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TRAINING OF DRIVERS IN THE FUNCTION OF ROAD TRAFFIC SAFETY

SUMMARY

The problem of the participation of young drivers in traffic accidents is constantly present and represents a significant social problem. In complex and dynamic conditions of modern traffic flows, the young drivers are exposed to various and unforeseen hazard situations and events which they had not experienced during the basic training. Therefore, they should be provided with the possibility of acquiring additional experiences in solving typical hazard situations in traffic. This is possible by the system of advanced training which places the course participant in the situation of facing possible hazards, with the aim of increasing the awareness of risk in driving and behaviour at the steering wheel. Advanced driver training is based on the specific program and training the drivers to acquire additional experiences in solving dangerous traffic situations.

KEY WORDS

advanced training, young drivers, hazardous situations, driver experience, road traffic safety

1. INTRODUCTION

The conditions of global communication have imposed the requirements of increased mobility on the one hand and the improvement of safety on the other. The mobility is related to the fast development of modern road network, development of modern vehicles and number of trips, i. e. adaptation of the behaviour of new requirements. The security is related to the protection of human lives, money saving, and environmental preservation. Balancing all these requirements is an extremely complex, demanding and time-consuming process.

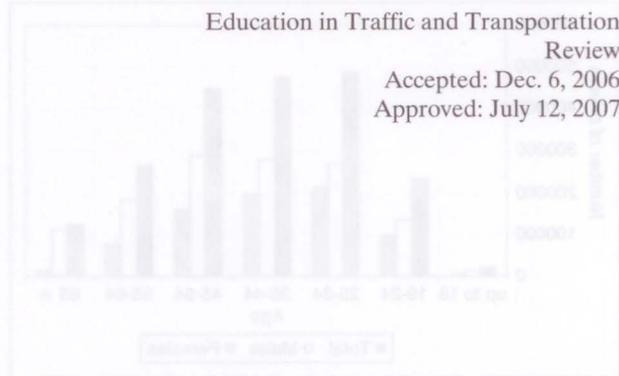


Figure 1 - Structure of drivers according to age in 2005

In this work the term “young drivers” is used meaning the drivers who have just obtained their driving licence, who have a certain number of years of driving experience and who belong to the category of drivers between 18 and 24 years of age.

The problem of participation of young drivers and their getting injured in traffic accidents, is constantly present and represents a significant social problem. Apart from high material costs, fatalities in traffic make irretrievable damage due to the loss of human lives. Recognizing the negative characteristic, today in the world there is increasing application of implementing measures that contribute to the reduction of traffic fatalities. Road traffic safety is increasingly becoming the global policy of almost all the European countries. The protection of lives and the safety of drivers, and especially the young drivers in road traffic is the strategic orientation of the society as a whole.

In complex conditions of modern traffic flows, young drivers are exposed to different and unforeseen hazardous situations, which were not part of their training. Therefore, this population of drivers should be provided with the possibility of acquiring additional knowledge and experiences in solving dangerous situations in traffic.

2. REQUIREMENTS FOR IMPROVEMENT OF THE SAFETY OF YOUNG DRIVERS

In 2005 in the Republic of Croatia 254,335 young drivers were registered which represents 12.3 per cent

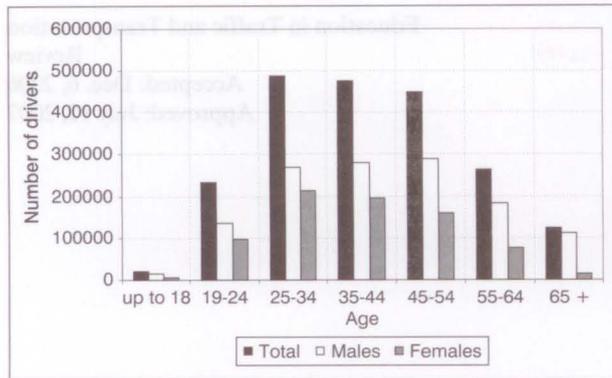


Figure 1 - Structure of drivers according to age and gender in 2005

Source: authors acc. to data from the Bulletin on road traffic safety 2005, MUP RH, Zagreb, 2006.

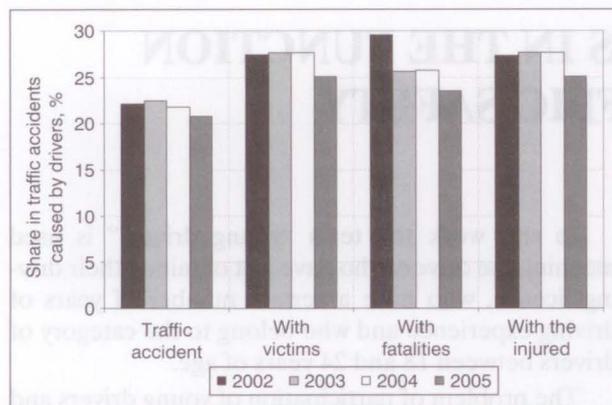


Figure 2 - Share of young drivers in traffic accidents caused by drivers

Source: authors acc. to data from the Bulletin on road traffic safety 2005, MUP RH, Zagreb, 2006

of the share in the total number of all the drivers, Figure 1. At the same time their share in the total number of traffic accidents with fatalities amounted to about 25 percent.

According to indicators on traffic accidents caused by the young drivers in the period between 2002 and 2005, their share in the traffic accidents with victims, fatalities and injured persons is decreasing, Figure 2.

The indicators on types of traffic accidents caused by young drivers including fatalities, during the observed period, indicate that most of them got killed in skidding of the vehicle off the road, collision with opposing traffic and in vehicle-pedestrian collision, Figure 3. In these three types of traffic accidents over 78% of persons got killed.

Speed not adapted to the driving conditions, adverse road conditions, wet and slippery carriageway, losing control over the vehicle, passing into the opposite lane, night driving, driving under the influence of alcohol and drugs, are most often the reasons which cause traffic accidents. The behaviour and reaction in such situations most often depend on the knowledge and driving experience.

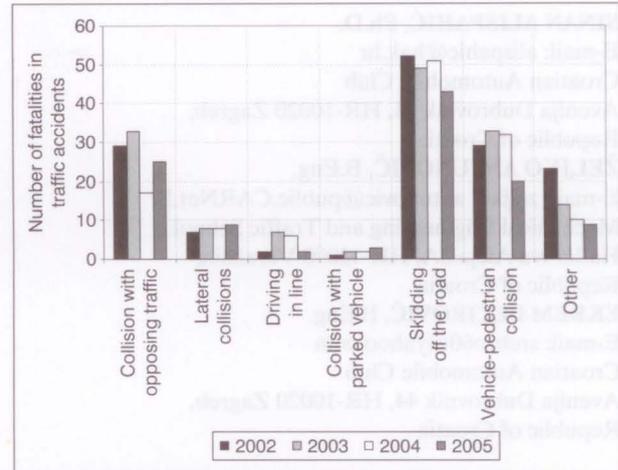


Figure 3 - Types of traffic accidents with fatalities caused by young drivers

Source: authors acc. to data from the Bulletin on road traffic safety 2005, MUP RH, Zagreb, 2006

Risk of traffic accidents is increased in the conditions of driving at high speeds, at night, and during weekend, with passengers of similar age and driving under the influence of alcohol and drugs.

The key factors related to this problem include driver's experience, age and gender. The basic problem of young drivers is insufficient driver experience, which explains the majority of reasons for which young drivers are so exposed to risk. Learning to drive requires time and time-consuming training in order to reach the necessary level of skills, especially for the young. In driving a vehicle the young driver is required to think, increasing the overall mental load which is oriented to the execution of particular activities, thus diverting attention which is necessary for timely identification of the situation on the road. Therefore, attention is overloaded, distracting from essential activities necessary for safe driving, and reducing their capability to combine single activities.

The data show that participation of young drivers in traffic accidents is reduced with the increase in age. Physical and emotional maturity, as well as lifestyle that accompanies the youth, can greatly increase the risk of traffic accidents.

Regarding gender, young male persons drive more often than young female persons and they participate in far more traffic accidents with fatalities. The research has found out that they are generally more prone to risks, looking for sensation, fast driving, proving themselves, competition, aggressive behaviour, influences of friends within the vehicle and overestimation of their driving skills.

The interaction of experiences and factors related to age, exposed to differences in gender, makes the hazardous situation of the young drivers a unique one. The influences of age and experience expressed through responsibility are presented in Figure 4,

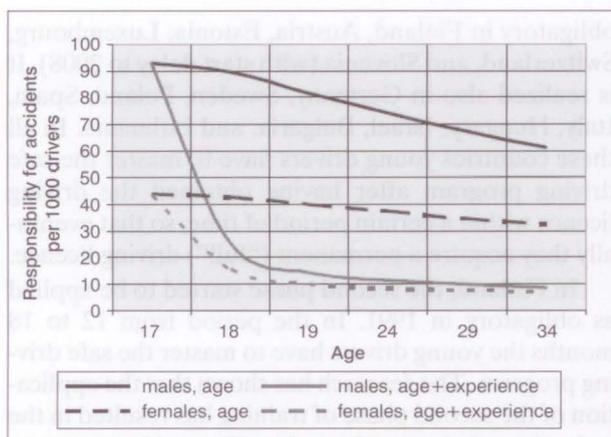


Figure 4 - Responsibility for traffic accidents with participation of young drivers in Great Britain

Source: Adapted from Maycock et al., 2002 and based on data on road traffic safety, MUP (Ministry of the Interior)

where black curves show the influence of age, and red curves represent the influence of driver experience.

The reasons for such an influence of experience, age and gender of young drivers on the proneness to risk are very complex. They include a number of interactive factors, physiological and emotional development level, personality, social standards, role of the young in the society, socio-economic conditions of individuals, disadvantages or capabilities, the very tasks of driving and the personality and style of driving often shown by the young drivers. Social standards, including the pressure on the society and emphasis on the rebelliousness in the culture of the young, can influence the driving style, as well as examples provided by their idols. Alcohol, drugs, fatigue, emotions and disturbances within the vehicle, such as usage of mobile phones, influence the capability of drivers to safely control the vehicle.

Greater participation of young drivers in traffic accidents is a very complex problem. While they are acquiring driving experience in order to be safer, they are more exposed to increased risk. Therefore, by introducing the advanced training process as a strategy to acquire additional skills and increase the awareness of risk in traffic, the number of young drivers being victims of traffic accidents needs to be reduced to a minimum.

2.1 The basic concept and principles of advanced training of drivers

Over several recent years the interest in introducing systemic training of drivers who have just obtained their driving licence in several countries of the European Union has been intensified. The EU project, DAN, has given two main recommendations related to undertaking of the measures for drivers after obtaining their driving licence:

1. introduction of general refresher training for all the drivers, and
2. introduction of protection measures during the probationary period for obtaining permanent, "full" driving licence.

Many countries have already introduced probationary systems, and further-training for all the drivers after having received the driving licence has been introduced in some countries as a "second phase" training system.

Research has shown that both these possibilities can lead to significant reduction of the number of traffic accidents. This has led also to ADVANCED project which has given guidelines and principles to the countries interested in the introduction of the second phase of driver training.

The development of advanced driver training is based on the following principles:

- orientation towards a target group taking into consideration the participants' requirements,
- limited number of participants in groups, maximum 10 to 12 participants per instructor,
- clear objectives, method of achieving objectives, and method of checking the achieved objectives,
- in training, using hierarchical model which shows levels of driver behaviour,
- balancing the training of skills with practicing the risk awareness,
- including practicing on the road, test track and in the classroom,
- training has to reflect also actual situations from traffic,
- avoiding overestimation among the attendants and applications of measures for suppressing excessive self-confidence,
- high level of instructor quality,
- systemic feedback from the participants,
- strict control of the training process.

2.2 Requirements and objectives for the second phase of training

The application of the second training phase for young drivers requires the understanding of the psychological profile of young persons today, their needs in relation to efficient response to these needs. Therefore, the objective should be:

- to develop and correct the skills in controlling the vehicles and safe driving in traffic,
- to raise the risk awareness included in the driving activities,
- to stimulate interaction among young persons and instructors to discuss the mobility,
- to develop the sense for self-awareness among the participants and the capability of recognizing the

- advantages and drawbacks of oneself and other traffic participants,
- to develop new and individual strategies of safe driving for the future, such as e. g. safe-distance driving, and defensive driving.

3. ADVANCED TRAINING OF DRIVERS

Advanced training is a successful approach to learning how to drive through experience, i. e. by acquiring theoretical knowledge and practical experiences in overcoming dangerous situations. Experiencing such situations need to be realized on well prepared surfaces – test tracks, that have recently turned into safe driving centres. As part of such centres, highly sophisticated training modules are provided which include all the stressful and hazardous situations in road traffic that are close to real ones, but are harmless to the drivers and vehicles.

Advanced training of drivers means training after the driver has obtained the driving licence. It is based on the specific program and special driver training in order to acquire additional experience in solving hazardous situations.

As part of advanced training of drivers various courses can be organized and performed:

1. identification, avoidance and confrontation with hazard,
2. eco-driving,
3. defensive driving,
4. refresher training course.

Identification, avoidance and confrontation with the hazard indicate the chronological sequence of events before the possible condition of hazard. The sooner the hazard is identified, the sooner it can be avoided. If one fails to do it, the driver has to be able to confront the immediate hazard.

Eco-driving as environmentally-friendly and economical style of driving often corresponds to the style of safe driving. It serves for the reduction of fuel consumption and vehicle preservation. Therefore, the financial benefits of eco-driving are an attractive means to motivate the participants to adopt this driving style.

3.1 The past experience

Advanced training has begun by studying the literature, especially through the compilation of results of scientific research related to the training of drivers after getting the driving licence. Research has focused primarily on the courses for drivers by driving on the test track. The result are numerous practical recommendations of organizing and performing the courses.

At this moment, the second phase of training for young drivers after obtaining the driving licence, is

obligatory in Finland, Austria, Estonia, Luxembourg, Switzerland, and Slovenia (with start delay to 2008). It is realized also in Germany, Sweden, Poland, Spain, Italy, Hungary, Israel, Bulgaria, and Lithuania. In all these countries young drivers have to master the safe driving program after having obtained the driving licence within a certain period of time, so that eventually they acquire a permanent (“full”) driving licence.

In Finland, the second phase started to be applied as obligatory in 1991. In the period from 12 to 18 months the young drivers have to master the safe driving program. The research has shown that the application of the second phase of training has resulted in the reduction of the number of traffic accidents among young drivers between 18 and 24 years of age up to 50%.

In Luxembourg, the second phase started to be applied as obligatory in 1996. In the period from six to 18 months the young drivers have to master the safe driving program. Research has shown that the application of the second phase of training resulted in the reduction of the number of traffic accidents of up to 25%.

In Austria, the second phase started to be applied as obligatory on 1 January 2003. In the period from three to nine, i. e. six to twelve months the young drivers have to master the safe driving program. Research has shown that the application of the second phase of training resulted in the reduction of the number of fatalities among young drivers until the mid 2006 by 30%, and of other drivers by 9%.

5. NEW PHILOSOPHY OF ADVANCED TRAINING

Advanced training applies the philosophy of learning through experience, i. e. learning through practice. Apart from theoretical knowledge for learning correct reactions, the practical experience is also necessary in avoiding and overcoming hazardous situations. In order to provide experiencing such situations on well prepared training surfaces at special safe driving centres, highly sophisticated training modules can be organized, where all the stressful situations of road traffic are close to the real ones, and still harmless to drivers and vehicles.

This approach places the focus on the course participant who faces the possible hazards, with the aim of increasing the hazard awareness in driving and behaviour at the steering wheel. In the situation in which the participant starts to control skidding, the speed increases in order to show that the situation becomes inevitable when no control is possible due to speeding. The participants learn that the speed is the most important factor in vehicle control, and they can learn everything about controlling the speed.

Recently, in some countries, e. g. in Sweden, instruments for measuring fuel consumption are used, which allow the driver to drive at economical speed, in order to improve the eco-driving skills.

6. CONCLUSION

The first step in trying to improve the training and safety of novice young drivers after having passed the driving test and obtained the driving licence is the definition of a clear strategy for reducing the risk of traffic accidents among young drivers.

The application of past experiences and measures which are undertaken in order to improve the training system and thus to contribute to the reduction of the number of traffic accidents and fatalities of young drivers in these accidents, should be supplemented by advanced training, as the second phase.

The experiences of the European countries show that the safe driving program should represent the second phase of driver training, which has become the obligatory program in particular European countries.

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SAŽETAK

OSPOSOBLJAVANJE VOZAČA U FUNKCIJI SIGURNOSTI CESTOVNOG PROMETA

Problem sudjelovanja mladih vozača u prometnim nesrećama trajno je prisutan i predstavlja značajan društveni prob-

lem. U složenim i dinamičnim uvjetima odvijanja suvremenog prometa, mladi vozač je izložen različitim i nepredvidivim opasnim situacijama i događajima s kojima se nije susretao tijekom temeljnog osposobljavanja. Zbog toga im je potrebno pružiti mogućnost stjecanja dodatnog iskustva u rješavanju tipičnih opasnih situacija u prometu. To je moguće sustavom naprednog osposobljavanja koji polaznika stavlja u situaciju suočavanja s mogućim opasnostima, a što ima za cilj povećanje svijesti o riziku vožnje i ponašanja za upravljačem. Napredno osposobljavanje vozača temelji se na specifičnom programu i učenju vježbanjem vozača za stjecanje dodatnog iskustva u rješavanju opasnih prometnih situacija.

KLJUČNE RIJEČI

napredno osposobljavanje, mladi vozači, opasne situacije, vozačko iskustvo, sigurnost cestovnog prometa

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