



Accidents and close call situations connected to the use of mobile phones

Leena Korpinen^{a,b,*}, Rauno Pääkkönen^c

^a Environmental Health, Tampere University of Technology, Tampere, Finland

^b Faculty of Medicine, University of Tampere, Tampere, Finland

^c Finnish Institute of Occupational Health, Tampere, Finland

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ABSTRACT

The aim of our work was to study the accidents and close call situations connected to the use of mobile phones. We have analyzed how the accidents/close call situations are connected to background information, in particular age, gender and self-reported symptoms. The study was carried out as a cross-sectional study by posting the questionnaire to 15,000 working-age Finns. The responses (6121) were analyzed using the logistic regression models. Altogether 13.7% of respondents had close call situations and 2.4% had accidents at leisure, in which the mobile phone had a partial effect, and at work the amounts were 4.5% and 0.4% respectively, during the last 12 months. Essentially, we found that: (1) men tend to have more close calls and accidents while on a mobile phone, (2) younger people tend to have more accidents and close calls while on a mobile phone, but it does not appear to be large enough to warrant intervention, (3) employed people tend to have more problems with mobile phone usage and accidents/close calls, and (4) there was a slight increase in mobile-phone-related accidents/close calls if the respondent also reported sleep disturbances and minor aches and pains. In the future, it is important to take into account and study how symptoms can increase the risk of accidents or close call situations in which a mobile phone has a partial effect.

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1. Introduction

According to the "Injuries in the European Union, summary 2003–2005" report, injuries in the EU kill over 250,000 people each year, and injuries are the leading cause of death in children, adolescents and young adults. In the 27 EU countries, the average rate of fatal road traffic accidents is 10 per 100,000 (Angermann et al., 2007). In Finland, there are about 700,000 injury accidents annually, of which 8% are traffic accidents (Statistics Finland, 2006a). In general, traffic accidents cause about 350 deaths, and domestic accidents and other leisure time accidents cause about 2100 deaths (FAI, 2007; Ministry of social affairs and health, 2003; Statistics Finland, 2006a; The national research institute of Legal Policy, 2003).

In the use of e-communications by households, the mobile phone penetration rate is 80% among EU-25 households. In Scandinavia and the Netherlands the mobile phones penetration is highest (Eurostat, 2007). According the Finnish statistical office (in Finland, 2008): 99% of households have one or more mobile phone (Statistics Finland, 2008). In 2006 the amount of extension of mobile phones

was 5,679,010 and in 2001 the amount was 4,137,337 in Finland. The amount of extension has increased 31.8% during the five years (Statistics Finland, 2006b).

Many studies described the effects of mobile phone usage on driving performance (Alm and Nilsson, 1994, 1995; Brookhuis et al., 1991; Eby et al., 2006; McCart, 2005; Irwin et al., 2000; Lam, 2002; Lamble et al., 1999; McKnight and McKnight, 1993; Strayer and Johnston, 2001; Strayer et al., 2003, 2006). The results of studies usually indicate that there is a significant relationship between mobile phone use and the risk of car collision and injury (McEvoy et al., 2007; Laberge-Nadeau et al., 2003; Redeleier and Tibshirani, 1997; Sagberg, 2001; Violanti and Marshall, 1996). In addition, the age of the driver was included in the analyses (Violanti, 1997, 1998; Lam, 2002). For example, Ulleberg (2002) reported that sensation-seeking characterized a high accident-risk group of young drivers. In addition, researchers have found considerable evidence that, at a young age, differences in the socioeconomic distribution of road-traffic injuries are common among several categories of road users (Laflamme and Diderichsen, 2000; Hasselberg et al., 2001; Laflamme and Engström, 2002; Laflamme et al., 2005; Oltedal and Rundmo, 2006).

According to Strayer et al. (2003), drivers are more likely to miss critical traffic signals, are slower to respond to the signals they do detect, and are more likely to be involved in rear-end collisions when they are conversing on a cell phone. In addition, when the participants directed their gaze at objects in the driving

* Corresponding author at: EPR, Environmental Health, Tampere University of Technology, P.O. Box 589, 33101 Tampere, Finland. Tel.: +358 3 3115 11; fax: +358 3 3115 3751.

E-mail address: leena.korpinen@tut.fi (L. Korpinen).