Youth Road Safety Behavior in Serbia

Subjects: Transportation

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Road traffic crashes are a leading cause of death for young people. Aberrant driver behaviors, such as drink driving, speeding, not wearing seatbelts, non-compliance with traffic rules and aggressive driving, are key contributors to these crashes. Gender and urban/rural differences are also risk factors. Younger people have the highest road crash and fatality risk.

youth road safety behavior attitudes and perceptions

1. Introduction

Road traffic crashes are one of the three leading causes of death worldwide and the number one cause of death for people aged 15–29 years [1][2][3][4][5]. Contributing factors such as drink driving, speeding, non-using seatbelts, non-compliance with traffic rules, and aggressive driving are also recognized as the most common young driver behaviors associated with crashes and serious injury crashes [1][2][3][4][5]. The prevalence of these differs across gender, making gender a consideration in understanding this growing problem about youth road safety.

In Serbia, road safety is a major concern given its growing social and economic burden for the country. The Serbian Government recognized and adopted a new Road Traffic Safety Law in 2009. Since this time, road safety performance index reports show that Serbia has had a 54.6% reduction in road accident deaths in 2017 compared to 2001 [6], and compared to 2021, the reduction was 59.1% [7]. Further, 492 people died in road accidents in 2020, and in 2021, 521 people died in road accidents. When the number of people who died in traffic accidents in Serbia is viewed through public risk, is the results indicate 7.2 fatalities/100,000 residents for 2020 and 7.6 fatalities/100,000 residents for 2021.

This risk is considerably higher when considering younger drivers. For example, in Serbia, youths have the highest road fatality risk. In 2021, those aged 15–30 years old represented 19% of total road fatalities. More than 52% of those young people died as drivers, and 83% were males. On average, these drivers had held a full license for six years, demonstrating inexperience as a potential factor. The most common type of accident is the car running off-road, and almost half (49%) of these fatalities can be contributed to excess vehicle speed [7]. Understanding how to mitigate the risk associated with inexperience is key to reducing road fatalities and associated burdens.

Insights into driver perceptions and attitudes can help with this. Many researchers have explored this with research methods including qualitative and quantitative techniques. For example, Day et al. [8] interviewed drivers aged 17–

19 years old to investigate high-risk factors for new drivers. They adopted a dual deductive and inductive interpretative thematic approach, identifying three super-ordinate themes: (1) improvements in car control skills and situation awareness; (2) a reduction in the thrill of taking risks when driving against a background of generally increasing driving speed; (3) early concerns about their social status in the eyes of other road users during the early stages of driving, which may put pressure on them to drive faster than they felt comfortable with. Developments in skill, thrill-seeking and feelings of driving status were reported. Ramos et al. [9] investigated perceptions about the evolution, magnitude, causes and determinants of traffic crashes in young people in Spain. They also explored the opinions on road safety regulations. This research was conducted among 12 focus groups, involving 98 participants. Ramos et al. [8] found that young people are aware that traffic injuries are a serious problem and contribute these to driving under the influence of drugs and alcohol, fatigue, night driving, unsafe infrastructures, age of drivers and lack of public transport alternatives.

In addition to research methods, Vlahogianni et al. [10] undertook a literature review of powered two-wheelers (PTW) accident risk factors and summarized that more than half of the published research reported questionnaire-based studies (i.e., quantitative methods), and most of them found that age, gender and exposure are the main risk factors. Kleisen [11] did research with the scope to determine perception of driving and driver training among young people aged 18–25 years old in Australia by using group interview as a method. They showed that young drivers know what safe driving means, but they lack a positive motivation to use a safe driving style. On the other hand, their negative motivation often does not deter them from using unsafe driving styles. Furthermore, Twisk et al. [12] evaluated five road safety education programmes for young adolescents by administering questionnaires before and again after participants attended these programmes. They found the proportions of participants that changed their behavior compared to the reference group (who did not participate in a programme) was small for all programmes. This was explored further using qualitative interviews to understand perceptions of young people that may influence programme outcomes. The key finding was that cognitive programmes were found to be as effective as fear-evoking programmes.

Similarly, Tetali et al. [13] used a qualitative analysis to understand Stakeholders' opinion for road safety perception in India. They found that factors such as inadequate traffic laws, gaps in enforcement, lack of awareness, lack of political will, poor road engineering and high-risk road users were identified as threats to road safety. Regarding determining a correlation between smoking, belt usage and road accidents, Koushki and Bustan [14] conducted a questionnaire survey of 1467 randomly selected young drivers in Kuwait.

2. Youth Perceptions and Attitudes towards Road Safety in Serbia

Most of reviewed studies reported that road accidents are the main cause of youth fatalities [1][2][3][4][15]. According to these documents, young adults are riskier in road accidents, and fatality rates for this age group are higher in low-income and middle-income countries.

The most represented factors which cause low youth road safety levels are connected with lifestyle, inexperience and the non-use of protective systems. The highest risk issues for this type of young people unsafety include: mobility pattern and vehicle characteristics; psychological characteristics, such as thrill-seeking and over-confidence; lower alcohol tolerance compared with older people; and inappropriate speed (the most common error of youth). WHO reports [1][16][17][18], among others, highlighted that population older than 10 years often participate in traffic independently as pedestrians, cyclists and motorists, and because of higher mobility and inexperience, accident risk for these road users is high. In addition, WHO reports [1][19][20][21] highlighted that inexperience and youth-related lifestyles increase the risk of road accident occurrence of young road users, particularly of males. Young people also have a high accident risk because of exposure to risk, such as the non-use of seatbelts and helmets, etc. Understanding the risks faced by young road users is important in order to plan appropriate actions to reduce road traffic deaths and injuries among young people. Other risk factors that could influence on young drivers' road safety include biological factors, differences between males and females, personality, social norms, etc., as well as so-called acute impairments factors, such as alcohol, drugs, fatigue, distraction, emotions, etc.

Considering the gender of youth, males have three to four times greater fatality risk than females. Males accounted for 73% of all road fatalities, with an overall rate three times higher than females [2][5][15]. In all regions, the situation is the same; road fatality rates are higher for males than females. In particular, young males, in their first few years of driving, have higher rates of crash involvement than women. This ratio of males compared to females can be attributed to socio-cultural reasons and males being more on the roads, which increases risk-taking.

In EU countries, youth road fatalities mostly involve participant car occupants. For the age group of 15–24 years, almost 60% of youth road fatalities are with car occupants in the EU, and almost 20% of youth road fatalities are PTW users [15][22]. These facts could point to the risk for youth, and this information is important for planning and targeting prevention. In addition, several factors that influence youth road safety were highlighted: socioeconomic inequality (poor children have 4 to 20 times more likely to die in road accidents than others); fear of unsafe roads; and differential risk among modes of transport.

Almost all international reports, documents and scientific papers determined that education and road safety campaigns are the main measures for prevention, but they have to be used in the support of legislation, law enforcement and publicity [15][22][23][24].

In Serbia, and also in neighboring countries, there has been very few activities regarding youth road safety in recent years. Most of the activities were conducted in order to improve child road safety, but regarding youth road safety, only several indirect campaigns have been conducted (**Table 1**).

Table 1. Overview of some existing programs/studies in the neighboring countries.

Country	*Activity*	*Aim*
Republika Srpska	Campaign "One call change everything" (2019)	-Unused mobile phones while driving

Country	Activity	Aim
Montenegro	“Not even 1 drink before driving” (2018)	-Anti-drink driving campaign
	Campaign “Let the mobile ring” (2018)	-Unused mobile phones while driving
	Campaign “When I drink, I do not drive” (2018)	-Anti-drink driving campaign
FYR Macedonia	“No excuses“ (2018)	-General campaign on traffic safety (against speed, alcohol and mobiles)
	“Safe driving—no driving with alcohol” (2018)	-Anti-drink driving campaign
	“Mobile is not smarter than you” (2018)	-Unused mobile while driving
Croatia	“If you drink, do not drive” (2019)	-Anti-drink driving campaign
	“Don’t send SMS messages while driving” (2018)	-Unused mobile while driving

In Serbia, there were only a few activities regarding youth road safety, but most of them were only local and without assessment of the effectiveness of such activities. A review of previous experiences in Serbia showed that the Association of Citizens and students from The Faculty for Pedagogy conducted research in Novi Sad about the risk behavior of youth regarding road safety [25]. The survey had a sample of 376 respondents, and the results showed that almost 37% of youth are not in the habit or just forget to use a seatbelt, 25% said that they do not use seatbelts because of short trips, 21% of respondents stated that the seatbelt disturbed them, and others said that they do not use seatbelts because there are no police, they have trust in their own ability, etc. Regarding driving under the influence of alcohol, youth usually stated that they do not have any other way to return home, they trust the driver regardless of whether the driver is under the influence of alcohol, etc. Reasons for youth speeding were mostly: being in a hurry, liking speeding, feeling that the limits are inappropriate, believing in themselves, etc. Reasons why youth usually use mobile phones while driving were: they expected an urgent call; they do not have hands-free devices; talking and driving does not disturb them, etc.

The Road Traffic Safety Agency–Republic of Serbia has conducted several youth road safety actions over the past few years [7][26], including the following campaigns for young drivers: “Youth, not craziness” (2014) and “Mind on the road” (2014, 2017, 2019); presenting driving and seatbelt simulators in the high schools, where more than 2000 young people tried simulations and more than 92% of them reported that they will use seatbelts in the future. In addition, they conducted the campaign “In the car without alcohol” (2018), with the purpose of changing attitudes of young people regarding drinking and driving. There was a campaign called “Choose life” in 2018, where several road safety experts visited high schools in the territory of Serbia and where more than 1400 young people had one class about the importance of using seatbelts, speeding, drinking and driving, using helmets, etc. One of the most popular activities of the Serbian Committee for Road Safety was a campaign dedicated to young drivers called

“Safe driver–I like him (her)” conducted via a website, involving a so-called “Fake driving test”. After the campaign, more than 92% of website visitors said that they changed their road safety behavior.

In the future, much better and much faster actions must be undertaken to ensure a better road safety environment for all road users and for young people also. The first document that deals with youth was the “National strategy for youth”, proposed by the Ministry of Youth and Sport and adopted by the government in 2008. This strategy discusses some general issues regarding youth, and highlighted that the young are often victims, especially in road accidents. On the other hand, “Road safety strategy–Republic of Serbia for the period from 2015 to 2020” [26] is a strategic document in Serbia that was written and adopted in Belgrade in 2015. This document covers the vision, mission and targets of road safety for the period 2015–2020. For all 17 municipalities, action plans were adopted, and some of the key areas included: young drivers, alcohol, speeding, vulnerable road users, etc. The most important legal framework about youth road safety in Serbia is the new “Road Traffic Safety Law” [27], adopted in 2020. The obligation and responsibility of each stakeholder who could have influence on road safety were specified by the RTSL. In particular, the obligation and responsibility of education to teach the appropriate knowledge, skills and habits that are required for safe participation in traffic were specified. The importance of improving and strengthening positive attitudes and safe behavior was emphasized. As one of the examples of direct protection of young drivers, RTSL introduced the beginner driver license (two years). For beginner drivers, there were also some restrictions: they cannot drive between 11 pm and 6 am; they are not allowed to drink and drive (BAC limit for beginner drivers is 0 mg/L); they cannot use mobile phones, including even hands-free devices; they cannot drive without a passenger in the front seat who has a full driving license; etc.

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