

The perception of risk involved in alcohol-impaired driving

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Abstract

This study is part of a research project aimed at developing a pedagogical programme using driving simulation techniques for dissuading alcohol-impaired driving in youth. We have conceptualised a new driving simulator in which various driving conditions, including a drunk driving condition, are presented to the subjects. As it is now technically possible to simulate the distorted visual field, as well as the characteristic perceptual and motor impairments of a drunk driver, it would be possible for sober subjects to experience the loss of control and become aware of the accident potential of drunk driving. This new way of using driving simulators is based on the hypothesis that if young drivers are allowed to experience some of the realities of drunk driving, while staying sober, it may dissuade them of driving under the influence of alcohol.

Specifically, as a first and necessary step, the present study was conducted to assess sober subjects' ability to discriminate between drunk driving and sober driving in a simulator. Video-recordings of simulated driving were prepared with two young drivers, male and female, under 0.00%, 0.08% and 0.12% Blood Alcohol Concentration (BAC). These recordings were presented to 100 subjects that were asked to rate the sequences according to difficulty in controlling the vehicle's path, in avoiding obstacles and in reacting quickly and effectively to various road situations.

Results show that the perception of risk varies for different BACs. The subjects, male and female, were able to discriminate between the driving sequences of a sober driver and the BAC levels of 0.08% or 0.12%. This result indicates that, in the future, when using our new simulator, subjects will probably be sensitive to the changes in the driving conditions from sober simulated driving to drunk simulated driving.

Introduction

Alcohol-impaired driving is a major cause of serious and fatal car accidents. It is therefore important to make every effort to dissuade this behaviour, especially for young drivers. Unfortunately, previous efforts based on dissemination of knowledge and/or punishment have not been very successful. It has been suggested by Bergeron and Joly (1987) that this poor outcome could be the result of underestimating the importance of affective reactions. In fact, in that study we found that the degree to

Brookhuis, De Waard & Weikert (Eds.) 1997. *Simulators and Traffic Psychology* HFES Europe Chapter