Most crashes requiring medical treatment occur on sealed roads in built up areas (57%); with the majority (73%) involving riders on road bikes. 19% of crashes requiring medical attention occur on tracks and unsealed roads, with two thirds of these involving off-road/trail bikes.

Close to half of respondents involved in a crash requiring medical treatment believed another party was at fault in the collision, with a further one in five stating either they themselves were at fault (21%) or that no other vehicles were involved (19%). Incidents where no other vehicle was involved were most likely to occur on unsealed roads or on tracks in state parks, and riders of off-road motorcycles were most likely to feel they were personally responsible for their crash, and to have a collision where no other vehicle was involved.

Conclusions

This study has been generally well received and has provided a great deal of useful information about motorcycle riders and their attitudes toward some road safety related behaviours. It was interesting to note that most motorcyclists ride relatively infrequently, with only 25% of active motorcycle riders riding their motorcycles more than 20% of the time (compared to driving a car); and that motorcycle speeding behaviour is very similar to that of car drivers.

Wearing of protective motorcycle clothing is an issue in that only two thirds (68%) of active riders owned a 'complete set' of protective gear, and less than half (44%) wear it every time they ride meaning only 32% of active riders wore a complete set of gear every time they rode.. Purchase cost was a major barrier to owning more protective clothing, however, purchase *intentions* were lower among those who did not already own a complete set of gear – this suggests it would be difficult to convince those who are missing items of protective clothing to purchase more gear. In addition, the inconvenience of changing clothing before or after riding was a key barrier to actually wearing the gear they did own.

More than a third of motorcycle licence holders surveyed had stopped riding but had not ruled out riding again in the future – the main reasons cited for stopping riding were around family circumstances and lifestyle choices; and one in six riders had recently returned to riding after a

break. However, not much is known about the circumstances around taking up riding again after a break.

Future research

The Motorcycle Monitor will be conducted again in 2013, using a similar methodology; however, a paper survey will be mailed with the reminder letter allowing some people who may be less inclined to take part in an online survey to participate. This survey will investigate the learning to ride experience and the likelihood of riders returning after a break, and further investigate recreational riding.

References

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- ⁱ VicRoads registration and licence database, data extracted June 2011
 - ⁱⁱ Australian Bureau of Statistics, 2012, *Motor Vehicle Census Australia*, cat. no. 9309.0 viewed 16 June 2013
 - ⁱⁱⁱ Australian Bureau of Statistics, 2013, *Survey of Motor Vehicle Use*, cat. no. 9208.0 viewed 16 June 2013
 - ^{iv} TAC Road Safety Monitor 2012