Ссылка для цитирования этой статьи:

Verbitskaya N., Ola Alashoor Training drivers in the perception and foresight of road traffic risks in order to preserve the regional population // Human Progress. 2023. Том 9, Вып. 6. С. 1. URL: http://progress-human.com/images/2023/Tom9_6/Verbitskaya.pdf. DOI 10.34709/IM.196.1. EDN JNANMW.

УДК 355.237

TRAINING DRIVERS IN THE PERCEPTION AND FORECASTING OF ROAD TRAFFIC RISKS IN ORDER TO PRESERVE THE REGIONAL POPULATION

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Abstract. Road accidents are one of the leading deaths in the world, with an estimated seventh cause of death by 2030. Traffic accidents lead to great loss for individuals and societies. These risks can be avoided by studying and training on the risk perception program, which is one of the programs currently being studied to help drivers discover dangers and reduce accidents. If distracted driving, fatigue and exhaustion that afflicts the driver are among the main causes of accidents, then it can be avoided by developing quick and useful solutions that help the driver focus on the roads. The perception of driving danger depends on the driver's ability to detect dangerous situations and react accordingly. The analysis of traffic accidents confirmed that novice drivers have a higher proportion of both the likelihood of an accident and the severity of the consequences compared to experienced drivers. These two main findings have led to the hypothesis that there is an association between the perceived risk of driving and road traffic accidents. Assuming such a link exists, tools such as the hazard perception test, which can predict crash risk and reduce accident risk. This problem has been explored in our article.

Keywords: safety culture; training; education; hazard perception; hazard avoidance; accidents.

JEL codes: M53; J11; R41.

Introduction

Road safety is an important issue that affects everyone who uses the road. Road traffic accidents are becoming common all over the world. According to the World Health Organization (WHO), approximately 1.3 million people die each year as a result of road traffic crashes, and between 20 and 50 million people suffer non-fatal injuries[1]. The economic consequences of road crashes globally are estimated to be between 2% and 7% of the Gross Domestic Product (GDP) of countries. And Studies show that weakness in hazard perception is a major cause of traffic accidents, leading to high consequences.

Road accidents are one of the leading deaths in the world, with an estimated seventh cause of death by 2030. Road traffic accidents are becoming common all over the world. Traffic accidents lead to great loss for individuals and societies. About 1.2 million people died due to road traffic accidents and 20 million were affected by injuries. Russia is one of the countries that witness many traffic accidents around the world. To prevent road accidents, it is important to follow a safe road safety system approach. The safe system approach is a comprehensive approach to reducing serious injuries and preventing deaths in road traffic accidents by creating and managing a transport network that takes into account human vulnerabilities and focuses on people's needs. It's important to remember that many traffic accidents are avoidable, and drivers can reduce their chance of getting into one by taking some precautions. This includes keeping their vehicle in good working order, driving at a safe speed, abiding by the law, and avoiding distractions when driving the vehicle.

1. Literature Review

The concept of safety road and hazard perception test. The concept of road safety is a crucial aspect of reducing road traffic injuries. Hazard perception tests have been developed to improve drivers' ability to perceive and respond to road hazards. These tests have been shown to be effective in improving road safety and reducing the number of road traffic accidents. The basic hazard perception skills include keeping a safe distance from other vehicles, selecting safe gaps when turning, crossing traffic or changing lanes, and scanning for hazards ahead, behind, and to the side.

[1] Resource: World Health Organization: https://www.who.int/news-room/fact-sheets/detail/road-traffic-injuries

Hazard perception skills are closely related to driving skills, and drivers with higher hazard perception scores have been found to have lower accident liability. The ability to anticipate potentially dangerous situations on the road ahead is a key component of hazard perception. The use of driving/riding simulators ensures both the standardization of experimental (or training) pursuant to the specific driving style of each learner. The implementation of zero-tolerance laws and law enforcement has played an important role in reducing road traffic injuries. Additionally, introducing improvements within driver training programs can help improve road safety. Overall, the concept of road safety involves various factors, including hazard perception, driver training, law enforcement, and public awareness campaigns, all of which are essential for reducing road traffic injuries.

After doing studies by (Teigen et al., 1988) found that Norwegians perceived risks very similarly to Americans. However, Norwegians tended to perceive less risk on the majority of risk sources than Americans. According to (Hayakawa et al. 2000), inhabitants of Japan and the United States perceive the danger of traffic accidents differently.

2. Our Nation's Roadway Safety Crisis

On our streets, highways, and other public transit systems, about 95% of fatalities occur, and the danger to our safety is growing. There are many causes of road accidents, but some are more common than others. Here are some of the most common causes of road accidents according to various sources.

−Distracted driving: This is the number one cause of car accidents. Drivers who are distracted by their phones, passengers, or other things are not paying attention to the road and are more likely to cause an accident.

−Fatigue: Drivers who are tired or drowsy are more likely to cause accidents, especially if they fall asleep at the wheel.

−Reckless driving: This includes behaviors such as tailgating, weaving in and out of traffic, and ignoring traffic signals. Reckless drivers put themselves and others at risk of accidents.

−Poor weather and road conditions: Rain, snow, ice, and other weather conditions can make roads slippery and reduce visibility, making accidents more likely.

Education and spreading traffic awareness or traffic culture is one of the important methods for dealing with traffic accidents, as 90% of road accidents are caused by the human element. Therefore, by raising the level of traffic awareness of this human element (the road user), this will certainly reduce These traffic accidents.

These risks can be avoided by studying and training on the risk perception program, which is one of the programs currently being studied to help drivers discover dangers and reduce accidents.

If distracted driving, fatigue and exhaustion that afflicts the driver are among the main causes of accidents, then it can be avoided by developing quick and useful solutions that help the driver focus on the roads.

Hazard perception is a complex skill that is crucial for safe driving. While it may take years to fully develop, training and practice, including the use of hazard perception tests, can help improve this skill and contribute to overall road safety. This test directly influences their judgment and decision-making while driving

There are some situations where hazard perception skills are particularly vital for the safety of the driver and other road users. For example, when driving in adverse weather conditions, such as heavy rain or fog, or when driving in areas with high pedestrian traffic, such as school zones or shopping centers to improve hazard perception skills, some studies suggest that training programs should be developed that focus on the driver's ability to anticipate and respond to potential hazards. However, conducting hazard perception research in actual on-road situations is not feasible due to ethical and safety concerns. Therefore, researchers have developed simulated environments that can reproduce road conditions characterized by the highest statistical probability of accidents occurring [1].

Developing risk awareness skills is critical to safe driving. Therefore, it is advised to have a lot of driving experience across different driving conditions, meaning that the more experience you have, the better you will become at identifying potential hazards. This is done by practicing scanning the road ahead and using your peripheral vision to detect potential hazards. This can help identify risks early and give more time to respond. Use risk awareness training programs designed to improve your ability to anticipate and respond to potential risks. These programs can significantly improve the driver's risk perception skills. It can also help alert and focus to identify potential risks more quickly. avoid potential hazards and reduce the risk of accidents.

The economic costs of road accidents can also be significant and have wide-ranging effects. In the United States, traffic accidents cost taxpayers $30 billion in 2019, which is about 9% of all car accident costs. The total cost of car accidents in the United States was $340 billion in 2019, which equates to $1,035 per person in the country. These costs include medical expenses, lost productivity, legal and court costs, emergency services costs, insurance administration costs, congestion costs, property damage, and workplace losses. This highlights the economic impact of specific types of accidents. The economic consequences of road crashes globally are estimated to be between 2% and 7% of the Gross Domestic Product (GDP) of countries, with a total exceeding $2 trillion per year.

This indicates the significant economic burden that road accidents place on societies worldwide. It is important to note that these figures represent the economic costs associated with

road accidents and do not capture the full extent of the human and emotional toll. Road safety measures and initiatives are crucial in reducing the economic and societal impact of road accidents. It is important to assess the direct and indirect social and economic costs of traffic accident outcomes. This allows a measure of the burden imposed by road traffic injuries on society, and highlights the return on investment in road safety and the relative benefits and costs of different policy options in resource allocation.

The role of driver awareness and education campaigns in reducing the economic costs of road accidents is a matter of debate. Some studies indicate that driver education programs are not effective in reducing accidents or injuries. However, awareness campaigns have been found to reduce the number of road accidents by 9% [2]. Economic incentives, such as lower insurance premiums for young drivers, can promote safer behavior and target young males in particular [3].

It is important to note that driver awareness and education campaigns alone may not be sufficient to reduce the economic costs of road accidents.

3. Traffic accident statistics

Traffic safety culture for drivers in Europe is an important topic for research and policy development. As an analytical concept, traffic safety culture refers to a system of patterns organized around the value of safety. The culture of traffic safety also aims to develop a cultural approach in road traffic safety research and accident prevention, as the comparative analysis in laboratories of studies and research published by researchers shows continuous differences in road safety performance between the member states of the European Union and its associated countries. In terms of organizational culture: One study showed that drivers in trucking companies with a clear safety culture report less phone use while driving. In terms of values and risk: A study looking at assessing freedom of risk, risk and involvement in accidents in three countries found that Norway has the highest level of road safety in Europe, and Israel performs better than the EU average, while Greece is lower. Lessons learned from other countries: A review of traffic safety culture in Europe to improve pedestrian safety in the United States identified factors affecting pedestrian safety and explored how France and Sweden significantly reduced the number of pedestrian deaths. In general, traffic safety culture for drivers in Europe is a complex issue that involves culture, organizational values, and policy development. While there are differences among EU member states, there are also lessons to be learned from other countries that have succeeded in improving road safety. According to studies conducted in a number of nations, traffic mishaps involving motor vehicles represent a significant contributor to all fatalities at work. 1–5 Workers in a variety of professions, including those who frequently drive for work (such as truck and taxi drivers) and those who drive

only infrequently for work, are affected by traffic events. Also, workers in all professions face the danger of traffic accidents as they travel between their places of employment and their homes.

As mentioned in these earlier articles, such comparisons can help with the planning of prevention activities and provide a better understanding of the workplace hazards and risks in each of the comparison countries. They can also shed light on more general issues related to these fatal incidents. Comparative studies can serve as a catalyst for action in nations with comparatively higher mortality incidence rates by fostering a better knowledge of the merits of alternative techniques to data collecting, analysis, and interpretation. Data Comparability Because each country used different case criteria, the study cohorts were in more than one country. Therefore, for this comparison, it was necessary to determine which population of interest was common to the three datasets. In addition, the level of detailed case information differed between countries. Along with specific inclusion criteria, other steps were taken to harmonize the data to ensure maximum comparability.

Road accidents are one of the leading causes of death in all countries of the world, In Norway, 220 people die on the roads every year, and more than 10 thousand are injured, However, if this were the case, it would be reasonable to assume that, due to the high frequencies of accidents in different countries, drivers in developing countries perceive traffic risks to be lower than drivers in high-income industrialized countries. Differences in risk perception due to gender, age and culture Previous studies have suggested that people’s perception of risks is related to demographic variables such as gender and age.

So found a cross-cultural differences in risk perception Studies carried out previously have shown cross-cultural differences related to risk perception. there is risk perception varied more between nations than it did within one nation's various areas. This might be the result of cultural variations in how people view various risk factors. The size of the country may be a factor in variations in the propensity to rate dangers as high or low. Countries with a large population naturally experience and report more accidents than countries with fewer inhabitants. As a consequence, individuals living in countries with many residents often become more sensitive to risks due to the availability of heuristic caused by the greater number of accidents. inhabitants of Japan and the United States perceive the danger of traffic accidents differently. It is challenging to extrapolate results from high-income countries because there are few research looking at how risk perception affects traffic behavior in developing nations. As a result, it's critical to look at how drivers perceive traffic risks differently in Norway compared to Russia or other countries, as well as if risk metrics may be used to forecast driving behavior.

Differences in road traffic risk perceptions were disclosed in the samples of inhabitants from Norway, Russia, and India. Cultural differences can influence what is seen as normal or acceptable behavior, and thus change the drivers' interpretation of the situation. demonstrated that different cultures have varied definitions of what constitutes a hazard and that risk perception varies between cultures. As a result, different instruments may be required to compare risk perception in industrialized and developing nations. As a result, it is standard practice in the field to develop country-specific measuring tools based on the presumption that the methodology itself is culturally translatable, but that familiarity with the road environment should be maintained. There are some doubts if hazard perception tests are transferable between different countries, due to differences in legislations, traffic culture, and infrastructure, Despite the traffic legislation is rather consistent across European countries [4]. Similarly, empirical data showed that behavioral situations can be interpreted differently even in the countries from same geographical region [5].

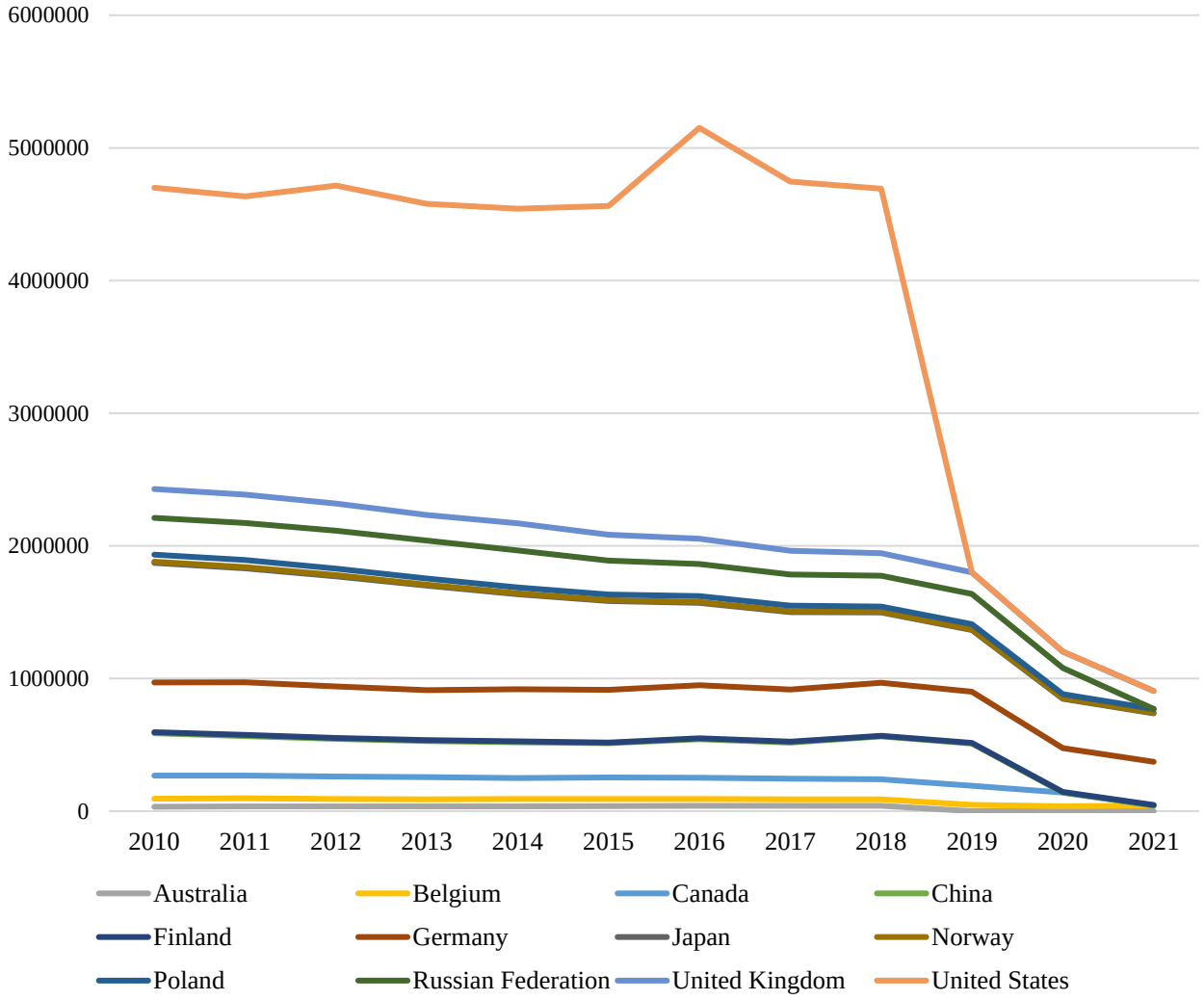
Table 1: Number of persons crashes, fatalities and injuries in road traffic accidents during 2009-2019[2]

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Australia	34008	35233	35367	36322	36703	38286	40237	40533	40732	-	-	-
Belgium	59872	62195	57146	53876	53982	52593	51928	49081	49357	47832	37150	42567
Canada	174319	169764	168802	166476	158398	162693	160754	154634	151004	142563	103317	..
China	319299	299808	284324	272263	270405	257902	289523	273426	321726	318864	-	-
Finland	7945	8223	7343	6939	6934	6678	6169	5812	5542	5224	4634	4087
Germany	374818	396374	387978	377481	392912	396891	399872	393492	399293	387276	330269	325691
Japan	901245	859305	829830	785880	715487	670140	622757	584545	529378	464990	372315	364767
Norway	9338	8531	8340	7029	6438	5804	5674	5368	5049	4466	4529	4645
Poland	52859	53690	49369	47416	45747	42716	43792	42297	40221	38386	28954	28660
Russian Federation	277202	279801	286609	285462	278751	254311	241448	234462	233067	227858	199192	-
United Kingdom	217605	212710	204733	192693	203865	195926	190975	180177	169137	162030	122071	135401
United States	2272000	224.9	2396000	2346000	2371000	2478000	3098000	2783000	2747000	-	-	-

The statistics on traffic accidents in America, Canada, and Australia reveal different tendencies. The number of fatalities per 100,000 people and per 100,000 registered automobiles in America has decreased over time [6]. Particularly for school and intercity buses, Canada has a comparatively high percentage of bus fatalities [7]. Due to the implementation of accident prevention measures including the requirement for new drivers to have low blood alcohol levels and random breath testing, Australia has experienced a decrease in traffic accidents.

[2]Compiled by the authors according to resource: international transport forum/ Road injury crashes, fatalities and injuries (oecd.org)

Fig. 1: Road traffic fatalities by countries, 2010-2021

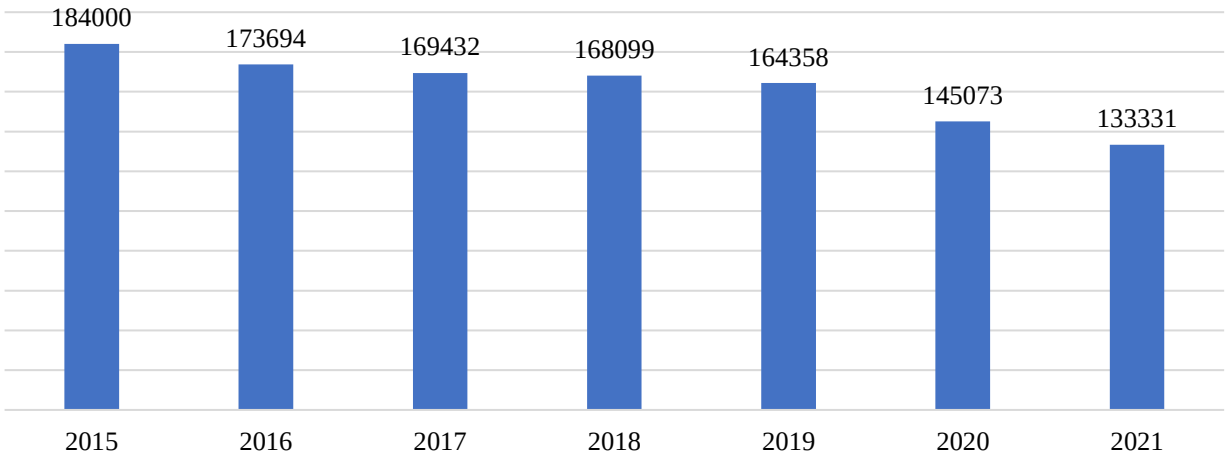


It is important to note that since 2003, the number of traffic fatalities in Australia has not changed [8]. Overall, these nations' road safety has improved, but there are still some issues that need attention, such Canada's bus safety and the requirement for continued efforts to reduce fatalities in Australia. Through a number of efforts and policies, the situation in Europe regarding traffic awareness training and accident reduction has been addressed. These include regulations requiring motorcycle riders to wear helmets, speed limits on the Autobahn, speed limit reinforcements coupled with fines, and a nationwide network of rescue helicopter coverage. To support national efforts, the European Union has also released a road safety policy. Road accident statistics in America, Canada, and Australia show varying trends. In America, there has been a decrease in the fatality rate per 100,000 attributed to the introduction of accident countermeasures such as compulsory wearing of seat belts and crash helmets, low blood alcohol levels for new drivers, and random breath testing. It is worth noting that road deaths in Australia have remained stagnant since 2003. Overall, these countries have experienced improvements in road safety, but

there are still areas of concern, such as bus safety in Canada and the need for continued efforts to reduce fatalities in Australia.

The statistics of road accidents in Russia have shown a downward trend in recent years. In 2019, there were 164,358 traffic accidents, resulting in 16,981 deaths and 210,877 injuries [9]. However, it is important to note that Russia still lags behind most developed countries in terms of road traffic mortality. In 2012, about 85-95% of Russia's deaths from road accidents were excessive compared to selected European countries. The Road Safety Strategy for 2018-2024 aims to further reduce the crude death rate from road traffic accidents. The strategy sets tight deadlines for achieving targets, with different goals for large and medium-sized cities compared to small cities and rural settlements [10].

Fig. 2: Number of road accidents in Russia from 2015 to 2022[3]



This figure is only 2.2% of their total number. Accident statistics in Russia for 2021 show that it has become more prosperous for drivers than the previous one, road deaths have decreased by more than 5%. The specialized traffic police of Russia published statistics on road accidents in the country for the first half of 2022. According to the agency, during this time in the country there were 70,151 accidents with victims, in which 6,763 people died and 90, Another 1 thousand were injured. Despite these frightening figures, compared to the first half of 2022, road deaths have decreased by more than 5%. Also, Comparison of road accidents of drivers by age and experience in Russia. As in previous years, the largest number of accidents (12,956, or 27.6%) were committed by drivers in the age group from 30 to 40 years. In accidents committed by these drivers, the largest number of deaths (1327, or 27.5%) and injured (17096, or 27.8%) was also noted. the most severe

[3] Compiled by the authors according to resource: Statista https://www.statista.com/statistics/1035535/russia-number-of-road-accidents/

consequences (8.5) are characterized by accidents committed by drivers of the age group over 70 years old. There was a 16.5% increase in the number of accidents committed by drivers aged 10 to 16 years, that is, persons who could not be allowed to participate in traffic as a driver. There was an increase in the number of deaths in traffic accidents caused by drivers aged 21 to 25 years (+11.2%), from 40 to 50 years old (+7.2%) and over 70 years old (+35.2%)

It is crucial to prioritize risk groups such as drivers, passengers aged 15-44, and pedestrians over 60 in order to effectively address road traffic accidents. Further research and the development of effective safety improvement programs are necessary to overcome the existing lag and ensure road safety in Russia.

Comparison of road accidents of drivers by age and experience in Russia. As in previous years, the largest number of accidents (12,956, or 27.6%) were committed by drivers in the age group from 30 to 40 years. In accidents committed by these drivers, the largest number of deaths (1327, or 27.5%) and injured (17096, or 27.8%) was also noted. the most severe consequences (8.5) are characterized by accidents committed by drivers of the age group over 70 years old. There was a 16.5% increase in the number of accidents committed by drivers aged 10 to 16 years, that is, persons who could not be allowed to participate in traffic as a driver.

Table 2: Number of Road injury crashes, fatalities and injuries (2015-2021)[4]

	2015	2015	2017	2018	2019	2020	2021	2022
Australia	38286	40237	40553	40732	-	-	-	--
Belgium	52593	51928	49081	49357	47832	37150	42567	
Canada	162 693	160 754	154 634	151 004	140 840	106 032	109786	-
China	257 902	289 523	273 426	321 726	318 864	-	-	-
Finland	6 678	6 169	5 812	5 542	5 224	4 634	4 111	3990
United Kingdom	195 926	190 975	180 177	169 317	162 030	122 071	135 401	143326
India	646 412	645 409	618 888	-	-	-	-	-
Russian Federation	254 311	241 448	234 462	233 067	227 858	199 192	-	-
United state	2 490 262	3 099 691	2 782 741	2 746 894	2 776 496	2 321 216	2 540 596	-

As for comparisons of the number of deaths and injuries resulting from accidents, it has been proven According to the data recorded in the Ministry of Land Transport and Highways and as in the picture above, specified from 2015 to 2022 Which shows us the results and statistics in different countries, India also witnessed approximately 1.51 thousand deaths in the same year, and thus it overcomes the developing countries in addition to the largest countries in the world in the number

[4] Compiled by the authors according to resource: international transport forum Road injury crashes, fatalities and injuries (oecd.org)

of accidents and injuries, as it was considered the third highest rate of injuries in the world with a number of 480,652 cases and claimed the lives of 150,785 people, which was more than any other country because it is the second largest road network in the world. As for the precedent in terms of the rate of accidents, injuries and deaths, it is Japan, which in the same year recorded 499,232 road accidents, resulting in 4,698 deaths, in addition to injuring 614,155 injuries, as it is the largest marketer of cars.

In terms of Germany, it recorded 308,145 accidents in 2018, which led to 3,260 deaths, in addition to 396,666 injuries, but this situation may be considered a surprise because Germany does not have a dense road network, but it is considered one of the largest car markets in Europe.

China - China has the third largest road network in the world but ranked eighth in terms of the number of road accidents at 212,846. The country recorded the second largest number of deaths, with 63,093 people and 226,430 injured.

Table 3: Comparison of road safety education across countries[5]

Russia	India	USA	Japan
The speed	Lack of safety measures	Vehicle defects In addition to the main reasons, including speeding and distracted driving	The high number of elderly drivers
Distracted driving	Poor road condition	Inadequate enforcement of traffic laws	Poor road conditions in different seasons
Bad road conditions	Inadequate enforcement of traffic laws	Poor road condition	Inadequate enforcement of traffic laws
Driving under the influence of alcohol	In addition to the main cause, which accounts for 70% of all accidents, which is excessive speed and reckless driving	In addition to the main reasons, including speeding and distracted driving	-

The numbers and causes that lead to road accidents may differ from one country to another, but the main reason remains the inadequacy and knowledge of road safety culture, which is required to provide every person, whether a driver or another road user, in addition to promoting road safety education to raise awareness and encourage good behavior. In addition to strengthening regulations and enforcement of traffic laws, as well as response systems in the event of road accidents.

4. Brain activity and sense of danger

The perception of driving danger depends on the driver's ability to detect dangerous situations and react accordingly. The analysis of traffic accidents confirmed that novice drivers have a higher

[5] Compiled by the authors

proportion of both the likelihood of an accident and the severity of the consequences compared to experienced drivers. These two main findings have led to the hypothesis that there is an association between the perceived risk of driving and road traffic accidents. Assuming such a link exists, tools such as the hazard perception test, which can predict crash risk and reduce accident risk, need to be explored [7]. Risk perception skill is most often used conceptually as situational awareness. Situational awareness means that a driver who scores higher on a hazard perception test has a better understanding of the observed road environment and can actively use this mental representation to predict possible outcomes in any situation. Hazard perception skills are also similar to road reading skills in that drivers with hazard perception skills can detect and pay attention to warning signs of a dangerous situation. This allows them to identify potentially dangerous situations and react to them earlier [12]. This risk perception test can predict the behavior of drivers in real-life dangerous situations without exposing them to danger. It is also applicable to evaluate the effectiveness of measures related to teaching safe driving and raising drivers' awareness of the dangers of traffic. It is estimated that the test reduces the number of road traffic deaths by an amount and may also work to reduce costs. Moreover, this test can be used as part of a driver's license. Finally, it is a valuable tool for evaluating taxi, public and public transport drivers, and corporate and institutional transport service drivers.

5. Relationship between EEG characteristics and driving style

Risk perception tests were started, which were in theoretical form in the early years of their innovation, Before the 1990s, there were no separate theory and practical tests; prospective new drivers just had to pass one test [12]. Examiners would ask candidates questions about the Highway Code, the collection of laws and regulations that all users of the road must abide by. This test would proceed similarly to how practical tests are conducted today. To address this issue, a theory test was introduced on 1 July, 1996. This was a separate written examination which all learners now had to pass, in addition to the practical, to gain their full UK driving licence. However, by the end of the 1990s, computers, previously rare, were now ubiquitous—and it was decided that the theory test should move with the times. In 2000, the theory test became a touch-screen test, which remains the case to this day. Candidates could even book their test online from late 2001 onwards. The recognition of driving styles is an important area of research that can have implications for driving safety. By identifying and classifying driving patterns Electroencephalogram (EEG) has been used in many studies [13].

6. Benefits of using risk perception testing programs for road safety

The safety strategy aims to define priorities, directions, and ways to achieve them in the field of road safety, as well as to form the views of participants in legal relations in the field of road safety about the prospects for directives on the state of road safety in the territory of the Russian Federation in the medium term. The joint approach to road safety includes studying and identifying priorities and trends, as well as ways to achieve them in the field of road safety. It is important to improve safety aimed at promoting and preserving life, health and property, because this means saving the life and health of the country's citizens, in fact, thanks to which the quality of life can be improved. In this regard, in order to ensure road safety, it is necessary to include the efforts of federal state authorities, state authorities of the constituent entities of the Russian Federation, local governments, government agencies, entities operating in the industry, as well as the structure of the Russian business community.

Therefore, it is considered one of the priority areas of state policy and an important factor in ensuring a sustainable process (socio-economic and demographic) development in the country. In order to develop priority areas for the implementation of the road safety strategy, we analyzed a set of statistical data characterizing the state of injuries as a result of road traffic accidents. The results of this analysis allow identifying problem areas that should be addressed first. The perception of underestimated driving hazards has been studied and shared among drivers. Research shows that many drivers underestimate the risks of driving [14].

Behavioral and cognitive control also has a significant impact on the driver's goal to reduce risks. Studies have shown that diagnosed psychological, behavioral and personal factors significantly influence risk reduction, in addition to driving experience and accident experience. Effective risk management is also an important aspect of road safety, which includes identifying and assessing risks, implementing risk reduction measures, and evaluating the effectiveness of these measures. Additionally, studying driving behavior and risk perception can provide insights into how different groups of drivers perceive risk in different ways and can help identify the major causes of crashes. Overall, a comprehensive approach to road safety that considers various aspects of road safety management, including cognitive and behavioral factors, can help reduce the number of accidents and fatalities on the roads.

We were able to experiment and implement a risk perception testing program for drivers. We first studied the case of the program used in many countries, then we compared the advantages and disadvantages of the test to show us how the risk perception test had an impact on reducing traffic accidents in different countries. countries. To understand the neuroeconomic significance of the neurotypical pattern of driver behavior in road traffic, seemingly unrelated to economic processes, it

is important to look at the history of the introduction of mandatory risk perception testing into the driver education system in the EU countries. , America, Australia and a number of other countries. Several countries in Europe, including (UK, Belgium and Australia), have introduced a hazard perception test as a mandatory part of the driver's license test. The Institute for Transport Economics previously developed a hazard perception test as part of a research project. The test was used to study the driving skills of novice drivers with different driving experience [15].

The hazard perception test was introduced in 2002 to test cars and motorcycles. It tests candidates' awareness of road hazards through their response to emerging hazards in a series of videos. Approximately 1.5 million risk perception tests are taken each year as part of a theory test with an average success rate of 85% in risk perception. In 2014, the hazard perception part of the driving theory test won three road safety awards. In the UK, the program has received many awards to this day since its recognition, and studies have shown that testing education and risk perception can explain an 11% reduction in accidents, potentially saving hundreds of lives each year. Accidents are a source of huge economic losses and irreparable human losses.

Conclusion

The results of the article also confirm the injuries resulting from accidents that occur on the roads as a result of negligence, violation of laws and restrictions, and the application of legal limits, in addition to fatigue and exhaustion. This decline is due to traffic safety initiatives and broader economic, demographic and social factors. The implementation of zero-tolerance laws and law enforcement have also played an important role in this matter, in addition to introducing improvements within driver training programs. It is also possible to compare traffic accident risks in Canada, China, Russia and England. Road traffic injuries (RTIs) are now the leading cause of disability and the leading cause of injury-related death in China. As shown by our comparison of several other countries, China has a higher rate of traffic-related deaths per capita. With a high number of deaths and serious injuries, road traffic accidents are one of the most important health and social policy challenges in Canada. The effectiveness of law enforcement and the severity of incidents vary significantly between age groups in Russia.

The results of numerous studies have proven that risk perception testing is an effective tool for develop the possibility being able to anticipate potentially dangerous situations on the road ahead is an essential component of risk awareness. Overall, hazard perception testing plays a crucial role in improving drivers' ability to perceive and respond to road hazards, thus contributing to a safer road environment and reducing road traffic accidents.

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ОБУЧЕНИЕ ВОДИТЕЛЕЙ ВОСПРИЯТИЮ И ПРОГНОЗИРОВАНИЮ РИСКОВ ДОРОЖНОГО ДВИЖЕНИИ В СОХРАНЕНИИ НАСЕЛЕНИЯ РЕГИОНОВ

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Аннотация. Статья посвящена глобальным факторам, влияющим на людей и их жизнь, особенно это касается участников дорожного движения, которая является одной из основных проблем сохранения жизни и здоровья людей. Наиболее уязвимые участники дорожного движения, такие как пешеходы и мотоциклисты, являются причиной более половины смертей в результате дорожно-транспортных происшествий, причем основной причиной травм являются водители транспортных средств. Помимо человеческих страданий в результате травм, человеческий фактор и плохое качество вождения также являются одними из наиболее важных факторов, способствующих автомобильным авариям во всем мире. Низкий социально-экономический статус связан с более высоким числом погибших в результате дорожно-транспортных происшествий, при этом люди, живущие в неблагополучных районах, более уязвимы к дорожно-транспортным травмам и получают менее компетентную помощь. Использование старых транспортных средств и транспортных средств с низким уровнем безопасности также может усугубить ситуацию. В данной статье также рассматриваются меры, доказавшие свою эффективность в снижении рисков травматизма и смертности в результате дорожно-транспортных происшествий.

Ключевые слова: культура безопасности; обучение; просвещение; восприятие опасности; предотвращение опасности; несчастные случаи.

JEL codes: M53; J11; R41.

  DOI 10.34709/IM.196.1

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