

ANALYSIS OF FACTORS INFLUENCING THE CHANGING OF DRIVERS' EMOTIONAL STRESS WHEN MOVING IN THE CITY ROAD NETWORK

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The most powerful of the production factors that affect the body of car drivers is the nervous-emotional stress. The magnitude of this tension is related to the amount and nature of the incoming information; responsibility for life, health of the participants of the movement, for the preservation of the material values; individual driver's characteristics.

Emotions have a significant impact on a driver's efficiency. Depending on the level of the emotional stress, the efficiency can both decrease and increase. It depends on the degree of complexity of the tasks being solved, the level of professional preparedness, the emotional stability of the driver, etc.

The emotional tension of the driver varies widely enough when driving on the road. During a certain period, due to the overload of information and the complexity of the road conditions, the driver can feel a very high stress level and, being in monotonous conditions, he can feel a sensory impoverishment. The driver demonstrates the best performance at optimal emotional stress, but short-term extreme levels of tension do not reduce the reliability of his work. The accuracy and reliability of the driver depend on the duration of his staying in different states of emotional stress.

Studying the specific features of the driver's perception of the road elements, in particular the curves in the plan, makes it possible not only to normalize their magnitude, but also take into account the optimal curvature of the route. Detection of the role of road conditions in shaping the reaction time of the driver allows formulating the requirements for the minimum distances of visibility and the parameters of the elements of the longitudinal profile of the road. Studying the specific features and possibilities of perceiving information about the elements of the road environment by the driver allows determining the requirements for the limit lengths of the straight lines in the plan. Search for optimization of the means of engineering equipment for roads allows to provide the highest reliability of the driver's work in the most difficult road conditions. Practically all studies in the field of researching the safety of motion and the specific features of the perception of the road conditions by the driver are aimed at finding methods to ensure optimal driver's emotional stress.

Thus, the factors influencing the change in the emotional stress of drivers when traveling through the city's road network are shown in Fig. 1 to 5.

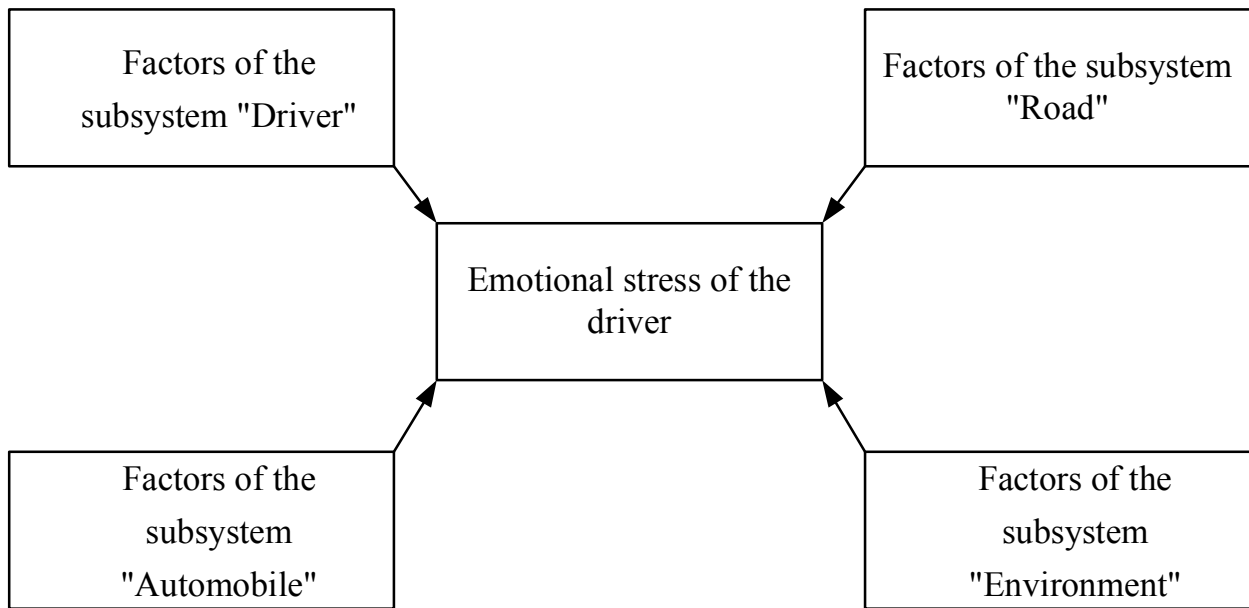


Figure 1 – Factors influencing the change of drivers' emotional stress when driving through the city's road network

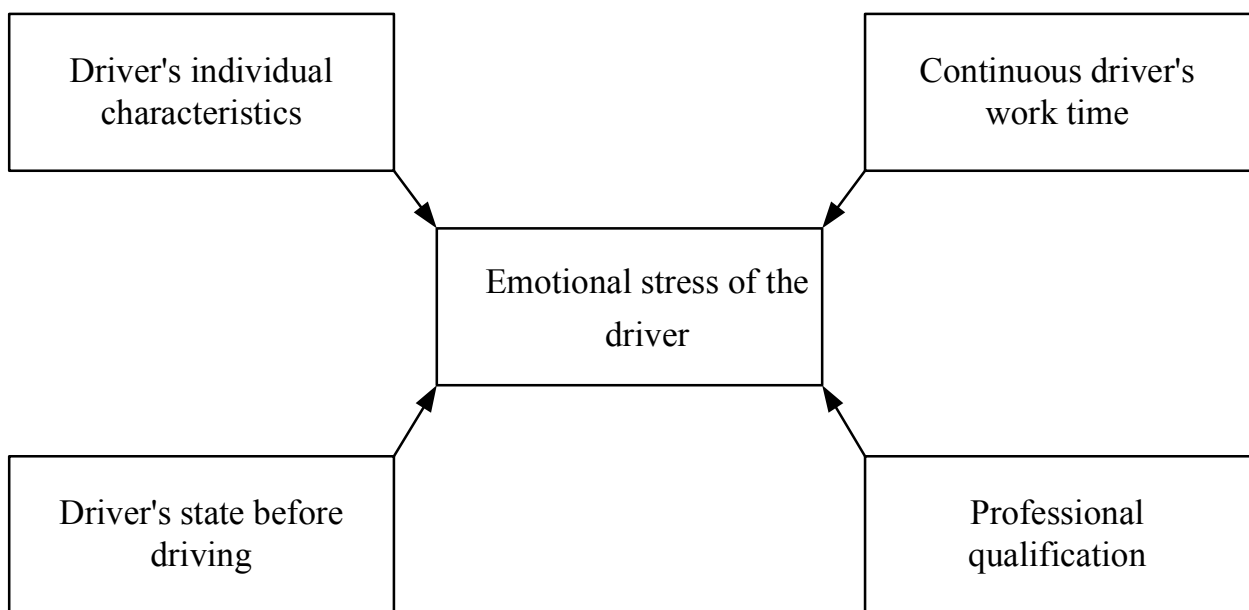


Figure 2 – Factors of the subsystem "Driver", which influence the change in the emotional stress of drivers when traveling through the city's road network

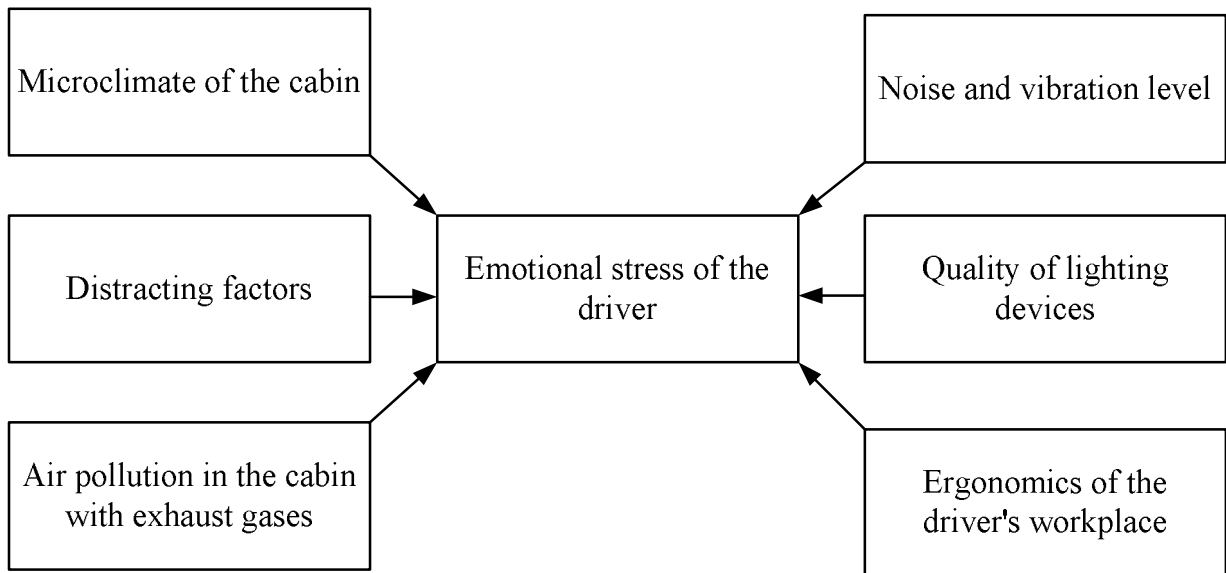


Figure 3 – Factors of the subsystem "Automobile", which influence the change in the emotional stress of drivers when traveling through the city's road network

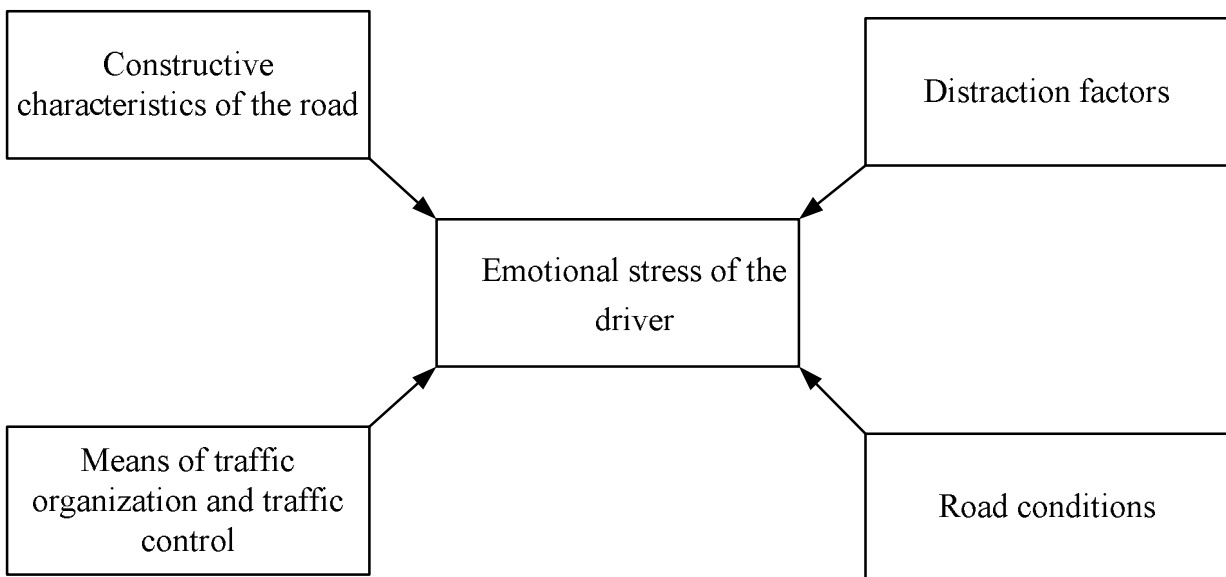


Figure 4 – Factors of the subsystem "Road", which influence the change in the emotional stress of drivers when traveling through the city's road network

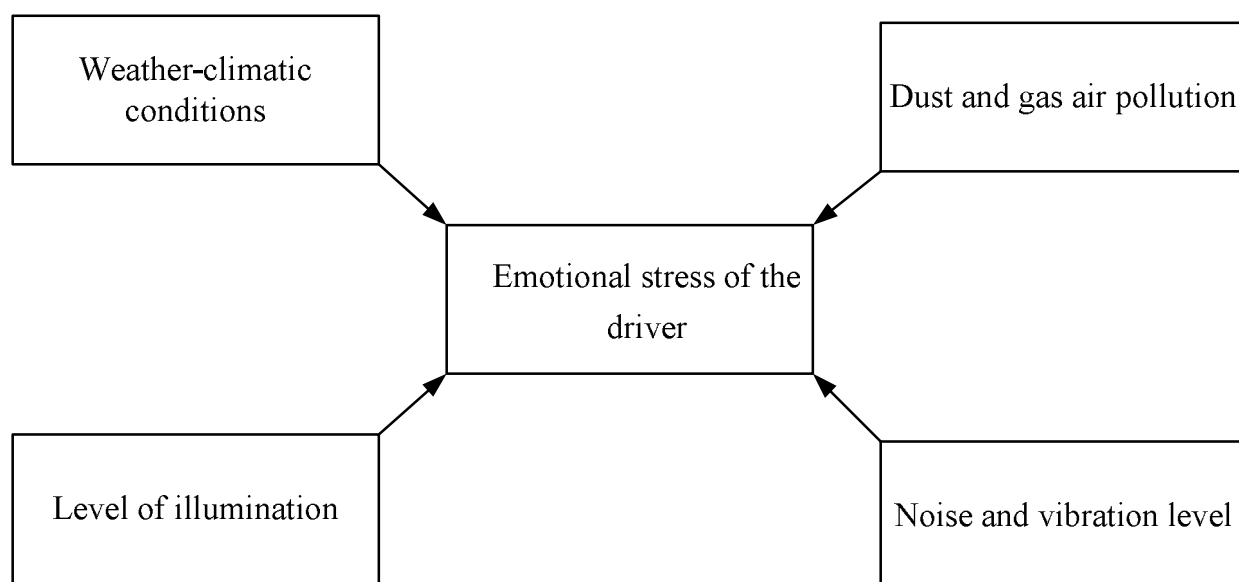


Figure 5 – Factors of the subsystem "Environment", which influence the change in the emotional stress of drivers when traveling through the city's road network

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