# **Characteristics and Opinions of Motorcycle Owners in Three States**

Charles M. Farmer Allan F. Williams JoAnn K. Wells David F. Preusser

March 1996

# INSURANCE INSTITUTE FOR HIGHWAY SAFETY

1005 NORTH GLEBE ROAD ARLINGTON, VA 22201 PHONE 703/247-1500 FAX 703/247-1678 www.iihs.org

#### **ABSTRACT**

Motorcycle owners were surveyed in December 1995 in three states requiring all motorcyclists to wear helmets: California, Michigan, and Texas. In each state 99 percent of the respondents said they wear a helmet when riding most or all of the time. Also, over 80 percent would support a mandatory helmet use law for riders under age 18. However, only 44 percent of the respondents said they were in favor of a mandatory helmet use law for all motorcyclists; 51 percent were opposed, and 5 percent undecided. Motorcyclists opposed to universal helmet use laws tended to be the older, more experienced riders who ride more than 1,000 miles per month.

### INTRODUCTION

Compared with cars, motorcycles are especially high risk vehicles. Although only about 5 percent of all motor vehicle deaths in 1994 were motorcyclists, the fatality rate per mile traveled was about 20 times the rate in passenger cars (NHTSA, 1995). As motorcycling is such a high risk activity, it is important to examine the characteristics and opinions typical of motorcycle drivers, especially those that relate to their safety. Few surveys have been done concerning this population. A 1994 readership survey conducted by *Motorcyclist* magazine found that motorcyclists were roughly equally divided among three age groups — under age 30, ages 30-39, and age 40 and over — and that 80 percent had at least some amount of college education. The average motorcyclist has ridden for 16 years and the average annual income was \$56,000 (Boehm, 1994).

Laws designed to increase motorcyclist safety have been the subject of considerable controversy. The requirement that motorcyclists of all ages wear helmets has been hotly debated for much of the past three decades. Most states enacted helmet laws that applied to all riders (called universal laws) during the late 1960s, but between 1976 and 1978, 19 states weakened their helmet laws to cover only young riders and 7 states repealed helmet use requirements altogether. In 1991 Congress passed a law making states with both safety belt and motorcycle helmet laws eligible for special safety grants. Those without helmet and belt laws had to use some of their federal highway construction funds in highway safety programs. As a result, the number of states with some form of helmet use law rose to 47. However, Congress lifted federal sanctions for not having helmet laws in the fall of 1995, and did not fund the grant program. Some state legislatures are considering repealing helmet laws. As of January 1, 1996, 25 states and the District of Columbia require helmet use by all motorcycle riders, and 22 states have laws covering only young riders. Only Colorado, Illinois, and Iowa do not have any form of helmet law.

The effectiveness of helmets in protecting against all types and locations of head injuries has been clearly demonstrated (McSwain and Petrucelli, 1984; Kraus et al., 1994; Sarkar et al., 1995). Universal helmet use laws have been found to increase helmet wearing from about 50 percent to close to

100 percent, thereby reducing serious injuries and fatalities, whereas laws applying only to young riders have been ineffective in reducing the problem (Sosin et al., 1990; Lund et al., 1991; Kraus et al., 1995).

Those seeking to repeal motorcycle helmet laws have framed the issue in terms of the use of laws, as opposed to voluntary compliance, to influence behavior. Some organized groups of motorcyclists have been very vocal in their opposition to helmet use laws, but the views of individual motorcyclists are not well known. The present survey was undertaken primarily to determine motorcyclists' opinions concerning helmet use laws, and the characteristics of those who do and do not support such laws. The survey also addressed safety practices of motorcyclists and their opinions about motorcycling.

### **METHOD**

The states selected for this study were California, Michigan, and Texas, all of which have universal helmet use laws. Laws requiring all riders rather than just young riders to wear helmets have been in effect in Michigan since 1969, in Texas since 1989, and in California since 1992.

Motorcycle owners to be contacted were randomly selected from files maintained by R.L. Polk, Inc. In Michigan and Texas these files were derived from state vehicle registration data. Two thousand owners were selected from the over 40,000 registered owners in each state for whom phone numbers were available. Vehicle registration data were not available for California, so the sample there consisted of approximately 1,500 residents who had returned new product warranty cards in the last 12 months listing motorcycling as an interest or activity "in which you or your spouse enjoy participating on a regular basis."

Telephone interviews were conducted during the period December 8-17, 1995. In general, each of the sampled households in each of the states was called at least once. Interviewers began by asking for the owner of a motorcycle. Persons reporting that they only owned an all terrain vehicle (ATV) or moped were excluded. Callbacks continued until approximately 400 owners were surveyed from each state.

The survey began with a series of ownership related questions, including the number of motorcycles owned, and the make, model, engine displacement, and type of motorcycle used most. This was followed by a series of questions related to how and how often the respondent rides, and whether the respondent participates in motorcycle associations or regularly reads motorcycle publications. The next series of questions addressed support for mandatory training programs and helmet use laws, and the self-reported safety practices of the respondents. Attitudinal questions were asked concerning public stereotyping of motorcyclists, driving skill, police treatment of motorcyclists, and the interaction of cars and motorcycles on the road. The remaining questions covered demographic characteristics of the respondent such as age, marital status, and education.

### **RESULTS**

Demographic characteristics of the respondents, as well as characteristics of motorcycle usage, are summarized in Table 1. In all three states respondents to the survey were overwhelmingly male and at least 21 years old. Less than 10 percent of the owners interviewed were female, and less than 5 percent were under age 21. Nearly 70 percent of respondents were married and one-third of them had college degrees. Respondents in California were slightly older than the respondents from the other two states. Forty-two percent of California owners surveyed were at least 50 years old versus 23 percent in Michigan and 26 percent in Texas.

Most of these owners did not consider their motorcycle to be their primary transportation vehicle; however, close to 20 percent said they rode more than 1,000 miles per month during the months that they used their bike. The most popular type of motorcycle in all three states was a touring bike, followed by cruisers. Strikingly, over 40 percent of respondents (and nearly 60 percent in California) report riding for at least 25 years.

Table 2 summarizes the opinions of the respondents concerning stereotyping of motorcyclists, their own driving skill, police treatment of motorcyclists, and motorcycle-car collisions. Approximately 40 percent of the owners surveyed strongly agreed with the statement that *the general public unfairly stereotypes motorcyclists*. One-fourth of them felt strongly that they were *better drivers than most others on the road*. Approximately equal numbers agreed or disagreed with the statement that *police are no more likely to stop a motorcycle than a car*. However, more than 60 percent of the respondents in each state felt that drivers of passenger vehicles are at fault in most crashes involving passenger vehicles and motorcycles.

Ninety-two percent of respondents claimed that they always wear a helmet when riding a motorcycle, and another 7 percent said that they usually wear a helmet (Table 3). In addition, about one-third of respondents reported that they have taken a motorcycle operator's training course. When asked what other protective gear they generally wear while riding a motorcycle, most of them mentioned something in addition to helmets, typically protective clothing, boots, and gloves.

Attitudes toward motorcyclist safety regulations are summarized in Table 4. Close to three-fourths of respondents supported mandatory training programs for beginning motorcycle operators. Similarly, over 80 percent were in favor of a mandatory helmet use law for riders under age 18. However, only 44 percent of the 1,205 respondents were in favor of a mandatory helmet use law for all motorcyclists, while 51 percent were opposed, and 5 percent were undecided. The percentage in favor of universal helmet use laws was 38 percent in California, 49 percent in Michigan, and 47 percent in Texas.

Table 1
Demographic and Motorcycle Usage Characteristics of Survey Respondents (Percentage in Each Category)

		California	Michigan	Texas	All
		(n = 401)	(n = 400)	(n = 404)	(n = 1,205)
Gender	Male	92	92	93	92
Age Group	< 21	3	2	5	3
	21-29	6	14	8	10
	30-39	18	29	28	25
	40-49	30	31	33	31
	50-64	34	20	21	25
	65+	8	3	5	6
Education	< HS Grad	7	7	6	6
	HS Grad	23	37	28	29
	Some College	36	34	28	32
	College Grad	24	15	28	22
	Post Grad	10	7	11	10
Marital Status	Single	19	24	19	21
viaiitai Otatus	Married	66	68	69	68
	Divorced/Widowed	15	8	13	12
Years of riding	< 5	4	10	13	9
	5-14	13	17	15	15
	15-24	24	34	30	29
	25+	59	40	42	47
Motorcycle is prima	ry mode of transport	13	5	13	10
Months ride	0-6	25	64	27	39
	7-12	75	36	73	61
Miles per month	< 100	20	16	18	18
oo poro	100-999	61	65	66	64
	1,000+	19	19	15	18
Туре	Cruiser	17	22	22	20
турс	Touring	26	32	30	29
		11	16	16	14
	Sport				
	Sport-touring	14	8	10	11
	Standard	6	9	11	8
	Dual purpose	8	3	3	5
	Off-road	17	5	6	9
	Other/Unknown	2	5	3	3
Engine Size	< 300 cc	17	7	7	10
	300-1,199 cc	55	60	60	58
	1,200+ cc	28	34	33	32
Clubs	Present member	45	24	33	34
	Past member	18	12	10	13
	Never	37	64	57	52
Read	Any motorcycle publication	60	40	45	48
	Cycle World	13	8	10	10
	Motorcyclist	9	4	5	6
	Easyriders	6	6	4	5

4

Table 2
Percentage of Motorcyclists Agreeing with Various Opinion Statements

Statement	California	Michigan	Texas	All
	(n = 401)	(n = 400)	(n = 404)	(n = 1,205)
The general public unfairly ste	ereotypes motorcyclists.			
Strongly disagree	4	8	6	6
Disagree	7	10	7	8
Neutral	23	28	27	26
Agree	21	15	21	19
Strongly agree	44	39	38	41
l am a better driver than most	others on the road.			
Strongly disagree	9	11	9	10
Disagree	10	9	8	9
Neutral	29	37	37	34
Agree	23	21	22	22
Strongly agree	28	23	23	25
Police are no more likely to st	on a motorcycle than a ca	ar.		
Strongly disagree	28	24	26	26
Disagree	16	12	15	14
Neutral	24	26	24	24
Agree	15	17	14	15
Strongly agree	18	21	22	20
Most accidents involving pass	enger vehicles and motor	rcycles are the passent	ger vehicle's fault.	
Strongly disagree	7	9	7	8
Disagree	7	7	9	8
Neutral	23	22	22	23
Agree	26	21	25	24
Strongly agree	36	40	37	38

Table 3
Percentage of Motorcyclists Reporting Safety Practices

	California (n = 401)	Michigan (n = 400)	Texas (n = 404)	AII (n = 1,205)
Wear a helmet				
Always	95	92	91	92
Usually	5	7	9	7
Seldom/never	1	1	<1	1
Other protective gear generally	worn			
Eye protection	38	23	30	30
Protective clothing	77	77	66	74
Protective pads	13	4	6	8
Boots/Shoes	70	51	57	60
Gloves	68	48	50	55
Other	3	2	1	2

Table 4
Percentage of Respondents in Favor of Motorcycle Safety Regulations

	California	Michigan	Texas	All	
	(n = 401)	(n = 400)	(n = 404)	(n = 1,205)	
Fraining for beginning motorcycle	e operators				
Yes	73	80	74	76	
No	20	16	17	17	
Undecided	6	4	9	7	
Refused	1	0	0	<1	
Mandatory helmet use for all mot	orcycle riders				
Yes	38	49	47	44	
No	60	45	47	51	
Undecided	2	6	6	5	
Mandatory helmet use for riders	under 18				
Yes all ages	38	49	47	44	
Yes under the age of 18	43	39	41	41	
No	17	10	9	12	
Undecided	3	2	3	3	

When those opposed to universal helmet laws were asked why, the most common reason given was that the rider should be allowed to decide whether to wear a helmet (Table 5). Eighty-six percent of those opposed to helmet use laws felt that it should be the rider's choice. The next most frequent reasons given were that helmets are uncomfortable (6 percent) and that helmet laws discriminate against motorcyclists (6 percent). Among those motorcyclists in favor of helmet laws for young riders only, the most frequent reasons given were that young riders lack experience (62 percent) and that young riders are at greater risk (30 percent).

Table 5
Reasons Cited for Opposing or Supporting Motorcycle Helmet Use Laws

	California	Michigan	Texas	All
Opposed to universal law	(n = 240)	(n = 179)	(n = 190)	(n = 609)
Riders choice	85	92	83	86
Uncomfortable	5	6	8	6
Discriminates against motorcyclist	8	3	7	6
In favor of younger than 18-years-old law	(n = 162)	(n = 134)	(n = 142)	(n = 438)
Lack of experience	57	69	61	62
Greater risk	35	26	29	30

Support for a mandatory helmet use law varied strongly by motorcycle make (Table 6). In each state the Harley-Davidson riders were much less likely to favor helmet laws than riders of any other make. In the three-state sample, the majority (52 percent) of riders of motorcycles other than Harley-Davidson models favored universal helmet use laws.

Table 6
Percentage of Motorcyclists in Favor of a Universal Helmet Use Law

	California	Michigan	Texas	All (n)
Make of motorcycle used most				
Harley-Davidson	8	28	24	21 (285)
Honda	47	61	53	54 (473)
Kawasaki	44	61	53	52 (113)
Yamaha	42	40	54	44 (151)
Suzuki	54	58	68	60 ( 89)
Other	36	55	50	45 ( 85)
Engine displacement (cc)				
< 300	62	65	79	67 (120)
300 - 1,199	38	52	48	46 (674)
1,200+	22	38	36	32 (367)
Type of motorcycle				
Standard	48	57	51	52 (101)
Cruiser	24	40	40	35 (244)
Off-road	61	68	83	67 (110)
Other	34	50	44	43 (735)
Age (yrs) of rider				
< 30	56	53	63	57 (156)
30 - 49	34	46	43	41 (682)
50+	38	55	48	45 (366)
Experience (yrs) of rider				
< 5	56	52	67	60 (110)
5 - 24	42	56	48	49 (527)
25+	34	40	39	37 (567)
Miles ridden per month last year				
< 100	48	69	56	57 (213)
100 - 999	38	49	44	44 (753)
1,000+	23	33	45	33 (210)
Present or past membership in a motorcyo				
Yes	33	40	41	37 (571)
No	45	55	51	51 (631)
Subscribe to or regularly read motorcycle				
Yes	34	42	42	39 (584)
No	42	54	51	50 (621)

Views about helmet use laws also varied with the size of the motorcycle most used, the type of motorcycle most used, the age and experience of the respondent, and the level of participation in riding and related motorcycle activities (Table 6). Among riders of motorcycles with less than 300 cc displacement, 67 percent were in favor of mandatory helmet use laws, versus 32 percent of those with engines of at least 1,200 cc displacement. Riders of off-road motorcycles were also highly supportive, with 67 percent in favor of helmet laws. Fifty-seven percent of those under age 30 and 60 percent of those with less than 5 years of motorcycling experience favored helmet laws. Among those riding more

than 1,000 miles per month, only 33 percent favored helmet laws. Finally, among those that have participated in motorcycle associations or that regularly read motorcycle publications, the percentages favoring helmet laws were 37 and 39, respectively.

## **DISCUSSION**

California, Michigan, and Texas are relatively large states with varied urban and rural operating conditions. Collectively they appear to be generally representative of the areas of the country having universal helmet laws. However, the selection of these three states was not random, and the results of this survey are not necessarily representative of all states with helmet laws. Neither are the results for each state necessarily representative of all motorcyclists in that state. In Michigan and Texas, only registered motorcycle owners with listed phone numbers (about half) were sampled. In California, which has over 500,000 registered motorcycles, the sample was restricted to those returning new product warranty cards.

Among the motorcyclists surveyed there was mixed opinion about helmet use laws. More motorcyclists disapproved of them than were in favor, but the margin of difference was small -- overall, 51 percent were not in favor -- and in some subgroups of motorcyclists helmet use laws were endorsed by the majority. Motorcyclists not in favor of helmet use laws tended to be older, with more years of experience, and riding more than 1,000 miles per month. The lower level of support for use laws in California may be due, in part, to the different sampling procedure used in that state, in that only persons who enjoyed motorcycling on a regular basis were sampled. Among riders under age 30, having less than 5 years of experience, or having engines of less than 300 cc the level of support in California was comparable to that in Michigan and Texas.

It should be noted that 72 percent of those motorcyclists not in favor of helmet use laws for all riders favored laws for young riders. Thus, many motorcyclists not in favor of helmet use laws for all are not against such laws per se, only against helmet use laws applying to themselves. Also, almost all of the respondents in these three states said that they usually wear a helmet when riding, which corresponds with results from observational surveys.

In conclusion, the motorcyclists surveyed were split in their attitudes toward universal helmet use laws. A few were undecided. Among those who had a decided opinion, overall slightly more were against than for, but in one state more motorcyclists were in favor than were opposed, and in another there was an even split. In general, the experienced, more involved motorcyclists were not in favor of being required to wear helmets when riding. The fact remains, though, that motorcyclists who crash are highly vulnerable to head injuries, and universal helmet laws have proven to be the only effective means for ensuring helmet use.

### **ACKNOWLEDGMENT**

This work was supported by the Insurance Institute for Highway Safety.

#### REFERENCES

Boehm, M. 1994. Who are you? *Motorcyclist*, September 1994, p.5.

Kraus, J.F., Peek, C., McArthur, D.L., and Williams, A.F. 1994. The effect of the 1992 California motorcycle helmet use law on motorcycle crash fatalities and injuries. *Journal of the American Medical Association*, 268:1506-1571.

Kraus, J.F., Peek, C., and Williams, A.F. 1995. Compliance with the 1992 California motorcycle helmet use law. *American Journal of Public Health*, 85:96-99.

Lund, A.K., Williams, A.F., and Womack, K.N. 1991. Motorcycle helmet use in Texas. *Public Health Reports*, 106:576-578.

McSwain, N.E. Jr. and Petrucelli, E. 1984. Medical consequences of motorcycle helmet nonusage. *The Journal of Trauma*, 24:233-236.

National Highway Traffic Safety Administration. 1995. Traffic Safety Facts 1994. Washington, DC: U.S. Department of Transportation.

Sarkar, S., Peek, C., and Kraus, J.F. 1995. Fatal injuries in motorcycle riders according to helmet use. *The Journal of Trauma*, 38:242-245.

Sosin, D.M., Sacks, J.J., and Holmgreen, P. 1990. Head injury-associated deaths from motorcycle crashes: relationship to helmet use laws. *Journal of the American Medical Association*, 264:2395-2399.