

A Study on Rider Attitude on Safety Features of Motorcycles at Chennai

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Abstract:

Motorcycles are one of the most serious means of transportation contributing to road accidents. Motorcyclists are exposed to a higher risk of crashing compared to the car. This is lateral movement of motorcycles is different from those of other vehicles. The number of deaths caused by motorcycles is significantly higher than by any other mode of transportation, and it is mainly because of the inherent vulnerability and risks exposure of motorcycle riders. Riders are more susceptible to injuries because of lack of protection, where helmets and clothing are the only available gears of protection. It was proven that rider attitude is responsible for 95% of traffic accidents primarily attributed to the inherent vulnerability of motorcycle riders and the greater number of risks they are exposed to. The travel speed, safe distance, longitudinal movement, and. Moreover, the majority of motorcycle accidents take place because of human error. Human error, in other words, implies the riders' behaviours including speediness, alcohol drunkenness, fatigue, drowsiness, attentiveness, drug and medicine consumption, seat belt wearing, wearing of a fluorescent jacket, and helmet use.

Keywords — Motorcycles, rider attitude, buying-decision, customer preferences.

I. INTRODUCTION

The current study looks only at riders and not at the many other factors which contribute to high accident statistics, most obviously the behaviour of the road users. There are no presumptions in this that motorcyclists are to blame for the high rate of causalities. Indeed the other studies have shown that other vehicle drives are more often to blame than a motorcyclist. The study is focused on a number of key issues relating to the ways in which riders can make themselves less vulnerable on the road.

and the reasons behind the decisions that impact their safety. The others need of the study includes how motorcycle riders choose their protective clothing, helmets, and other gears, to gain an understanding of motorcyclists' safety features on the motorcycles, and to know whether the behaviour of the rider is associated with the safety of motorcycles. The need for the study also comprises of in-depth analysis on protective riding gears while riding, the knowledge of motorcyclist on various braking systems of motorcycle, the motorcyclist's perception on education and training of motorcycle.

II. STATEMENT OF THE PROBLEM

The need for the study is primarily to gain an understanding of motorcyclists' attitude to safety

III. OBJECTIVES OF THE STUDY

- ✓ To analyse the various factors related to safety of motorcyclist.
- ✓ To find out rider's opinion on the existing safety techniques adopted by various motorcycle brands.

IV. REVIEW OF LITERATURE

Roberto Lot (2019) managed to show that a multiplicity of active safety systems for PTWs was examined in the scientific literature, but the levels of development are diverse.

Mustafa Talib Yousif (2019) evaluated riders' behaviour variables related to speeding, visibility, and alertness issues are considered. The riders' behaviour is influenced by various factors which enhances their behavioural aspects.

V. RESEARCH METHODOLOGY

RESEARCH AND SAMPLING METHODS

The study adopted descriptive research and convenience sampling technique.

SAMPLING SIZE

Sample size used for the study is 125. The primary data required for the study was directly collected from the motorcycle users in Chennai city through structured questionnaire (Google form).

STATISTICAL TOOLS USED

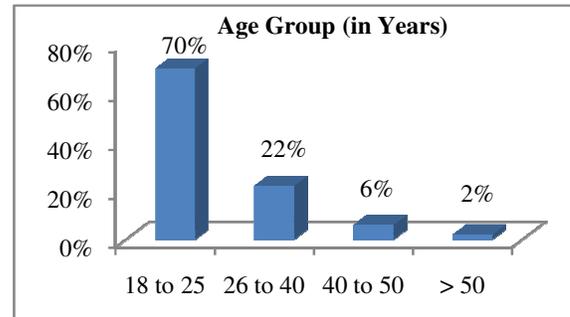
The primary data collected was analysed by One way ANOVA and Cochran Q test.

VI. DATA ANALYSIS AND INTERPRETATION

A. DESCRIPTIVE STATISTICS

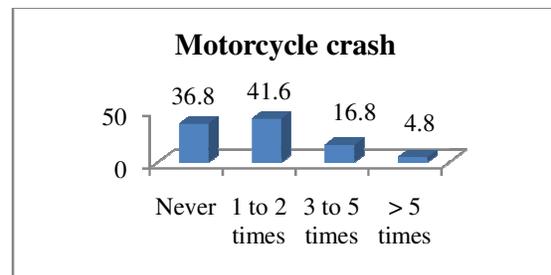
Table 1 Age group (in years)

Age group	Frequency	Percent
18 to 25	88	70%
26 to 40	27	22%
40 to 50	8	6%
> 50	2	2%
Total	125	100%



Motorcycle crash	Frequency	Percent
Never	46	36.8
1 to 2 times	52	41.6
3 to 5 times	21	16.8
> 5 times	6	4.8
total	125	100

Table 2 Motorcycle crash



B. INFERENTIAL STATISTICS

ONE WAY ANOVA

Age and On-road behaviour

Null hypothesis (H_0):

There is no significance difference between age and on-road behaviour

Alternate hypothesis (H_1):

There is significance difference between age and on-road behaviour

On road behaviour ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	18.076	3	6.025	3.244	.024
Within Groups	224.724	121	1.857		
Total	242.800	124			

Since p value is >0.05 reject null hypothesis.

Inference:

There is significance difference between age and on-road behaviour

Interpretation:

Riders of age group less than 25 years and age group above 25 years have difference on-road behaviour.

COCHRAN Q TEST

Safety factors for motorcycle riders

Null hypothesis (H₀):

There is no significance difference between factors relating to safety features.

Alternate hypothesis (H₁):

There is significance difference between factors relating to safety features.

Safety factors	Value	
	yes	no
Antilock braking	77	47
Combined braking	48	76
Airbag clothing	18	106
Adaptive headlights	36	88

Since p value is >0.05 reject null hypothesis.

Inference:

There is significance difference between factors relating to safety

Interpretation: Antilock braking is considered as most important safety factor whereas air bag clothing is considered as least important safety factor

VII. DISCUSSIONS

FINDINGS

- Respondents feel that the behaviour of the rider has greater impact on safety than road infrastructure, demographic factors, and power of motorcycles.
- Performance and comfort are considered as the most important factors followed by safety for choosing a motorcycle
- Most of the respondents choose helmet as the important riding gear in comparison with other safety gears like jacket, glove and boots

SUGGESTIONS

Every motorcycle rider should wear a helmet while riding a motorcycle; a helmet is a riding gear that is most preferred to avoid injury in the head. Motorcycle riders must know about different riding gears rather than using helmets. Usage of riding gears should be primarily considered while riding a motorcycle for safety. Motorcycle riders should develop positive behaviour on road like, following the traffic rules, wearing required riding gear to avoid motorcycle crashes.

VIII. CONCLUSION

The problem of motorcycle crashes and fatalities is not only because of external factors like road surface, poor visibility on the road, fatigue, etc. It is the responsibility of the motorcycle rider to ensure safety while riding a motorcycle. Protective gear is the best weapon against motorcycle crashes and fatalities when crashes do occur. Awareness campaigns among the riding groups are essential and a code of practice should develop for responsible riding. Motorcycle riding education activities will reduce risky riding and improve the responsible skills of new riders

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