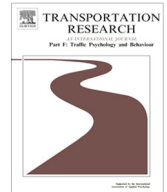




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The role of traffic law enforcements in the relationship between cultural variables and traffic fatality rates across some countries of the world



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ABSTRACT

The aims of the present study were to investigate whether cultural variables are related to law enforcements as well as traffic fatality rates and to examine the role of law enforcements of five risk factors for road safety (i.e., national speed law, national drink-driving law, national motorcycle helmet law, national seat-belt law, and national child restraint law) in the relationship between cultural variables and traffic fatality rates across countries of the world. The aggregated data of the study included Hofstede's cultural dimensions, Schwartz's value dimensions, law enforcements of five risk factors for road safety, gross national income per capita, and traffic fatality rates for 97 countries of the world. The results showed that most of the cultural variables were associated with law enforcements of five risk factors for road safety and traffic fatality rates of countries. By bootstrapping, among Hofstede's cultural dimensions, it was found that the indirect effects of long-term orientation (LTO) on fatality rates (FR) through speed, helmet, and child restraint enforcements were significant, separately. Among Schwartz's value dimensions, the indirect effects of embeddedness on fatality rates through speed and child restraint enforcements were significant, separately. Intellectual autonomy had also significant indirect effects on fatality rates via speed and child restraint enforcements, separately. Finally, it was found that the indirect effects of affective autonomy on fatality rates through speed and helmet enforcements were significant, separately.

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1. Introduction

1.24 million road users were recorded as road traffic fatalities in 2010 (World Health Organization (WHO), 2013) and, according to WHO's (2004) estimations, approximately 50 million road users are recorded as traffic injuries every year. The traffic fatality rates, however, substantially differ across countries. For example, the traffic fatality rate per 100,000 population is found 8.7 in high-income countries, but in middle-income countries, the rate is recorded as 20.1 (WHO, 2013). In addition, only 52% of the registered vehicles in the world are owned by middle-income countries even though 80% of road traffic fatalities take place in these countries (WHO, 2013). It can be claimed that the reasons behind these regional differences between countries on traffic fatalities may also be related to enforcements of road behaviors as practices in a country (Özkan & Lajunen, 2011, chap. 14).

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It is known that the law enforcements of five safe road behaviors (i.e., speed, drink driving, and non use of motorcycle helmets, seat belts, and child restraints) also differed among countries. To illustrate, for Trinidad and Tobago, the enforcement of speed law were rated as zero on 10-Likert type scale, while for France and Finland, the enforcement were assessed as nine. The substantial differences were observed within enforcement data of other traffic laws (WHO, 2013). Taking WHO's (2013) records into consideration, the countries greatly differed in terms of traffic law enforcements. It seems plausible to hypothesize that, thus, aggregated-level factors contribute to traffic fatalities via perceived local enforcements of the laws related to five risk factors. Expectedly, for example several studies (e.g., Lajunen, 2001; Özkan & Lajunen, 2007) mainly focused on the direct effects of socio-cultural factors (e.g., economy, cultural variables) on traffic fatalities. It should be noted that, however, the aggregated reasons behind regional differences between countries on traffic law enforcement and the relationship between traffic law enforcement and traffic fatalities have remained mainly unexamined.

1.1. Economy

The economies of countries are among the most influential variables in predicting traffic fatality rates (e.g., Jacobs & Cutting, 1986; Özkan & Lajunen, 2007). Özkan and Lajunen (2007, 2011, chap. 14) claimed that economy might have an effect on annual mileage people drive, and safe road behaviors people engage in, via many relevant variables. To illustrate, high-income countries may allocate more resources to road infrastructure, road construction, public transport, the policies to increase non-motorized transport, and safe road behavior relevant awareness campaign as compared to low-income countries. Based on above-mentioned arguments, it seems plausible to expect that economy affects traffic law enforcements and fatality rates.

1.2. Cultural variables

Culture is defined as “the collective programming of the mind that distinguishes the members of one group or category of people from another” (Hofstede, 2001, p. 9). In this study, cultural variables are conceptualized within the two theoretical frameworks proposed by Hofstede (2001) and Schwartz (2006).

Hofstede (2001), on the one hand, identified five dimensions, namely power distance, uncertainty avoidance, individualism versus collectivism, masculinity versus femininity, and short-term versus long-term orientation. Specifically, power distance represents how a society generates solutions to inequality among their members. Uncertainty avoidance represents the cultural tendency toward being uncomfortable when encountered an unknown future. Individualism versus collectivism reflects the societal position between the poles of loose ties among members and the integration of members with their own groups. Masculinity versus femininity reflects cultural tendency for the distinction of social roles between the genders. Short-term versus long-term orientation represents the cultural preference tendency of whether to put the individuals' efforts on the present or the future focus (Hofstede, 2001).

Schwartz (2006), on the other hand, introduced seven value dimensions, depending on societies' responses to three concerns they deal with. The first concern is related to “the nature of the relation or the boundaries between the person and the group” (p. 140). The position of a society between the poles of embeddedness and autonomy is determined by the response to the question “to what extent are people autonomous vs. embedded in their groups?” (p.140). In societies characterized by autonomy, autonomous individuals “cultivate and express their own preferences, feelings, ideas, and abilities, and find meaning in their own uniqueness” (p.140). While societies characterized by intellectual autonomy tend to support their members to adhere to their own ideas and wisdom in an independent manner, those characterized by affective autonomy tend to support their members to have experiences that make them feel good. On the other hand, in societies characterized by embeddedness, individuals have a meaning in life; their social connections and the levels of identification with their groups are among the main sources of this meaning. In these societies, the maintenance of the current situation is highlighted; and individuals are encouraged to limit their actions, which have potential to damage in-group ties or social order. The second concern is related to “guarantee that people behave in a responsible manner that preserves the social fabric” (p. 140). The response to this problem puts emphasis on either egalitarianism or hierarchy. Members of societies characterized by egalitarianism view all people as equal and care about welfare of one another. Societies characterized by hierarchy divide roles hierarchically and deliver these roles to their members on the basis of their positions. Members are expected to accept their own roles and abide by the obligations and rules with respect to these roles. The third concern is associated with relationship that people have with the natural and social environment. The response to this concern determines the position between the poles of harmony and mastery. In the cultures characterized by harmony, people prioritize adjusting themselves to be coherent with the natural and social environment instead of manipulating it. In contrast, cultures characterized by mastery, value manipulating the natural and social world through “active self-assertion” with the aim of achieving group or personal goals (Schwartz, 2006).

1.3. Cultural variables and road traffic fatalities

Several studies (e.g., Gaygısız, 2010; Hofstede, 2001; Özkan & Lajunen, 2007) have investigated the association between cultural variables and traffic fatalities by using aggregated data. Firstly, in a sample of 14 countries, although uncertainty avoidance and masculinity were found to be positively associated with traffic mortality rate per 1000 vehicle in 1971,

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