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Psychology & Psychological Research International Journal
ISSN: 2576-0319

The Conditionality of the Rule among Motorcyclists

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Mini Review
Volume 9 Issue 1
Received Date: February 26, 2024
Published Date: March 19, 2024
DOI: 10.23880/pprij-16000403

Abstract

The problem of transportation accidents (in general) depends largely on human factors. In the road sector, traffic psychology studies the behavior of road users. Among the categories of users, motorcyclists is part of the group of "vulnerable road users", and facts and figures confirm their exposure to risk. The theory of conditionality was developed in order to understand the psychological underpinnings of the relationship to the rule. These works defend the existence of two systems of rules: legal and social. Studies carried out with motorcyclists show the particularity of this group: the pleasure of riding, a particular relationship to speed, conditionality differences according to the type and power of the motorbike. The conditionality of the rule among motorcyclists seems to have the particularity of being strongly anchored in their group identity.

Keywords: Traffic Psychology; Theory of Conditionality; Motorcyclists; Conditional Scripts Questionnaire; Risk

Abbreviation: PTW: Powered Two Wheelers; CSQ: Conditional Scripts Questionnaire.

Introduction

European Road Safety Observatory [1] reports 3,042 motorcycle fatalities in 2020: "Although the number of motorcyclist and moped fatalities in Italy and France has decreased more than the EU average over the past decade, these two countries still had the highest number of fatalities in 2020". The National Road Safety Council in France recalls that the use of PTW (powered two wheelers) is a real public health problem; accident figures for motorcyclists are high compared with their number in traffic (estimated at 2%). Over the same distance there are 22 times as many risks of being killed on a motorcycle as in a car.

In social psychology, the theory of conditionality [2] applied to the road sector has highlighted the relationship with the Highway Code. Two systems coexist: the system of legal norms (the Highway Code) and the system of social norms (the real practices of users). Depending on the road scenarios, the gap between these 2 systems is more or less significant. As with motorists, speed is the most conditional scenario among motorcyclists, and one of the leading causes of road deaths.

The Theory of Conditionality and its Measure

The theory of Conditionality [2,3] stemming from research on normative and peripheral aspects of social representations constitutes a framework for study differences between legal norm and social norm. From the first work carried out with motorists, it became clear that the aim was to highlight the conditionality of the norms and not to identify individuals or groups who would be considered deviant: "The aim of the research described in this paper is not to identify the groups which commit violations nor the

types of drivers which are potentially dangerous but to study the representation of driving using a normative approach" [2]. Research shows that the Highway Code is conditional and that the more debatable a rule is, the less it is respected. The term of "legitimate transgressions" is used; legitimacy is at the level of representation because these are real transgressions of the law [2,4].

To measure this conditionality, a specific tool was developed: the Conditional Scripts Questionnaire (CSQ) based on scenarios and situations; this questionnaire demonstrates good internal consistency with a Cronbach's alpha of 0.91. The different situations refer to multiple circumstances (e.g. infrastructure, other drivers, time of day, type of vehicle etc.). The design is based on specific wording (e.g. "You sometimes drive through a red light if…"), which makes it possible to circumvent social desirability. The scale goes from absolute compliance to absolute violation. With these ordinal distributions, the analysis of the third quartile makes it possible to identify more or less conditional situations [2].

Research with Motorcyclists

In order to better understand the stake of speed among motorcyclists, the conditionality of 80 km/hr speed limit has been studied in a group of 661 male motorcyclists [5]. This speed had been established on the secondary network on two-way roads without a median strip. A conditional scripts questionnaire comprising 23 situations and based on the previous work was designed. The questionnaire shows a good internal consistency (Cronbach's alpha=0.95). Motorcyclists exceed the 80 km/hr limit by at least 20 km/h and the analysis of the 3rd quartile testifies that a single situation is not conditional; Table 1 displays the summary.

$Q_{75\%}$	Nb of situation	Justifications
1	1	Alcohol
3	3	Bad weather conditions; bad road conditions; lack of knowledge of the road
4	8	Night; distraction; there are people on the road; it's a long journey; go to work; be with friends; be in a hurry; it's a short journey
5	10	It is more dangerous to drive slowly; riding on a winding road; the road is straight; we know the route; sky is clear; nobody on the road; being alone on the motorcycle; know that there is no speed camera; good road conditions; we drive for pleasure.
6	1	The limit is too low
Total	23	

Table 1: Summary of conditionality of 80 km/hr speed limit among motorcyclists [5] (from 1=absolute compliance to 6=absolute transgression).

If we focus on the most conditional situations (3rd quartile at 5 or 6), we see a map of legitimate transgressions [6]. The relationship to speed is specific as we see with the justifications: the speed is too low to be respected, drive faster for safety, do not respect the speed for pleasure. On the other hand, non-compliance with speed is justified by infrastructure, knowledge of the road, traffic and good weather conditions.

This study also shows that conditionality varies depending on the type of motorcycle driven and its power: "These results showed that the riders of roadster and sport motorbikes are more conditional when it comes to speeding than the riders of other types" [6].

To follow up on these results, a study in a framework of a Master 2 thesis [7] focused on the conditionality among riders of roadster (N=97) and sport motorbikes (N=30). The scenario of speed conditionality was studied through 34 situations (Cronbach's alpha=0.96). The analysis of the 3rd quartile shows that motorcyclists driving a sports motorcycle are more conditional (Table 2).

$Q_{75\%}$	Nb of situations	
	Riders of roadster	Riders of sport m.
1	2	1
2	0	1
3	7	5
4	23	16
5	2	11
Total	34	34

Table 2: Summary of conditionality among riders of roadster and sport motorbikes [7] (from 1=absolute compliance to 6=absolute transgression).

The justifications of the third highest quartile confirm the legitimacy of the transgressions already observed in the previous study. The influence of the group and the search for sensations are linked to the fact of riding with friends and the notion of pleasure (Table 3).

Riders of roadster. Nb of 3rd quartile=5	Justifications	Riders of Sport m. Nb of 3rd quartile=5	Justifications
2	Be in a hurry; be alone on the motorbike	11	Be in a hurry; be alone on the motorbike; country road; highway; winding road; little traffic; no speed camera; road in good condition; good weather conditions; the motorcyclists with me exceed the speed; sensation- seeking

Table 3: Justifications of the higher 3rd quartile (5) among riders of roadster and sport motorbikes [7].

Conclusion

This study was rooted in the theory of conditionality, which describes the functioning of norms in the field of social thinking [2,3,8]. Early research on rule conditionality focused on motorists and showed the importance of conditionality for the "speed limit" scenario; speed is the most questionable scenario (and therefore the least respected) [2]. Speed is one of the leading causes of death on the roads [9] and this work shows that for motorists and motorcyclists there are many similarities in the justifications (infrastructure, environment, weather, time of day, others etc.), but the motorcyclist group is much more vulnerable. Certain aspects stand out within this group: motorcyclists have a more marked group identity [10], and the notion of pleasure or seeking sensations on a motorbike exacerbates risk-taking without being protected by a passenger compartment.

There is little work on the problem of risk on motorcycles when carrying out their duties. This is the case for law enforcement on motorcycles. An exploratory study confirms that speed is conditional among police motorcyclists and that risk-taking is increased in emergency situations [11].

Traffic psychology is an essential discipline for understanding psychological underpinnings and their links with driving behavior and accidents. Its wide field of application attests to this: "Traffic psychology also significant contributions to make to the development of accident countermeasures. This does not only include traditional approaches such as road user education and training, but it is also argued that application of psychological knowledge about driver perception and cognition can contribute to optimal road and vehicle design" [12].

Work on the conditionality of the rule and different road scenarios show that conditionality is omnipresent. Concerning motorists, only one scenario is not conditional: wearing a seat belt in the front of the vehicle: "...this proves that this formal rule has been integrated into the representation" [2]. We can then wonder if it is possible to make respecting speed legitimate, such as wearing a seat belt in the front of the vehicle.

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