

LETTER TO THE EDITOR

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# The level of education of drivers is a main human factor in road traffic crashes

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## 1. To the editor-in-chief

I read Zemestani et al.'s paper titled "Measuring the effect of vehicle safety on road traffic crash severity in Iran: using structural equation modeling" with interest and enjoyed it a lot (1). The authors studied the association between vehicle safety and the severity of traffic crashes and evaluated the effects of various variables, including human factors, on the outcomes of road traffic crashes. Although the researchers investigated various human factors using different questionnaires and provided great information, they did not assess the drivers' educational attainment as a potential human variable. If they had assessed the level of education of the drivers as a human factor, they could have improved the results of their study.

Haddon provided a matrix to explain the determinants influencing injuries and classified them into human, vector, physical, and social factors in 1980 (2). Furthermore, researchers showed that the socio-demographic status of drivers (e.g., their educational attainment) is a human factor influencing road traffic accidents (RTA) (3-7). Murray evaluated the school background of 2,980 male and 1,054 female young drivers who injured due to traffic accidents in Sweden (5). The educational attainment of the drivers was compared with representative samples of the same gender and age groups. The results showed that educational attainments were powerful determinants explaining RTA risk.

Moreover, Spoerri and colleagues assessed some demographic factors of RTA mortality in Switzerland (4). They showed that the risk of RTA was higher in those with primary education compared to people with higher educational attainment (hazard ratio=1.53; 95% CI: 1.29,1.81). Likewise, Arroyave et al. studied the association between educational level and premature mortality for specific causes of death, including RTA, in Colombia (6). They confirmed that RTA were more common in those with primary and secondary education than those with tertiary education. Furthermore, Harper and colleagues investigated educational level differences among those with fatal motor vehicle accidents from 1995 to 2010 (7). They found an increase in adjusted death rates among people with less than a high school diploma

compared to all other groups of educational levels.

Also, my colleagues and I studied such a relationship based on the national trauma registry of Iran (NTRI) (8-10) and published the results recently (11). In the study, using multiple logistic regression, we showed that the odds of fatal injuries among victims with no formal, primary, and secondary education levels were significantly more than the odds of deaths among those with higher education levels. Moreover, in another study, my colleagues and I found a negative association between years of schooling and the risk of road traffic deaths (12).

In conclusion, appreciating the onerous efforts of Zemestani and colleagues, they had to consider the education variable in their analysis. The results can inform policymakers and health authorities to provide more training courses for people with lower educational levels. I hope our previous studies at the NTRI can be helpful to the *Frontiers in Emergency Medicine's* readers.

## 2. Declarations

### 2.1. Acknowledgement

None.

### 2.2. Conflict of interest

None.

### 2.3. Funding

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