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Motorcycle protective clothing in the ACT

Matthew RJ Baldock, James P Thompson



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Authors

MRJ Baldock, JP Thompson

Performing Organisation

Centre for Automotive Safety Research
The University of Adelaide
South Australia 5005
AUSTRALIA

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Abstract

This study involved an investigation of the use of protective clothing by motorcyclists in the ACT, encompassing both commuting (n=33) and recreational (n=45) riders. Rider knowledge about MotoCAP, the star rating scheme for protective clothing that operates in Australia and New Zealand, was also examined. Rates of wearing of protective clothing among ACT motorcyclists was found to be high, especially for jackets and gloves. Gains could still be made through the promotion of the importance of wearing protective motorcycle pants, especially garments fitted with armour. Only a minority of riders were aware of MotoCAP and only a small proportion had ever visited the website. The high importance placed by riders on physical protection when riding suggests that there is a big market for the resources provided by MotoCAP and expanding publication of star ratings beyond the website may assist with reaching them, something which MotoCAP is currently pursuing.

Keywords: motorcyclist, protective clothing, road safety

Summary

It has long been recognised that riders of motorcycles have a substantially higher risk of serious injury or fatal road crashes than other road users in Australia (Johnston, Brooks & Savage, 2008). There is a variety of countermeasures for motorcycle crashes, one of which is improving the levels of protection provided by the clothing they wear when they ride.

The benefits of protective clothing, especially in preventing lacerations and abrasions, are well-established but there is still a degree of reluctance among some motorcyclists to wear protective gear when riding. One reason for this is that wearing protective clothing in warm weather leads to heat-related discomfort for riders. Increases in skin temperature and core body temperature have been linked to increased workload, decreased mood and increased reaction times, which could potentially impair riding performance (de Rome, 2019).

To assist riders with choosing high quality protective clothing, a new star rating system for motorcycle apparel has been introduced in Australia and New Zealand. The Motorcycle Clothing Assessment Program (MotoCAP) is an independent resource that provides star ratings for the protective capacity and breathability of motorcycle clothing and covers jackets, pants and gloves.

This present study involved interviews with motorcyclists in the ACT, encompassing both those riding for commuting purposes (n=33) and those riding recreationally (n=45), investigating the extent to which they were wearing protective clothing, and their awareness of, and use of, the MotoCAP website.

Rates of wearing of protective clothing among ACT motorcyclists were found to be high, especially for jackets (69 out of 78 riders) and gloves (73 of 78). However, gains could still be made through the promotion of the importance of wearing protective motorcycle pants, especially garments fitted with armour. Only a minority of riders were aware of MotoCAP (35 of 78) and only a small proportion (10 riders) had ever visited the website. The high importance placed by riders on physical protection when riding suggests that there is a big market for the resources provided by MotoCAP and expanding publication of star ratings beyond the website may assist with reaching them, something which MotoCAP is currently pursuing.

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1. Introduction

It has long been recognised that riders of motorcycles have a substantially higher risk of serious injury or fatal road crashes than other road users in Australia (Johnston, Brooks & Savage, 2008). In the decade prior to COVID (2010-2019), motorcycle casualties in the ACT reached a peak of 132 in 2015 before trending downwards to 98 in 2019. In 2019, motorcycles were involved in just over 1% of property damage only crashes but nearly 10% of injury crashes, highlighting the greater risk of injury associated with motorcycle crashes (ACT Government, 2020).

Countermeasures for motorcycle crashes and injuries include targeted infrastructure treatments, improved rider training, graduated licensing systems and advances in motorcycle technology. Many general road safety interventions, such as reduced speed limits, can also be implemented to reduce motorcycle crash numbers. Another option for *specifically* addressing motorcyclist safety is to improve the levels of protection provided by the clothing they wear when they ride.

1.1. Protective clothing

A seminal Australian study into motorcycle protective clothing was that undertaken by de Rome et al. (2011). This study of 212 crash-involved motorcyclists in the ACT found that the motorcyclists were less likely to be admitted to hospital if they were wearing motorcycle jackets (21% reduction), pants (51%) or gloves (59%). When garments included fitted body armour, there was reduced risk of injury to the upper body (23%), hands or wrists (45%), legs (40%), and feet or ankles (46%). A less positive finding was that over a quarter of gloves, jackets and pants failed due to material damage in the crash. The authors concluded that motorcycle clothing does reduce the risk and severity of injury in crash, especially when fitted with body armour, but that there was a need for improved quality control (de Rome et al., 2011). A follow-up study at six months post-crash found that better protection resulted in earlier full recovery and a higher likelihood at six months of having returned to work (de Rome et al., 2012).

Considerable subsequent research, including in Australia, has focused on the benefits of protective clothing for motorcyclists and how to optimise these benefits (Afquir, Melot, Ndiaye, Hammad, Martin & Arnoux, 2020; Albanese et al., 2017; de Rome, 2019; de Rome & Brown, 2016; Hurren, de Rome, Nuthula & Wang, 2016; Meredith, Clarke, Fitzharris, Baldock, de Rome & Brown, 2015; Meredith et al, 2017; Wu, Hours, Ndiaye, Coquillat & Martin, 2019). The general consensus of research into protective clothing is that it is effective for mitigating abrasions and lacerations but not as effective against more serious injuries such as fractures (e.g., Wu et al., 2019).

Although the benefits of protective clothing are well-established, there is still a degree of reluctance among some motorcyclists to wear protective gear when riding. One reason for this is that wearing protective clothing in warm weather leads to heat-related discomfort for riders. That protective clothing can lead to higher skin temperatures, heart rate and sweat production has been demonstrated empirically (de Rome et al., 2015). In addition to physiological effects and rider discomfort, protective clothing with low breathability has also been found to affect rider cognitive performance. In a study assessing the effects of simulated riding in high temperatures while wearing protective clothing, increases in skin temperature, core body temperature, and subjective ratings of temperature sensation and wetness discomfort were found to be linked to increased workload, decreased mood and increased reaction times. These cognitive effects could lead to impairments in riding performance (de Rome, 2019).

Given the findings above, there is a need for manufacturers to develop clothing for motorcyclists that is protective, but which is also suitable for warm/hot weather conditions, particularly in a country like Australia where conditions most suitable for riding (i.e., dry) can often be associated with warm/hot ambient temperatures. In order for motorcyclists to choose clothing that provides effective protection. However, they need to have reliable, independent information on which to base their choices. Haworth, de Rome, Varnsverry and Rowden (2007) noted that there were no mandatory standards that applied in Australia for protective clothing (other than for helmets). Standards applied in Europe but were rarely enforced. They argued that a similar lack of enforcement would likely curtail the effectiveness of any standards if they were introduced to Australia. Therefore, they suggested the introduction of a star rating scheme for motorcycle clothing, encompassing both safety and ergonomic assessments (Haworth et al., 2007). This idea ultimately led to the introduction of the Motorcycle Clothing Assessment Program (MotoCAP) in 2018.

1.2. The Motorcycle Clothing Assessment Program (MotoCAP)

The Motorcycle Clothing Assessment Program (MotoCAP) is an independent resource that provides star ratings for the protective capacity and breathability of motorcycle clothing that is commercially available in Australia and New Zealand. The star ratings give an indication of the level of protection provided by a garment in the event of a crash and the relative comfort of the garment in high temperatures. The testing covers jackets, pants and gloves. The testing program for MotoCAP is conducted at Deakin University Institute for Frontier Materials, in a laboratory certified by the National Association of Testing Authorities (NATA) as complying with the requirements of ISO/IEC 17025 General requirements for the competence of testing and calibration laboratories. MotoCAP is run by a consortium of organisations:

- Transport for NSW
- State Insurance Regulatory Authority (SIRA)
- Victorian Department of Transport
- Transport Accident Commission (TAC)
- Royal Automobile Club of Victoria (RACV)
- Department of Transport and Main Roads (TMR)
- Motor Accident Insurance Commission (MAIC)
- Lifetime Support Authority (LSA)
- Western Australian Police: Road Safety Commission
- Department of State Growth
- Insurance Australia Group (IAG)
- Australian Motorcycle Council
- Accident Compensation Corporation

The protection provided by the garments is tested in relation to three factors: impact abrasion resistance (how well the material protects the rider's skin in the event of sliding along the road surface), seam strength (how well the garment will hold together when abrading), and impact energy absorption (how well the garment protects the rider's body from the force of impacts in a crash). Breathability is tested in relation to dry heat insulation and the relative vapour permeability of the garments. This assessment gives an indication of how well the garment allows sweat to evaporate, which has implications for the core body temperature of the rider, which, in turn, affects performance and safety.

Since its inception in 2018, MotoCAP has tested 549 articles of clothing. These include 245 jackets, 139 pairs of pants, and 165 pairs of gloves¹. In 2019, MotoCAP won the Federation Internationale de Motorcyclisme (FIM) road safety award. It is the only program of its sort in the world.

1.3. The present study

In recognition of the safety benefits of protective clothing, it is important to ascertain the extent to which motorcyclists are choosing to wear protective gear when they ride. Low rates of use of protective clothing could indicate the need for an intervention to promote greater use among motorcyclists. Furthermore, as there is now an independent resource (MotoCAP) providing safety and breathability ratings for protective clothing, it is important to investigate the extent to which motorcyclists are aware of MotoCAP and whether they have visited the website.

This study therefore involved interviews with motorcyclists in the ACT, encompassing both those riding for commuting purposes and those riding recreationally, investigating the extent to which they were wearing protective clothing, and their awareness of, and use of, the MotoCAP website.

¹ These figures apply to the time of writing, November 25, 2022.

2. Method

2.1. Materials

A questionnaire was developed to record the protective clothing worn by motorcyclists and their awareness of MotoCAP, as well as demographic variables and other rider characteristics. The latter were recorded with the aim of assessing whether protective clothing differs by rider type. As participants were recruited when parking their motorcycle or preparing to ride off from having been parked, it was important to keep the survey questions to a minimum, so that the riders were not inconvenienced too much. Some questions required a simple categorical response while others required responses on a 5-point Likert scale (e.g., very unimportant to very important, very unlikely to very likely).

Simple demographic variables included age, sex, and location of residence (ACT or elsewhere). Rider characteristics included number of days ridden per week, motorcycle type (moped/scooter, sport, standard, cruiser, touring), reason for riding that day and most common reason for riding normally (utilitarian or recreational).

Type of clothing was recorded for four parts of the body – upper body, legs, hands and feet. The general type of clothing worn was recorded and it was then classified as protective or not. Leather clothing was classified as protective, as were jackets, pants, gloves or boots designed specifically for motorcycle use. The presence of impact protection was also noted.

Motorcyclists were also asked about the importance of different factors they consider when choosing what they wear when riding. These included physical protection, weather, their destination, and the type of riding they will be doing.

They were also asked about whether they were aware that a star rating scheme for protective clothing was operating in Australia. They were then informed that the rating scheme is called MotoCAP and those who were aware of it were asked if they had ever visited the MotoCAP website. Those who had not were asked how likely they were to visit the site in the future, now that they had been made aware of it. All participants were then asked to rate the likelihood that they would use a star rating scheme to choose motorcycle clothing.

A list of questions used in the survey is provided in Appendix A.

2.2. Sample

Motorcyclists were recruited from three locations within Canberra on a Thursday afternoon and a Friday morning and afternoon. Researchers were present at the locations (Scotts Crossing off Bunda St, Hobart Place, Russell Offices – Defence) from 4pm to 6pm for the afternoon recruitment sessions and from 8am to 10am in the morning session. These weekday Canberra recruitment sessions were chosen to obtain information relevant to weekday commuting riders.

Another set of motorcyclists was recruited on Saturday and Sunday at the site of a café known to be frequented by recreational weekend riders. Researchers were present at this location (Cotter Reserve) from 10am to 4pm on each of these days.

Riders were approached when at their motorcycles and asked if they would be willing to undertake a brief 5-minute survey. They were provided with an information sheet on the survey and given a consent form to sign. Once the consent form was signed, the researcher asked the motorcyclists the questions included in the survey and then took their details separately if the participant wished to be included in a prize draw for a \$500 voucher from an ACT-based store selling motorcycle clothing.

2.3. Analysis

The data generated by the study was categorical and so χ^2 tests of independence were used to examine differences between groups. These analyses were conducted using Excel software version 16.66.1.

3. Results

3.1. Sample characteristics

The total sample recruited for the study consisted of 78 motorcyclists. There were 33 recruited in the Canberra 'commuting' locations and 45 recruited on the weekend at the 'recreational rider' location. The number of riders recruited at the recreational sites was lower than anticipated, as the café normally operating in that location was not present on the data collection weekend. This resulted in fewer riders attending or remaining at the rest stop. Furthermore, on the Sunday, there was a bicycle event taking place on adjacent roads, meaning that the speed limit was temporarily reduced and a large number of bicyclists were on the roads. This may have also reduced the numbers of motorcyclists riding to the rest stop that day. Table 3.1 shows the characteristics of the motorcyclists who agreed to participate in the sample.

The riders in the sample were overwhelmingly male and lived in the ACT. Sports motorcycles were the most common (a majority) and especially so among recreational riders ($\chi^2_{(1)} = 6.5, p < .05$). The number of days ridden per week was influenced by whether the riders used their motorcycle for commuting (commonly used 5 days per week) or for recreation (commonly only one day per week) ($\chi^2_{(1)} = 16.8, p < .001$). The location of recruitment (weekday in Canberra CBD versus weekend at a recreational riding location) heavily influenced whether the riding was for utilitarian or recreational purposes, although around one fifth of riders reported using their motorcycle for both broad riding purpose categories.

Table 3.1
Characteristics of the motorcyclists

Rider characteristic	Commuting (n=33)	Recreational (n=45)	Total (N=78)
Age Range Mean SD			
Sex Male Female	29 (87.1%) 4 (12.9%)	42 (93.3%) 3 (6.7%)	71 (91.0%) 7 (9.0%)
Location of residence ACT Outside ACT	28 (84.8%) 5 (15.2%)	40 (88.9%) 5 (11.1%)	68 (87.2%) 10 (12.8%)
Motorcycle type Moped/scooter Sport Standard Cruiser Tourer	4 14 8 2 5	1 32 3 4 5	5 (6.4%) 46 (59.0%) 11 (14.1%) 6 (7.7%) 10 (12.8%)
Number of days ridden per week 1 2 3 4 5 6 7	1 3 6 4 12 2 5	17 9 6 5 4 2 2	18 (23.1%) 12 (15.4%) 12 (15.4%) 9 (11.5%) 16 (20.5%) 4 (5.1%) 7 (9.0%)
Reason for riding Utilitarian Recreational	32 1	0 45	32 (41.0%) 46 (59.0%)
Most common reason for riding Utilitarian Recreational Both	23 5 5	4 29 12	27 (34.6%) 34 (43.6%) 17 (21.8%)

3.2. Levels of protective clothing worn by riders

Table 3.2 summarises the nature of the clothing worn by the motorcyclists interviewed for the study. It appears that a large majority of motorcyclists choose to wear protective clothing for the upper body (69 out of the 78 riders), with 56 of these wearing clothing that included protective armour. Lower levels of protection were applied to the legs, with only a slim majority wearing protective clothing on their legs (43 out of the 78 riders), with 25 of these having armour fitted. The part of the body most often protected was the hands, with 73 of the 78 riders wearing protective gloves. A small majority of riders (47 out of 78) were wearing boots that were protective in nature.

Recreational riders tended to wear more protective clothing than the commuting riders but the small sample size meant that the only statistically significant difference between the two groups was for the

wearing of riding boots. Recreational riders (33 out of 45) were more likely to wear protective boots than commuting riders (14 out of 33) ($\chi^2_{(1)} = 7.6, p < .01$).

Table 3.2
Protective clothing worn by motorcyclists

Body section	Commuting (n=33)	Recreational (n=45)	Total (N=78)
Upper body			
Full riding gear	1	5	6 (7.7%)
Motorcycle jacket	26	37	63 (80.8%)
Normal clothing	6	3	9 (11.5%)
Protective	27	42	69 (88.5%)
Not protective	6	3	9 (11.5%)
Armour	22	34	56 (71.8%)
Not armour	11	11	22 (28.2%)
Legs			
Full riding gear	1	5	6 (7.7%)
Motorcycle protective pants	14	23	37 (47.4%)
Normal clothing	18	17	35 (44.9%)
Protective	15	28	43 (55.1%)
Not protective	18	17	35 (44.9%)
Armour	9	16	25 (32.1%)
Not armour	24	29	53 (67.9%)
Hands			
Protective gloves	31	42	73 (93.6%)
No protective gloves	2	3	5 (6.4%)
Feet			
Riding boots	14	33	47 (60.3%)
Not riding boots	19	12	31 (39.7%)

3.3. Factors related to use of protective clothing

Physical protection was rated as very important or important for choosing clothing to wear when riding by 69 of the 78 riders. A small majority (44 of the 78 riders) reported that weather is important for determining what they wear when riding. A minority of riders reported the nature of the destination or the nature of the riding being done as very important or important. There were no statistically significant differences between the two different riding groups in their pattern of responses. See Table 3.3 for a summary of responses.

Table 3.3
Factors related to the use of protective clothing

Importance to choice of protective clothing	Commuting (n=33)	Recreational (n=45)	Total (N=78)
Physical protection			
Very important	22	34	56 (71.8%)
Important	7	6	13 (16.7%)
Somewhat important	2	4	6 (7.7%)
Unimportant	0	1	1 (1.3%)
Very unimportant	2	0	2 (2.6%)
Weather			
Very important	12	12	24 (30.8%)
Important	9	11	20 (25.6%)
Somewhat important	4	4	8 (10.3%)
Unimportant	4	9	13 (16.7%)
Very unimportant	4	9	13 (16.7%)
Nature of destination			
Very important	5	6	11 (14.1%)
Important	7	11	18 (23.1%)
Somewhat important	4	1	5 (6.4%)
Unimportant	8	8	16 (20.5%)
Very unimportant	9	19	27 (34.6%)
Nature of riding being done			
Very important	10	14	24 (30.8%)
Important	5	4	9 (3.4%)
Somewhat important	2	5	7 (9.0%)
Unimportant	5	6	11 (14.1%)
Very unimportant	11	16	27 (34.6%)

3.4. MotoCAP

A minority of riders were aware of MotoCAP (35 out of 78). Of those who were aware of MotoCAP, just over a quarter had actually visited the website (10 out of 35). This equates to only 12.8% of the total sample. Those who had not heard of MotoCAP were asked if they were likely to visit the site in the future, now that they had heard of it. A majority said they were very likely or likely to do so (26 out of 43). Recreational riders, however, were more likely than commuting riders to express an intention to visit the site ($\chi^2_{(1)} = 4.4, p < .05$). Overall, most of the riders were interested in using a star rating for protective clothing in the future (64 of the 78 riders). See Table 3.4 for a summary of responses.

Table 3.4
Questions regarding MotoCAP

MotoCAP	Commuting (n=33)	Recreational (n=45)	Total (N=78)
Aware of MotoCAP			
Yes	16	19	35 (44.9%)
No	17	26	43 (55.1%)
Visited MotoCAP website			
Yes	6	4	10 (28.6%)
No	10	15	25 (71.4%)
N/A	17	26	43
Likely to visit MotoCAP site in future			
Very likely	4	11	15 (34.9%)
Likely	3	8	11 (25.6%)
Somewhat likely	4	3	7 (16.3%)
Unlikely	2	3	5 (11.6%)
Very unlikely	4	1	5 (11.6%)
N/A	16	19	35
Likely to use star rating in future			
Yes	26	38	64 (82.1%)
No	7	7	14 (17.9%)

4. Conclusions

This study involved an investigation of the use of protective clothing by motorcyclists in the ACT, encompassing both commuting (n=33) and recreational (n=45) riders. Rider knowledge about MotoCAP, the star rating scheme for protective clothing that operates in Australia and New Zealand, was also examined.

4.1. Levels of use of protective clothing

The first point to note about the results is that a sizeable proportion of motorcyclists did wear protective clothing, especially in regard to the upper body (jackets and gloves). Of the 78 riders in the sample, 69 wore a motorcycle jacket of some sort and 73 wore protective gloves. For the lower body, protective clothing was still worn by a majority of riders but at a lower frequency (43 wearing protective pants and 47 wearing protective boots). Among those wearing protective clothing, the majority also had protective armour fitted within the garments, although the proportion was higher for jackets (56 out of 69, or 81.2%) than for pants (25 out of 43, or 58.1%).

A study by Fell, Ramirez, McKnight, Yao and Auld-Owens (2017) looked at the effects of new laws for motorcyclists in Puerto Rico, including the mandatory wearing of protective clothing. Observations of motorcyclists found that over 80 percent of observed riders wore protective gear, 98% wore long pants, 80% wore protective shoes that covered the ankle, and 84% wore protective gloves. These figures for a jurisdiction with mandatory protective clothing requirements are comparable to those observed in the ACT.

Although the overall results demonstrate a high level of use of protective clothing by ACT motorcyclists, it appears that there is scope for greater promotion of the safety advantages of wearing motorcycle specific pants and protective boots. De Rome's (2011) study found marked reductions in the likelihood of hospital admission following a crash if the rider was wearing protective pants, with injury reduction for the legs and feet also associated with armour. It was noted by a number of the riders that their garments (especially pants) came fitted with armour but they had removed the armour prior to use. This suggests that there is also scope for greater promotion of the safety benefits of wearing armour, specifically, in addition to wearing garments manufactured from abrasion resistant materials.

4.2. Factors related to the use of protective clothing

Of the factors that could affect choice of clothing when riding, 'physical protection' was rated as important by nearly all riders, with weather being next most important. The importance of weather underscores the need to include ratings of breathability in MotoCAP and this, it appears, could be an important promotional point for the program. Less important were the destination of the trip and the nature of the riding done. However, part of the reason for this could be cases in which the rider only ever rides to work (a number of riders reported this), in which case the destination does not vary and so has no effect on the type of clothing worn. It is also likely that many riders treated the destination of the ride and the nature of the riding being done (utilitarian versus recreational) as equivalent questions, giving the same responses for each. Nonetheless, the subjectively stated importance of physical protection among the surveyed riders is consistent with the objectively measured high rates of protective clothing worn, suggesting that motorcyclists in the ACT would be a good market for MotoCAP.

4.3. MotoCAP

In regard to MotoCAP, those who were aware of the existence of a star rating scheme for motorcycle clothing were in the minority (35 of the 78 riders) and, of those 35, only 10 had visited the website. This suggests that MotoCAP needs to be promoted more among the motorcycling community, both to increase awareness of the website and to increase interest in accessing it among those who know it exists. Supporting this suggestion, a majority of motorcyclists surveyed who had not heard of MotoCAP (26 out of 43) said that they were very likely to likely to visit the website after having been told about it. Furthermore, over 80% of the total sample said they would use a star rating scheme to help them choose motorcycle clothing in the future.

In order to keep the survey short, no questions were asked to probe responses further. However, when riders spontaneously reported reasons for their answers, these were also noted. One common reason given by some of the riders for not being 'likely' to visit the MotoCAP website was that they had already purchased the motorcycle clothing they were going to wear for the foreseeable future, or that they had already done their own research themselves.

Other reasons were as follows:

- Some riders said that they would prefer to ask people in the motorcycle shop. Some expressed a preference for the star ratings to be displayed in the shop rather than on a website.
- A couple of riders said they do not use a computer and so would ask the advice of others.
- Some said that they do not trust the ratings, adding that they have a good understanding of gear themselves or that the standards for motorcycle gear are 'not that high anyway'.
- One recreational rider in full body riding gear stated that he uses racing rated apparel, which necessarily provides a high level of protection and so he did not need to consult a star rating scheme.

These reasons for not using MotoCAP therefore provide an indication of how promotional messages can be tailored to attract riders who may not wish to use the rating scheme at present. The preference for ratings to be displayed in the shop and some motorcyclists lacking ready access to a computer suggest that provision of star ratings beyond the website could assist with reaching a larger proportion of the rider population.

MotoCAP are apparently taking steps to expand the availability of the star ratings and the promotion of the website. Swing tags have been developed for manufacturers to display the ratings on their garments, which has been taken up by one manufacturer but only very recently. Retailers are also being surveyed to ascertain their willingness to have MotoCAP advertising in store (Tom Whyte, personal communication, November 2022).

4.4. Study limitations

The study was designed so that it was possible to observe directly what motorcyclists were wearing and to ask them about their apparel. This is important, as it allowed for objective evidence for levels of protective clothing worn and took into account the fact that some clothing is not obviously protective without close inspection, with few visible seams indicating the presence of protective material. In order to satisfy these requirements, it was necessary to speak to riders when they were about to ride or straight after

having ridden. This, in turn, meant that the researchers had to wait in locations frequented by motorcyclists and ask them for an interview. Especially in the case of commuting riders, who were likely to be going to work or attending an appointment, it was desirable to limit the length of the survey so that the riders were not held up for too long. This limited the number of questions that could be asked and the depth to which themes could be examined. In particular, it would have been good to ask further questions about the reasons for clothing choices, which can be quite complex and can vary across different situations.

As noted earlier, the numbers of recreational riders recruited for the study would have been higher if the café had been operating at the location where researchers were based. Additionally, it is possible that rider numbers at that location were reduced by the presence of a road bicycle event in the vicinity, which necessitated lower speed limits. However, the weather on the weekend used for data collection was mostly fine and temperate, so this would have encouraged riding, especially after a spell of very wet weather in the ACT in the preceding weeks. The final sample of 78 riders (33 commuting and 45 recreational) did allow for some comparison between the two groups of riders but more fine-grained analysis of rider sub-groups was not possible. Most riders who were approached agreed to assist with the survey; the researchers could not discern any pattern in the characteristics of riders who refused rather than agreed to participate.

4.5. Conclusion

Rates of wearing of protective clothing among ACT motorcyclists is high, especially for jackets and gloves. Gains could still be made through the promotion of the importance of wearing protective motorcycle pants, especially garments fitted with armour. Only a minority of riders were aware of MotoCAP and only a small proportion had ever visited the website. The high importance placed by riders on physical protection when riding suggests that there is a big market for the resources provided by MotoCAP and expanding publication of star ratings beyond the website may assist with reaching them, something which MotoCAP is currently pursuing.

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Appendix – survey questions

Motorcycle protective clothing questionnaire

Age _____ years

Sex male female other

Live in the ACT Yes No

Motorcycle type moped/scooter sport standard cruiser touring

Number of days riding per week _____ days

What is your reason for riding today? recreational utilitarian

What is your most common reason for riding recreational utilitarian both

Upper body clothing normal clothing motorcycle jacket full body riding gear

Upper body protective not protective

Upper body back armour no back armour

Legs normal clothing motorcycle protective pants leather pants

full riding gear

Legs protective not protective

Legs impact protection no impact protection

Hands protective gloves not protective gloves

Feet riding boots not riding boots

How often do you wear protective clothing when you ride?

Always often sometimes rarely never

Is physical protection a factor in choosing what to wear when riding?

very important important somewhat important unimportant

very unimportant

Is weather a factor in choosing what to wear when riding?

very important important somewhat important unimportant

very unimportant

Is the nature of your destination a factor in choosing what to wear when riding?

very important important somewhat important unimportant

very unimportant

Is the type of riding you intend doing in choosing what to wear when riding?

very important important somewhat important unimportant

very unimportant

Are you aware of the star rating scheme for protective clothing that is used in Australia?

yes no

[Add that the star rating scheme is called MotoCAP]

If yes, have you ever visited the MotoCAP website? yes no

If no, now that you are aware of it, are you likely to visit the site?

Very likely likely somewhat likely unlikely very unlikely

Do you think that you would use a star rating scheme to help you choose clothing for riding in future?

yes no