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Title: GENDER DIFFERENCES IN PEDESTRIAN RULE COMPLIANCE AND VISUAL SEARCH

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Abstract:

Gender remains one of the main factors of road Accidentology. Men composed seventy to eighty percent of road fatal injuries between 15 and 59 year olds (Assailly, 2001). Boys' injuries are more frequent and more severe than females' ones and exposition to risk seems to not be the only explicative factor (Waylen & McKenna, 2002). In particular, sex differences are observed in injury risk behaviours (Byrnes, Miller, & Schafer, 1999) and in risk assessment among children, adolescents and adults (DeJoy, 1992; Harré, Brandt, & Dawe, 2000; Peterson, Brazeal, Oliver, & Bull, 1997).

Indeed, research on adults has brought out gender differences in compliance with traffic rules. Dangerous behaviours and involvement in accidents among adult drivers were shown to be more often due to rule-breaking in males than in females (Harré, Field, & Kirkwood, 1996; Simon & Corbett, 1996; Yagil, 1998). Moreover, previous studies have shown that male pedestrians violate more rules than female pedestrians do (Latrémouille et al., 2004; Moyano Diaz, 2002; Rosenbloom, Nemrodov, & Barkan, 2004; Yagil, 2000).

Research shows males anticipate less negative consequences than females when committing violation (Parker, Manstead, Stradling, & Reason, 1992). Moreover, females are more sensitive to what they risk to lose when committing traffic violation, whereas males are more sensitive to what they can gain with this violation (Castellà & Pérez, 2004).

One explanation could be that rule compliance motivation varies with gender: male drivers (Yagil, 1998) and pedestrian boys (Granié, 2007, 2009) display a lesser degree of normative motivations than female drivers or pedestrian, that is a lesser rule internalization (Tyler, 1990).

For the time being, research showing gender differences in pedestrian behaviours are based on declared behaviours (Moyano Diaz, 2002; Yagil, 2000) or have only observe behavioural rule compliance (Latrémouille et al., 2004; Rosenbloom, et al., 2004): no study has observed effect of gender difference on walking and crossing behaviours.

Objective of this study is to explore effect of gender difference in pedestrian rule compliance on walking and crossing behaviour. Hypotheses are males higher violation level will be accompanied by gender differences on other pedestrian behaviours.

Participants are 60 adult pedestrians (30 females and 30 males) observed on 2 signalized crossing sites, and 1 non signalized site. Pedestrians were observed using a taxonomic observation grid which detailed 14 behavioural categories before, during and after crossing.

Results show that male pedestrians commit more violations than female pedestrians. Moreover, this gender difference in rule compliance is accompanied with other differences between genders, in particular in visual search targets.

Before crossing, all pedestrians pay first attention to traffic light, but principal visual target differs between genders. Men look more at moving vehicles whereas women look more at other pedestrians.

During crossing, men and women look principally at stopped vehicles, but after men look at traffic lights whereas women remain looking at other pedestrians.

Therefore, one general pattern of visual orientation before and during crossing can be found –

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first traffic light and then stopped vehicles –. Nevertheless, one second visual target differs between both genders. This second target is the same before and during crossing for women – pedestrians – but varies with crossing moment for men – first vehicles, then traffic lights -. Then, genders differ on visual target pattern and on visual targets numbers: men do not look at others pedestrian, neither before nor during crossing. These results will be discussed in terms of pedestrian general visual strategy and visual strategy differentiated with gender and compliance with legal rules and gender social role.