

What causes the differences in driving between young men and women? The effects of gender roles and sex on young drivers' driving behaviour and self-assessment of skills

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Abstract

The aim of this study was to investigate how sex (male and female) and gender roles (masculinity and femininity) and their interaction were associated with driving skills and accident involvement among young drivers. Two-hundred and seventeen young Turkish drivers (131 males and 86 females) filled in a form including the short form of Bem Sex Role Inventory (BSRI), the Driver Skill Inventory (DSI), and questions about accident history and background information. The effects of sex and gender roles were tested on outcome variables by using Poisson, negative binomial, and hierarchical regression analyses. It was found that sex (being male) predicted the number of total, active, and passive accidents, and perceptual-motor skills. While masculinity score predicted positively the perceptual-motor skills, femininity score predicted positively the safety skills. No significant interaction effects between sex and gender roles on criterion variables were found. © 2006 Published by Elsevier Ltd.

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1. Introduction

Although traffic accidents kill people from all age groups, young-aged people are overrepresented in accident involvement virtually in every country, and the majority of these drivers are young men. Apart from being overrepresented in accident statistics (Blockey & Hartley, 1995; Doherty, Andrey, & MacGregor, 1998), young male drivers are also more prone to take risks (Deery, 1999), use seat belts more infrequently (Jonah & Dawson, 1987), engage in aggressive driving, speed and commit more violations (Jonah, 1990) than other age groups. The main reasons for the overrepresentation of a driver group or change in their general driving style can be specified under the three main categories as exposure, driving style, and driving skills (Laapotti, 2003).

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Exposure indicates the degree to which a driver exposes himself to traffic and to the probability of being involved in an accident. It includes both quantity (e.g., the amount of driving) and quality (e.g., why, when, where, with whom and in what kind of weather and road conditions the driving takes place) of driving (Laapotti, 2003). Exposure measures, such as the proportion of driving licence holders in each sex groups, indicate that male drivers are exposed to driving more frequently than females (IRTAD, 2003; United Nations, 1997). However, the results of earlier studies about the relationship between sex, exposure, risky driving, and accident involvement have been mixed. For instance, Hyman (1968) found that female drivers had been involved in more accidents than male drivers when the duration of driving vehicle was controlled. In contrast, Maycock, Lockwood, and Lester (1991) reported that male drivers were at a higher risk of crashing than female drivers, the crash liability of females being 30% lower than the crash liability of males after controlling for mileage.

Driving style concerns individual driving habits, i.e. the way a driver chooses to drive and, hence, generally drives (Elander, West, & French, 1993). One of the often used instruments for measuring driving style is the Driver Behaviour Questionnaire (DBQ) by Reason, Manstead, Stradling, Baxter, and Campbell (1990). DBQ makes the distinction between violations and errors. Recently, DBQ was extended to also cover positive driver behaviours (Özkan & Lajunen, 2005a). Errors were defined as a “failure of planned actions to achieve their intended consequences that can involve the unwitting deviation of action from intention (slips and lapses) or departure of planned actions from some satisfactory path toward a desired goal (mistakes)”. Violations referred to “deliberate deviations from those practices believed necessary to maintain the safe operation of a potentially hazardous system”. Violations are classified as aggressive and ordinary ones (Lawton, Parker, Manstead, & Stradling, 1997). In literature, it has been reported that men and young drivers tend to commit violations more frequently than women and older drivers, and that those who drive frequently violate traffic rules more often than those who drive less frequently. In contrast, female and older drivers committed more errors than male and young drivers (Åberg & Rimmö, 1998; Blockey & Hartley, 1995; Parker, McDonald, Rabbitt, & Sutcliffe, 2000; Reason et al., 1990).

Driving skills emphasise the maximum level of performance, those skills that describe what a driver can do rather than what s/he generally does (Elander et al., 1993). They can be classified into two main categories as defensive and technical driving skills (Spolander, 1983). Lajunen and Summala (1995) argued that safety related skills (defined as anticipatory accident avoidance skills) should be included in the assessment of perceptual-motor skills. The authors suggested that the distinction between perceptual-motor and safety skills is imperative because a driver's internal balance between these skills reflects his/her attitude to safety. Thus, they developed an instrument named as Driver Skill Inventory (DSI) to further assess both general perceptual-motor performance and safety concerns. By using the DSI, it was found that male drivers consistently overestimate their perceptual-motor skills, whereas safety skills are more prominent among female drivers (Lajunen, Corry, Summala, & Hartley, 1998; Lajunen & Summala, 1995).

Although sex is one of the most often measured variables in studies of driving behaviour, there have been only few studies (e.g., Kirkham & Landauer, 1985; Laapotti, 2003; Mayhew, Ferguson, Desmond, & Simpson, 2003; McKenna, Stainer, & Lewis, 1991) whose primary interest was sex differences in traffic behaviour. If the sex differences in driver behaviour have attracted only little attention among traffic researchers, gender as a social and cultural construct has been mostly ignored. According to Archer and Lloyd (2002, p. 19), gender stereotypes refer to “the beliefs people hold about members of the categories man or woman” while sex refers to “the binary categories ‘male’ and ‘female’ (Archer & Lloyd, 2002, p. 17). Sex has a biological connotation and sex differences arise from innate temperamental differences between the sexes (e.g., biological theories by Buss, 1995) whereas gender is rather a social and cultural concept.

Researchers have studied the effects of macho personality on aggressive driving among male drivers and found that men endorsing a “macho personality” reported more aggressive driving behaviour than other men (Krahé & Fenske, 2002). It should be noted, however, that the aim of their study was not to investigate young drivers' behaviours. In addition, Krahé and Fenske (2002) studied the relationship between driving and macho personality rather than masculinity. Özkan and Lajunen (2005b) investigated how sex and gender roles are related to driving style, traffic offences and accidents among young drivers. They showed that the number of offences as well as aggressive and ordinary violations increased as a function of masculinity while the number of accidents, offences, aggressive and ordinary violations, and errors decreased as a function of femininity. Statistically significant interaction effects of masculinity and femininity on accidents and aggressive violations

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