

Interaction between car drivers: a diary study

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Abstract

To gain a deeper understanding of expectations of (young) drivers a diary study was performed. A group of young drivers (n = 211) was asked to describe any unexpected situations that they encountered in traffic in a web-based diary. The 528 coded diaries showed that the majority of situations could be regarded as interaction situations. Also, the majority of scored behaviours took place at the perception/attention and decision making level of information processing. This is in line with a model of information processing in interaction, where expectancy is placed between perception and decision making. Future research will involve comparing these findings to in-depth studies on accident causation using the violation and error concepts.

Introduction

When participating in traffic, it is very likely that a driver will encounter other road users on this trip. In interaction with other road users, time is often a limiting factor in deciding what is the appropriate action in that particular situation. More often than not, crossing an intersection is performed successfully and safely, despite the limited time available to make appropriate decisions. Therefore, it seems plausible that drivers must have some kind of expectation of what is about to happen in the next moments in order to be able to react in time.

In a study into the information processing of drivers involved in interaction situations, a model has been formulated (Houtenbos, Hagenzieker, Wieringa, & Hale, 2004, see Figure 1). In this model, two kinds of expectancy are distinguished; 'long term' and 'short term' expectancies. Long term expectancies are derived from the driver's mental model of the situation and are thus based mainly on experience and education. An example of a long term expectation is the expectation that road users on a motorway will all drive in the same direction. Subsequently, short term expectancies are based on these long term expectancies and include information from the situation at that particular point in time. An example of such an expectancy is the expectation that another road user will be at a certain position in the next moment. A concept that might also be useful when investigating expectancy is Situation Awareness (SA, Endsley, 1995). The three levels of SA (Perception, Interpretation, and Projection) could help to gain insight into the expectations of

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