

Abstract

To date, inappropriately adjusted driving speed is still one of the main causes for traffic accidents. Although a wide range of divergent speed behavior models have been conceptualized, modeling and retracing the choice of speed still poses one of the biggest challenges in traffic psychology. A recent approach of modeling speed behavior is elucidated by the Components of Speed Behavior Model. Further derived assumptions from Gibson's postulated direct perception and empirical findings regarding the choice of speed were incorporated in the Components of Speed Behavior Model. The present research project aimed to empirically explore the construct of direct perception as a fragment of the Components of Speed Behavior Model, in order to gain further clarity about the choice of driving speed. Based on this theoretical foundation three different environmental changes (rate, position, and arrangement of informational cues) in the peripheral visual field were hypothesized to have an influence on the driving speed. To investigate the proposed relations, 40 participants, each with a minimum of 2 years possession of a valid driver's license, were recruited from the Technical University of Berlin, as well as with the help of public recruitment online. The influence of basic environmental changes on driving speed was investigated in a simple driving simulation. In addition to the assessed objective dimensions (driving speed), this study comprised a questionnaire to capture subjective dimensions. Empirical results showed that the rate and position of informational cues in the peripheral visual field significantly influenced objective as well as subjective dimensions, supporting assumptions of the Components of Speed Behavior Model. Results were discussed and directions for future research were proposed.