

# Safety Motivations of Motorcycle Riders

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## Abstract

Most theories of traffic behaviour assume that traffic participants are motivated to move safely from one place to another. Safety attitudes can be affected by extra motivations like escapism, hedonism, testing own skills and limits, thrill driving, rivalry, and risk taking. As motorcycle riding is mainly an outdoors leisure time activity these conflicts between safety motivation and extra motivations may even be stronger in motorcyclists. Therefore we planned a study about the relation between safety and extra motivations with motorcycle riders.

We developed a questionnaire which assessed demographic information, information about the motorcycle and motorcycle riding, and information about safety and extra motivations. The first survey was carried out at an international motorcycle fair in the city of Cologne in 1992. 605 motorcyclists participated in the study. In a second survey we used the questionnaire at a motorcycle fair in the city of Dortmund in 1996. 180 motorcyclists participated in the study.

In the data of both studies we found support for a conflict between safety motivation and extra motives of motorcycle riders: dynamic joys of motorcycle riding, achievement motivation, thrill and rivalry were in direct contrast to safety tendencies. Emotional aspects of motorcycling, escapism, hedonism, flow, social aspects and identification, reveal very low conflicts with the safety motive. Control motivation is positively related with safety. Analysis of riding style reports reveals that the conflict between safety motivation and sport-like extra motives also extends to the behavioral level.

## Introduction

Most theories on driving behavior assume that drivers wish to proceed safely from one location to another. In 1976, Näätänen and Summala first pointed out that this is not always the case: There are extra motives that lead drivers to engage in risky behavior. These include wanting to drive fast, testing one's own abilities and limits, experiencing thrills, competing with other drivers, overcoming risks, getting away from everyday life (escapism), and taking pleasure in driving (hedonism). These extra motives may well lead to conflicts with the safety motive. Because motorcycling is mostly an outdoors leisure-time activity, such conflicts can be assumed to be very strong in this group of road users. This assumption is examined in the present paper.

## Method

Schulz, Gresch, and Kerwien (1991) and Schulz (1993) proposed a systematization of the motivations and emotions in motorcycling that summarizes the most important leisure-time motivations of motorcyclists into 11 scales. A report on the development of these scales and results on their standardization can be found in Schulz et al. (1991). The scales used in the present study, their descriptions, and the number of items they contain are reported in Table 1. Participants had to rate their agreement with each item on a 4-point scale with the points no, more probably no, more probably yes, and yes.

Table 1  
*Leisure-Time Motivation Scales*

Scale	Description	Number of items
Safety	Cautious and careful driving behavior; passive protection of own person.	5
Control	Having the motorcycle, oneself, and the situation under control.	6
Dynamic joys	Experiencing speed, acceleration, and cornering.	7
Competence	Mastering the motorcycle and coping with the physical and psychological demands of riding it.	7
Thrill	Experiencing optimal and pleasant arousal in risky riding situations.	7
Rivalry	Competing with other motorcyclists.	9
Escapism	Relaxing, switching off, forgetting everyday worries.	9
Hedonism	Experiencing joy and the pleasure of riding.	
Flow	Experiencing a psychological state in which activity and awareness fuse, attention is concentrated on the activity, and self loses meaning.	4
Identification	Possessing and riding a motorcycle as part of one's lifestyle.	7
Social aspects	Riding in a group, meeting motorcyclists in clubs and informal associations.	6

In order to include actual driving behavior in the assessment, a second part of the study asked motorcyclists to rate how frequently they practiced the riding styles represented by a list of 18 adjectives. Schulz (1994) used these reports to develop a cluster analysis procedure for classifying motorcyclists into six riding-style categories. These were labeled sportlike, racing-sportlike, dual-sportlike, defensive-calm, timid-unsportlike, and dynamic-carefree. An examination of the categories with discriminant analysis produced highly satisfactory results (see Schulz, 1994).

The surveys using these instruments were carried out at two motorcycle fairs. The first study (S\_92) was implemented at the Cologne International Bicycle and Motorcycle Fair in 1992. Participants were 605 motorcyclists (500 male, 105 female; mean age 27,8 years) . The second study (S\_96) was carried out in 1996 at a major regional motorcycle fair for the Ruhr district held at Dortmund. This survey was completed by 181 motorcyclists (151 male, 30 female; mean age 32,0).

## Results

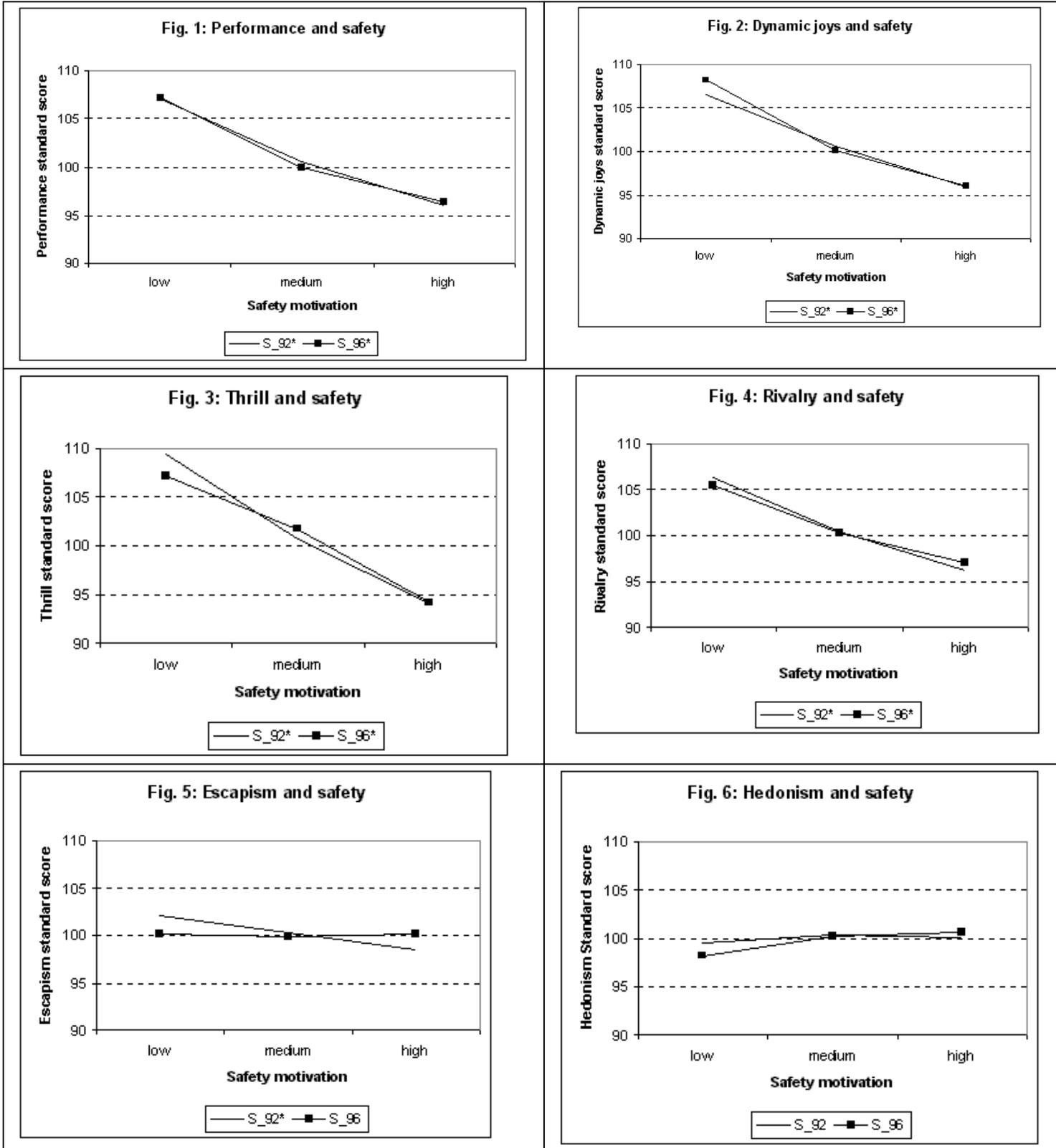
The first analyses addressed the distribution of the safety scale scores in each of the two samples. Scale scores were used to form three groups containing persons with a low, moderate, or high safety motivation (see Table 2).

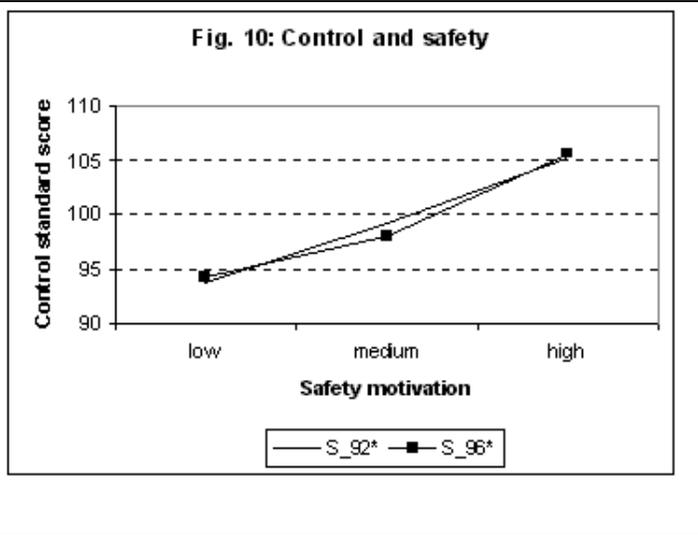
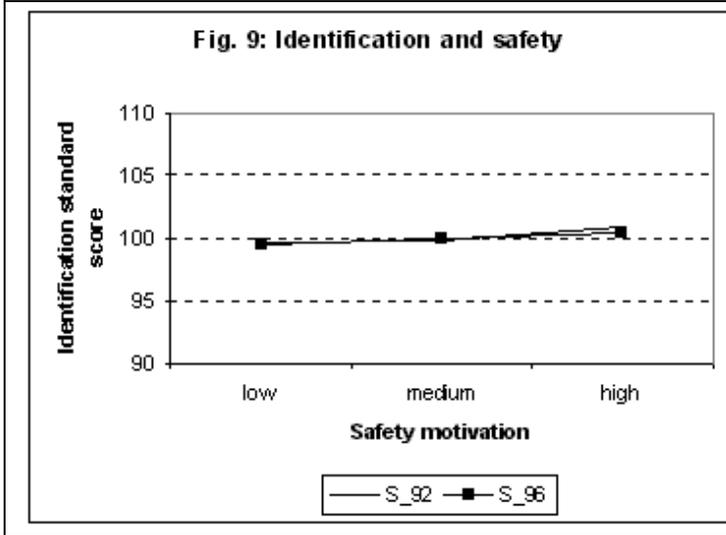
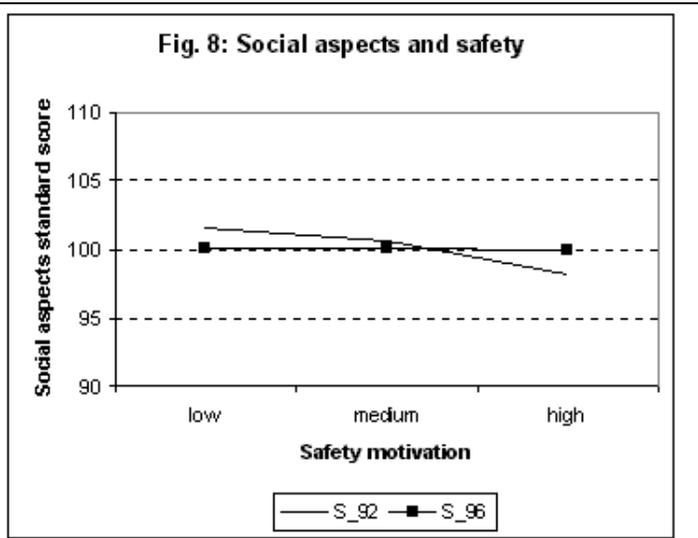
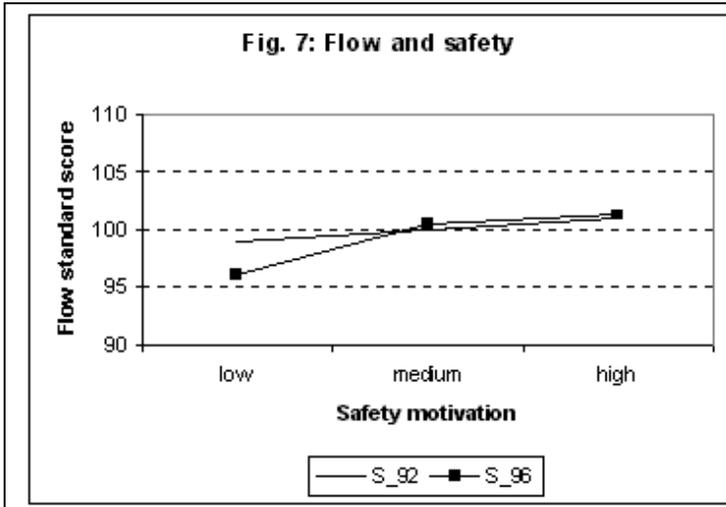
Table 2  
*Distribution of Safety Scale Scores*

Safety motivation class	Scale score	Class percentage S_92	Class percentage S_96
Low	up to 14	15.1	15.6
Moderate	15-17	66.9	65.0
High	18-20	17.0	19.4

Scale scores for the extra motives were recomputed for each of the two studies as standard scores with a mean of 100 and a standard deviation of 10. The next stage was to examine the changes in the scale means for extra motives as a function of this class assignment based on safety motivation. Each change was then tested for statistical significance with

a univariate analysis of variance. Results are presented graphically in the following 10 figures. Significant results of the analysis of variance on the specific motivation variable in the particular sample are marked with an asterisk (\*) placed after the symbol representing the sample.

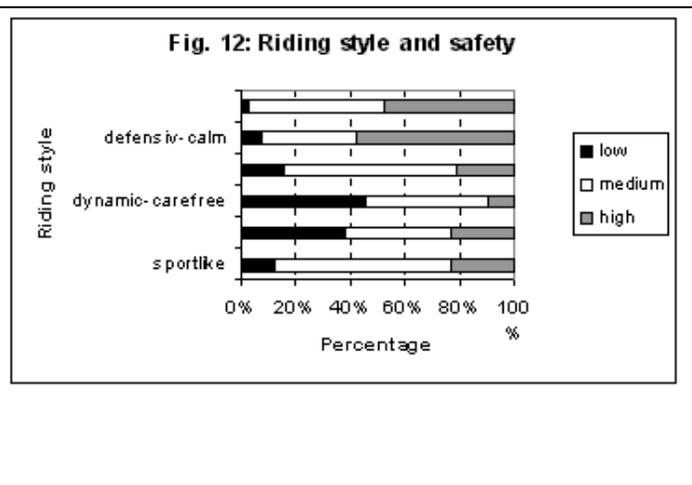
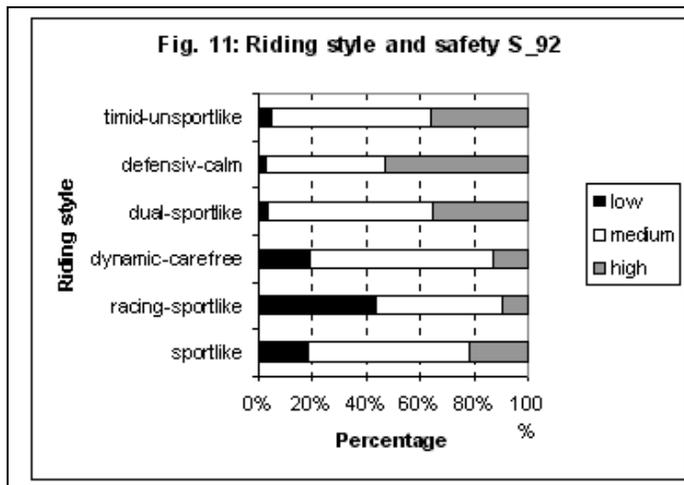




The extra motives performance, dynamic joys, thrill, and rivalry revealed significant differences between means for the three safety classes in both studies. Means were highest in the low safety class and then dropped progressively up to the highest safety class. This shows that these four extra motives of sportlike motorcycling are in clear conflict with the safety motive.

The extra motives hedonism, identification, flow, and social aspects revealed no significant differences in means between the safety motivation classes. Therefore, they do not seem to conflict with the safety motive. Escapism produced a conflict with safety in the 1992 study, but this was no longer found in the 1996 study. In general, one can say that the more emotional aspects of motorcycling reveal very low conflicts with the safety motive.

The final extra motive was control motivation. This revealed significant differences for all three motivation classes. The means for control motivation increased in line with the safety motivation indicating a positive interaction between the two.



The relations between safety motivation and the motorcyclists' self-reported driving behavior are presented in Figures 11 and 12. In each case, the distributions of the individual riding styles across the three safety motivation classes differed significantly on the 5% level. The figures display the distributions as stacked columns. Both studies showed that the low safety class was much more frequent in sportlike, racing-sportlike, and dynamic-carefree styles compared with the other three riding styles. This reveals that the conflict between safety motivation and sportlike extra motives also extends to the behavioral level. For motorcyclists, safety and sportlike motorcycling are a contradiction—not only in their minds but also in their behavior.

## References

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