

The social accident: A theoretical model and a research agenda for studying the influence of social and cultural characteristics on motor vehicle accidents

Roni Factor^{a,*}, David Mahalel^a, Gad Yair^b

^a Faculty of Civil and Environmental Engineering, Transportation Research Institute, Technion-Israel Institute of Technology, Haifa 32000, Israel

^b Department of Sociology and Anthropology, Rothberg International School, The Hebrew University of Jerusalem, Mt. Scopus, Jerusalem 91905, Israel

Received 14 June 2006; received in revised form 14 September 2006; accepted 19 December 2006

Abstract

The paper develops a sociological model to explain collisions between two drivers or more. The “Social Accident” model presented here integrates empirical findings from prior studies and extant sociological theories. Sociological theory posits that social groups have unique cultural characteristics, which include a distinctive world view and ways of operating that influence its members. These cultural characteristics may cause drivers in different groups to interpret a given situation differently; therefore, they will make conflicting decisions that may possibly lead to road accidents. The proposed model may contribute to an understanding of the social mechanism related to interactions and communication among drivers by presenting new directions for understanding accidents and collisions. The paper concludes with suggestions for future research that will employ the model to assess its predictive and practical utility.

© 2007 Elsevier Ltd. All rights reserved.

Keywords: Sociology; Culture; Car collisions; Interaction among drivers; Group differences; Cultural influence

1. Introduction

Research of road accidents began a hundred years ago, and, as it developed, the understanding became stronger that their cause stemmed mostly from human characteristics, whether paying insufficient attention or erring in processing information and in decision-making (see e.g., [Shinar, 1978](#)). A large proportion of the studies and theories developed in the past to understand these factors emphasized personal characteristics and driver behavior ([Elvik and Vaa, 2004](#)). These studies dealt principally with various personality components that lead to accident proneness, risk-taking, and driving over the speed limit. Other studies analyzed attention disorders while driving, the effect of fatigue, aggressive and violent driving, gap acceptance for crossing intersections, and more.

Notwithstanding the environmental safeguards designed to protect a vehicle’s occupants, the laws for controlling driving

behavior ([Boyce and Geller, 1999, 2002](#)) and the determination of various bodies to reduce the number of road accidents, more than 3000 people are killed in road accidents on the streets of the world every day ([Peden et al., 2004](#)). These tragedies call for continued efforts to develop new theories and strategies for understanding and possibly reducing car-accident injuries and fatalities.

[Haddon et al. \(1964\)](#) argued that it is important to exploit the power of social theory for investigating road safety. [Zaidel \(1992\)](#) continued this argument, stating that it is important to understand the relationship between the behavior of the individual and that of other drivers in the social context. The reason is that all drivers are influenced by the environment—by other road users, by general social norms, and by traffic laws that dictate the interactional aspects of driving (see e.g., [Dannefer, 1977](#)). These calls were restated by [Connolly and Aberg \(1993\)](#), who explored social comparison and contagion models; and by [Bjorklund and Aberg \(2005\)](#), who investigated the influence of other drivers’ behavior on a driver’s behavior at intersections. [Huguenin](#) recently criticized the individually focused approach, “whereby the individual tends towards

* Corresponding author. Tel.: +972 52 3801911; fax: +972 77 7006210.
E-mail address: ronif@tx.technion.ac.il (R. Factor).

specific modes of behaviour based on his attitudes and/or his personality and whose behaviour can be modified individually or at least reliably diagnosed” (2005: 7). He argued that “in the area of general prevention and intervention, the individually focused approach must rightly and increasingly be abandoned and preference given to a social one” (2005: 7).

The importance of the social factor becomes clear when looking at road accident data. These show that a significant proportion of the accidents are collisions involving interaction between drivers or between a driver and a pedestrian. In the United States, for example, 68% of the accidents are collisions between vehicles (National Highway Traffic Safety Administration, 2004). In Britain that year, 85% of fatal and severe accidents were collisions between cars (69%) or between a car and a pedestrian (15%) (Department for Transport, 2004). In Israel, 73% of all accidents with injuries are collision accidents and 15% are pedestrian accidents (Central Bureau of Statistics, 2005). These figures bear testimony to the failure of interaction on the road.

The social component of driving and road accidents is also revealed in studies that examined the manner in which drivers acquired their driving ability. It seems that, as with other social and other cultural skills, the family is a significant agent of socialization, transmitting to young drivers the norms of driving and accepted cultural driving habits. The driver acquires most driving skills from the family through observing the driving of parents and their life style in general (Carlson and Klein, 1970; Preusser et al., 1985; Taubman Ben-Ari et al., 2005).

According to Lupton (2002), little sociological research has been published on driving or car culture. There are, however, studies that examined the differences in road accident involvement among different social groups. Nevertheless, most such studies are not grounded in sociological theory. Furthermore, researchers often explain their findings as a social or cultural phenomenon without empirically examining their argument (see e.g., Leviakangas, 1998). The reason that socio-cultural aspects are not fully explored in studies of road safety is that culture is largely taken for granted, is immersed in experience, and is therefore invisible and difficult to study (Swidler, 2001). Furthermore, cultural analysis is perhaps complex, as there is no agreement on the boundaries of the domain (Mattaini, 1996). Although cultural aspects are difficult to measure and to manipulate through intervention, we nevertheless propose that it is possible to explore the effects of cultural factors on road safety through simulation, as well as statistical and laboratory research.

The objective of the present article is to propose a model that includes a theoretical sociological explanation for “Social Accidents”—collisions that involve two or more drivers. Although a distinction is made between single-car-accidents, which may be defined as “individual accidents,” and “social accidents,” a single-vehicle accident might clearly include social characteristics as will be presented in the sections to follow; for instance, if a young driver falls asleep at the wheel on a week-end night, this might be the result of an exaggerated sense of one’s driving ability and non-appreciation of the level of danger

of night driving, two characteristics that typify younger drivers. However, since collisions between drivers are more frequent than individual accidents, the authors decided to concentrate on the former.

The model benefits from prior research, which has found between-group differences in various areas of road safety—accident involvement (Norris et al., 2000), attitudes toward road safety (Yagil, 1999), use of seat belts (Calisir and Lehto, 2002; Vivoda et al., 2004), crossing an intersection on a red light (Porter and England, 2000), traveling over the speed limit (Gabany et al., 1997), among others. The central argument here is that road accidents are embedded in a social context; therefore, group differences in risky driving stem in part from cultural differences between populations. Although these differences do not directly imply that car-accidents are due to social interaction, they might lead to the possibility that an encounter between drivers from different cultures with different points of view and norms of behavior could increase the probability of a road accident. Groups in this context refers to nations as well as to the variety of groups within nations, such as women and men, young drivers and older drivers, education groups, income groups, religious and ethnic groups.

The model suggests that the interaction between two or more drivers could be examined as a function of the reciprocal relationship between society and culture at the macro level and attitudes and behaviors of drivers at the micro-level. This approach might shed new light on road accidents in suggesting that they result in part from socialization processes and internalized behaviors, all of which are manifested in decision-making while driving and interacting with other drivers.

Following the presentation of the model, we will review a series of studies on road safety to demonstrate the existence of cultural differences among various population groups between and within nations. This survey was conducted in order to examine which social characteristics have been tested over the years. The article next presents prevailing theories of culture and some of their application to traffic-safety research. The paper ends by demonstrating how cultural facets could help explain “Social Accidents” and by assessing the possible contribution of the model to the study and prevention of road accidents.

2. The “Social Accident” model

Sociological and anthropological studies assess cultural differences among different groups—differences between nations, and between groups within nations, such as between women and men and among social classes. These differences can affect different transport perceptions and cause difficulties in inter-driver communication, thus leading to the increased probability of an accident. According to Swidler (1986, 2001), culture influences action through shaping a behavioral repertoire or “tool kit” that includes habits, skills, and styles that people employ to build “strategies of action.” Every group has its own “tool kit” and particular cultural characteristics that cause its members to interpret the environment and to make decisions in a particular manner. Accordingly, drivers who belong to different groups might diverge in interpreting similar events while driving

Download English Version:

<https://daneshyari.com/en/article/573720>

Download Persian Version:

<https://daneshyari.com/article/573720>

[Daneshyari.com](https://daneshyari.com)