



Driving in the fasting month of Ramadan: An observational study on speeding, horn honking, and using seat belts



Zümrüt Yıldırım-Yenier^{a,c}, Timo Lajunen^{b,*}, Türker Özkan^a

^a Safety Research Unit, Department of Psychology, Middle East Technical University, Ankara, Turkey

^b Department of Psychology, Norwegian University of Science and Technology (NTNU), Trondheim, Norway

^c Population and Community Health Unit, Department of Family Medicine, Western University, London, Canada

ARTICLE INFO

Article history:

Received 27 March 2014

Received in revised form 13 April 2015

Accepted 4 May 2015

Available online 23 May 2015

Keywords:

Speeding
Horn honking
Seat belt use
Ramadan
Time of the day

ABSTRACT

The aim of this study was to examine how Ramadan, i.e., fasting month for believers of Islam, was associated to observable driving behaviours (i.e., speeding, horn honking, and using seat belts) as compared to non-Ramadan. Observations on speeding, horn honking, and using seat belts were held during and after Ramadan in different times of the day in the same region of the city of Ankara. Speeds of 1885 vehicles were measured by hand held radar on a two-way eight-lane road with a 50 km/h speed limit. Horn honking was recorded at a signalised intersection with a hidden camera when the light turned into green in terms of 510 traffic light cycles. Seat belt wearing of 2106 drivers was observed at the same intersection. Findings indicated that (a) mean speed was lower, (b) honked horns were higher, and (c) seat belt use was lower in Ramadan as compared to non-Ramadan, though each negative driving behaviour was prevalent in both periods. Thus this study showed that the Ramadan period had a limited role on speeding, horn honking, and using seat belts.

© 2015 Elsevier Ltd. All rights reserved.

1. Introduction

Ramadan is a religious month in which fasting is observed as a fundamental ritual of Islam. In practice, healthy adult Muslims observing the fast have to keep away from eating, drinking or taking any type of substance (e.g., oral medications, tobacco) from dawn to dusk (Bener, Azhar, & Bessisso, 2007; The Presidency of Religious Affairs, 2009; Welch, 1984). Believers must also obey the religious moral standards (e.g., to be patient; see The Presidency of Religious Affairs, 2009). If fasting may worsen one's health or if the person is ill, (s)he is excused from fasting with the advice of doctors and religious authorities. Still, some individuals behave on the contrary (Salti et al., 2004).

Ramadan month is based on the lunar calendar and the time of observance starts each year around ten days earlier than the preceding year. Length of fasting in a day varies with the season and geographical site, which makes fasting longer in summer months and in northern latitudes (Bener et al., 2007). In Turkey, about 60% of people fast regularly during Ramadan, while others fast often, sometimes or never during this period (Barem Research, n.d.; Erdem, 2011). It has also been reported that fasting is more prevalent than other religious practices (e.g., performing Şalāt, the ritual prayer) even though its prevalence may differ from season to season (e.g., higher in autumn than in summer).

Ramadan fasting has been examined in terms of its effects on individual people. Roky, Houti, Moussamih, Qotbi, and Aadil (2004) reviewed the existing literature on Ramadan fasting and concluded that fasting does not worsen physical health (e.g.,

* Corresponding author.

E-mail address: timo.lajunen@svt.ntnu.no (T. Lajunen).

the daily average of hormonal serum levels) although fasting can influence the chronobiological and behavioural features and, thus, lead to decreased sleep quality, daytime alertness, psychomotor and physical performance. Roky et al. proposed these latter effects can account for the negative outcomes such as road accidents. Evidence based on hospital data indicated that there is mainly an increase in injuries resulting from traffic accidents during Ramadan (Bener, Absood, Achan, & Sankaran-Kutty, 1992; Roky et al., 2004; cf. with Khammash & Al-Shouha, 2006). For example, Al-Houqani, Eid, and Abu-Zidan (2013) recently showed that driving during Ramadan was a predictor of sleep related collisions which was prevalent during this particular period. Another study examining traffic accidents in Turkey between 1984 and 2004 found, however, that the number of accidents was not higher in Ramadan compared to other months (Tolon & Chernoff, 2007).

It should be noted that these findings are limited to hospital data, i.e. to more severe injuries (Bener et al., 1992). Accident and injury data may be biased in general as they do not include minor accidents and can be confounded with factors not related to accident risk (Elander, West, & French, 1993). An alternative criterion for safety could be critical driving behaviours shown to be predictors of accidents (de Winter & Dodou, 2010). Driving behaviours can provide more information than accident and injury statistics as they are more frequent and can be empirically tested. Unfortunately, the relationship between Ramadan fasting and driving behaviours have remained mainly unexamined in the Muslim world. The present study investigated observable driving behaviours of (a) speeding, (b) horn honking, and (c) using seat belts during Ramadan as compared to non-Ramadan. Not much research exist on the influence of Ramadan on driving behaviours, and our research attempts to fill in this gap of knowledge. Below we review the driving behaviour literature relevant to our investigation.

Speed control is one of the main parts of driving with setting a target speed for the traffic situation and adjusting the speed of the vehicle based on the target speed (Åberg & Wallén Warner, 2008). Though drivers can safely adjust their speeds based on speed limits (Goldenbeld & van Shagen, 2007), observations indicated that speeding is a routine behaviour on various road types (Glendon, 2007; Haglund & Åberg, 2002; Williams, Kyrychenko, & Retting, 2006; Åberg, Larsen, Glad, & Beilinson, 1997). Several factors may determine drivers' speed choice such as perception of the limit as credible, time of the day, congestion levels, time pressure, and road characteristics (see Fildes & Lee, 1993; Giles, 2004; Shinar & Compton, 2004).

Horn honking has been considered as mild aggressive driver behaviour in the literature, especially in field studies based on the frustration-aggression model adapted to road user behaviours (see Shinar, 1998; also Deaux, 1971; Doob & Gross, 1968; Turner, Layton, & Simons, 1975). It is assumed that the goal of the driver is to achieve mobility with minimum interruptions. If a vehicle blocks the traffic flow at an intersection, other drivers' expectations of mobility are violated, which may lead to mild aggression, i.e. honking the horn. Other researchers, however, have claimed that honking does not necessarily reflect aggression for every case in daily traffic. Depending on the frequency and the length of honking, it may have different meanings shaped by the particular traffic culture of a country (Özkan & Lajunen, 2011, chap. 14; Özkan, Lajunen, Chliaoutakis, Parker, & Summala, 2006). Honking threshold is, for example, much lower in Southern European countries (e.g., Turkey) than in Northern Europe and drivers use their horns to give a variety of messages such as warning other drivers.

Seat belt is a protective safety device with demonstrated effectiveness in decreasing personal injury probability and severity. During an accident, it protects occupants from hitting the interior of the vehicle and from being thrown out of the vehicle (Elvik & Vaa, 2004). Despite its usefulness, seat belt usage rates show variation among countries (e.g. 17.6% in Ghana; Afukaar, Damsere-Derry, & Ackaah, 2010; 49% in China; Routley et al., 2008; and 83% in the USA; Chaudhary & Preusser, 2006) as well as among observed regions (e.g. higher usage on rural roads as compared to urban roads; Chaudhary & Preusser, 2006). A recent study conducted in Ankara city of Turkey among about 42,000 cases revealed that, for example, the average usage rate of drivers was 21.42% in total (Puvanachandra, Hoe, Özkan, Lajunen, & Hyder, 2011).

2. Method

2.1. Participants and Settings

Observations of driver behaviours were conducted in the city of Ankara in Turkey: Specifically 1885 speed observations, 2106 seat belt use tallies, and 720 min of horn-honking video recordings were collected. Observations were conducted in the same region of Ankara. Speeds of vehicles were measured on a two-way eight-lane, straight, and divided road which is a mostly used one in Ankara traffic, called Dumlupınar Boulevard, close to the Ümitköy junction in Ankara (see Fig. 1). The road had a 50 km/h speed limit. Horn honking and seat belt use observations were taken at another location, on 8th street in Ümitköy, at a signalised intersection by Mahonya Park. This study was conducted between October and November 2006, and the weather was clear throughout the study.

2.2. Measures

Speeds of free flowing vehicles were measured with a hand-held radar and recorded on an observational sheet. As the road was a two-way road, the speeds of the vehicles which were going to the city centre direction were measured in the morning and afternoon and the speeds of the vehicles coming from the city centre to the residential area direction were measured in the evening.

Horn honking behaviours of drivers were recorded with a hidden camera. Each observation period lasted 30 min. There were 510 light cycles (i.e. red, yellow, green) in total. Two measures were used to examine horn-honking behaviours of drivers. The first measure was about whether a horn was honked when the light turned into green. The second measure

Download English Version:

<https://daneshyari.com/en/article/5037349>

Download Persian Version:

<https://daneshyari.com/article/5037349>

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