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REQUIREMENTS AND THEIR ESSENCE FOR THE DRIVING PROFESSION

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Annotation:

The safety and effectiveness of vehicle operation are heavily influenced by the psychophysiological characteristics and professional readiness of drivers, which require precise attention, adaptability, and the ability to function under stress.

Driving entails constant neuropsychological stress due to factors such as information uncertainty, poor visibility, high speeds, and responsibility for passenger safety. These demands highlight the need for rigorous psychophysiological and professional criteria in selecting and training drivers.

Although general requirements for driver fitness are widely acknowledged, there is insufficient integration of psychophysiological selection principles into professional driver training and evaluation systems, especially in contexts with high safety demands.

This study aims to identify and analyze the core psychophysiological and professional requirements for the driving profession, and to evaluate their significance for traffic safety and driver performance.

The analysis establishes that safe vehicle operation depends on numerous cognitive and emotional factors, including attention stability, decision-making under stress, reaction speed, and environmental awareness. The study outlines seven principles for psychophysiological selection, emphasizing adaptability, comprehensive assessment, and task-specific evaluation.

The paper offers a structured framework for professional psychophysiological selection, highlighting the interplay between neuropsychological stressors and professional competencies in driving.

These findings provide a basis for improving driver training programs, developing targeted selection procedures, and enhancing road safety through better alignment of psychological capacities with professional driving demands.

Keywords: fear, anxiety, doubt, mistrust, stability, intensity of attention, weather and road conditions, physical condition, reaction, attention, memory, thinking.

Introduction

It is known that the psychophysiological characteristics of a person: attention, memory, thinking, perception, psychomotor, feeling and personality characteristics are the main factors affecting the safe driving of a motor vehicle. These mental traits are developed through practice. Psychophysiological characteristics of motor vehicle drivers are important in ensuring traffic safety. Below are the psychophysiological characteristics of the work of drivers:

1. Significant neuropsychological stress. When driving a car, negative emotions often dominate: fear, anxiety, doubt, mistrust, and the constant presence of catastrophic situations (Fig. 1).

Figure 1 represents the internal and external factors contributing to psychological strain in drivers. It visually integrates cognitive overload (illustrated by the neural gears around the head), urban driving pressure (symbolized by the city and taxi driver), and emotional exhaustion (reflected in the posture of a real taxi driver). Together, these images depict the combined influence of neuropsychological stress, decision fatigue, and emotional burden that drivers experience, especially in high-responsibility, urban, or repetitive driving environments.

Figure 1: Psychophysiological properties of the driver

2. Continuity and discreteness. This feature of the driver, on the one hand, is manifested in the interest in transporting goods and passengers from one point to another as quickly as possible, without interruptions and in compliance with traffic rules**.**

3. Work under conditions of a given pace and time limits. These driver performance characteristics occur when driving at high speeds, in heavy traffic, and in critical situations.

4. Forecasting. This is an opportunity to predict the likely development of road conditions. Forecasting is based on using information about the past to predict the future.

5. Stability and intensity of attention. This feature is manifested in constant and high readiness for unexpected changes in the road situation.

6. Monotony. The reason for this is the lack of information that occurs when the landscape is homogeneous or when moving at a constant speed along straight section (Fig. 2).

7. Unevenness and uncertainty of information. The unevenness lies in the fact that when driving outside the city or on a secondary road, no noticeable irregularities are observed for a minute or more, but when entering a populated area or on a main road, the number of such irregularities can reach 10 or more per second. Uncertainty of information leads to the fact that the driver is not sure that the situation on the road will change in the next moment as he expected.

Figure 2 illustrates the effects of monotony on a driver's psychophysiological condition, particularly during prolonged driving on uniform landscapes or straight roads at a constant speed. The images depict reduced alertness, mental fatigue, and slower reaction times caused by a lack of sensory stimulation. Such states can lead to decreased situational awareness and increased risk of accidents, emphasizing the importance of maintaining mental alertness in monotonous road environments.

Figure 2: Driver's state of monotony

8. Active search for missing information when driving in poor visibility conditions. In such conditions, the driver cannot correctly assess the road situation and the position of his car in relation to other road users, so he actively searches for the missing information for such an assessment.

9. Nervous tension. Occurs with high responsibility for the lives of passengers and pedestrians, the safety of cargo and vehicles. The driver is also affected by unfavorable external conditions: heat and cold, high humidity, poor road conditions, exhaust gases or gasoline vapors entering the cabin, noise and vibration, unfavorable working conditions, etc (Fig. 3).

Figure 3 illustrates the driver's emotional and cognitive stress under poor visibility conditions caused by adverse weather, lighting, or road environments. The images depict heightened nervous tension, visual obstruction, and the driver's struggle to gather missing situational information. Such scenarios increase mental workload, uncertainty, and physical discomfort, ultimately compromising driving performance and safety.

Figure 3: Driver nervousness in poor visibility conditions

Also, important are the basic professional requirements for the driver's profession. They consist of: – physical health, high resistance to fatigue;

– the ability to maintain a high level of readiness for emergency reactions, long-term endurance under conditions of prolonged homogeneous exposure;

– good development of feelings;

– speed and stability of reactions to a moving object;

– high automation of driving;

– emotional stability;

– wide distribution and quick change of attention;

– visual memory;

– good perception of space, ability to correctly estimate speed and distance;

– operational thinking;

– the ability to anticipate changes in the road situation;

– observation, resourcefulness, perseverance, conscientiousness, discipline, self-confidence;

– knowledge of the technical part of the car;

– social adaptation.

Currently, there is a whole system of measures aimed at solving this problem:

– public choice: ban on driving vehicles for persons recognized as socially dangerous;

– medical selection: removal of persons suffering from or susceptible to diseases.

– psychophysiological selection.

Principles of psychophysiological professional selection:

The first principle - professional choice - before studying a profession, undergo a periodic examination of the profession of work.

The second principle takes into account the “plasticity” of the human body, which allows it to quickly adapt to the conditions of professional activity and successfully fulfill the requirements in the presence of various expressed individual characteristics and qualities.

The third principle is speed, quality and, in some cases, the possibility of such adaptation, which is associated with the ability to develop the necessary characteristics and qualities. This principle affects the quality of genotypic (more inert) and phenotypic traits (can change during learning and life).

The fourth principle is a comprehensive assessment of the psychophysiological state of the subject, taking into account the possibilities of development, training, mobilization, development, based on a multidimensional analysis of various characteristics of important professional characteristics and personality traits, their mutual relationships and the diversity of

relationships. and so on.

The fifth principle is a quantitative approach to assessing measured indicators.

The sixth principle is that when developing a psychophysiological methodology for professional selection, one should clearly know its purpose**.**

The seventh principle is specific knowledge that evaluates a characteristic that is effective in solving the problem of psychophysiological professional choice.

Methods

The methodological foundation of this study is based on a comprehensive analysis of psychophysiological and professional-functional requirements essential for the driving profession.[1] The research utilized a descriptive-analytical approach, examining various psychological and physiological characteristics through literature review and expert evaluation.[2] Central to the analysis were factors such as neuropsychological stress, attention stability, forecasting ability, information processing under monotony, and the influence of external stressors like road and weather conditions.[3] Observational and empirical methods were applied to identify and systematize critical driver attributes such as emotional stability, memory retention, operational thinking, sensory perception, and reaction time.[4] The principles of psychophysiological selection—professional compatibility, adaptability, developmental potential, and comprehensive evaluation—served as guiding criteria for assessing driver suitability.[5] These principles were used to formulate a framework for evaluating drivers before and during their careers.[6] In addition, the study incorporated comparative assessments of driver behavior under varying environmental and situational factors, such as poor visibility and high responsibility scenarios.[7] The psychometric and physical standards referenced were informed by institutional training manuals and regulatory frameworks.[8] The methodology aims to bridge theoretical knowledge with practical safety measures by aligning driver psychophysiological readiness with professional standards, thereby supporting a structured and safe driving environment.[9]

Result and Discussion

The analysis confirms that the driving profession demands a complex combination of psychophysiological and professional attributes, which directly influence road safety.[10] Results indicate that successful drivers must maintain stability of attention, rapid reaction time, emotional resilience, and predictive abilities under conditions of uncertainty, monotony, and stress.[11] The study highlights that drivers frequently operate under neuropsychological strain due to external conditions such as weather, road quality, and time constraints. The importance of forecasting road situations and sustaining alertness despite monotonous visual input or uneven information flow is particularly emphasized.[12] It was also observed that drivers must actively compensate for missing information under poor visibility, further intensifying cognitive load.[13] Moreover, the necessity for physical endurance, sensory acuity, and motor coordination underlines the integral role of psychomotor performance. The discussion demonstrates how nervous tension arising from the responsibility for passengers, cargo, and vehicle safety further compounds the demands of the profession. Professional requirements extend to include social adaptation, technical knowledge of the vehicle, and behavioral traits such as perseverance and discipline. The research supports a multidimensional model for psychophysiological professional selection, advocating a comprehensive assessment approach that incorporates both genotypic and phenotypic traits.[14] The findings confirm that safe and effective driving is not only a technical skill but a cognitive and emotional task that requires systematic support, continuous training, and selective screening.[15] The integration of these insights into professional selection and training programs is essential for enhancing driver performance and reducing road hazards.

Conclusion

Thus, in the safe driving of a motor vehicle, the driver relies on modern psychological knowledge: the driver's information perception channels; influence of mental processes on motor vehicle management; attention and its characteristics; main symptoms and causes of distraction; it is

important that they acquire skills about the properties of the nervous system.

Also, when driving a car is reconciled: Ghissot and perception to driving a motor vehicle; depending on the psychological qualities of a person and dangerous situations that arise when driving a motor vehicle; provide supporting information; must have the skills to take unique and safety precautions in driving motor vehicles.

It is very important for drivers to follow the above requirements for safe driving of vehicles.

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