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Gender stereotypes and superior conformity of the self in a sample of cyclists

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ABSTRACT

In the field of driving, people tend to think they are more competent and more cautious than others. This is the superior conformity of the self (SCS). Our main hypothesis was that, among cyclists, women would show a higher SCS on cautiousness, though men would show a higher SCS concerning competence. 1799 cyclists provided a self-assessment of their own cautiousness and of other people's cautiousness. The same procedure was used for competence. Consistent with the hypothesis, the SCS was gender-specific: it was more prominent for women concerning cautiousness and more prominent for men concerning competence. These results could explain why people tend to ignore the safety campaigns. They also indicate the importance of adapting messages concerning safety measures to gender.

1. Introduction

In the field of driving, the existence of bias involved in comparison with others has often been shown (Gosselin et al., 2010; Holland, 1993; Morisset et al., 2010; Walton and McKeown, 2010; Williams, 2003; White et al., 2011). People think they have better driving skills than others and by extension, that they are less likely to have an accident (Delhomme, 1991; Horswill et al., 2004; Waylen et al., 2004).

The opinion of superiority over others is a positive illusion bias and was well illustrated in the works of Codol (1973) on the superior conformity of the self (SCS). According to Codol, the individual is both forced to conform to social norms and to differentiate him/herself from others in order to preserve his/her own self. To resolve this contradiction, the optimal solution is to declare oneself different from others as regards conformity with norms.

Generally, in the field of driving, research focuses primarily on cognitive biases and positive illusions; normative issues are given a minor role. The SCS is "*the tendency to present oneself as more in conformity with the norms than others are*" (Codol, 1973, p. 565). This phenomenon is thus always held up by social norms. It is therefore of major interest because it can connect positive illusion bias and social norms, often viewed as two separate domains of explanation.

The two norms of competence and cautiousness seem to define what good behaviour on the road should be. Competence is regularly central in studies, but reduced to a list of behavioural skills (Waylen et al., 2004). However, to study competence as a norm, it needs to be approached as a general component of driving. Cautiousness is usually not addressed as such, but through its opposite: risk-taking.

The social assessment of competence and cautiousness, and therefore the level of SCS, may vary according to gender. Indeed, gender is an important identity marker and men and women tend to appropriate the gender characteristics of the group, even without an intergroup context of comparison (Durand-Delvigne, 1997; Eagly and Wood, 1999; Hurtig and Pichevin, 1998; Stewart et al., 2007). However, gender stereotypes are clearly distinct. For example, women are associated with anticipation before acting, while men are associated with greater risk-taking (Nallet et al., 2010; Öskan and Lajunen, 2006; Rhodes and Pivik, 2011). From this perspective, norms of competence and cautiousness seem to be "gender-specific." Women are generally encouraged to be more cautious than men, for whom the social imperative of competence matches their gender stereotype (Cuddy et al., 2009).

Gender stereotypes are often illustrated by the type of vehicle. A powerful vehicle is associated with masculinity and it has been observed that men drive more powerful cars (TNS/SOFRES, 2004).

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We chose to observe a population of cyclists because, in principle, cycling escapes this categorization. In addition, cyclists have been studied less than other road users (Johnson et al., 2011; Wood et al., 2009).

2. The current research

The motivation for conducting this study was to test the effect of SCS in the field of cycling which, to our knowledge, has not been done so far. In doing so, we wanted to understand the psychosocial determinants upstream of an accident: in other words, it is interesting to introduce the perception that every person has their own competence and cautiousness, which can lead to overconfidence and generate accidents. It is also interesting to analyse this perception as the effect of stereotype and social norms and show that these norms of competence and cautiousness seem to be "gender-specific."

SCS is a solid effect clearly identified in the literature (Waylen et al., 2004; Weinstein, 1980). The aim of this study was to show that, depending on the norm "cautiousness or competence," gender modulates the importance of the superior conformity of self.

Our first hypothesis was that, regardless of gender membership, individuals generally perceive themselves to be more cautious and more competent than others. In other words, SCS can be observed with regard to both components in both gender groups.

For our second hypothesis, we assumed that gender has an impact on the importance of SCS. Based on the studies that associate cautiousness with femininity and risk with masculinity (Cuddy et al., 2009; Rhodes and Pivik, 2011; Sümer et al., 2006), it was expected that as far as cautiousness was concerned, women would have a greater SCS than men. By contrast, when the driving norm was competence, men would have a greater SCS than women.

Our third hypothesis predicted that the responses with regard to self and others were not based on the same determinants. We assumed that the responses with regard to others would concern the group of cyclists as a whole, while the responses with regard to self, by definition, stand out and may refer to a particular gender identity. When responding with regard to others, subjects would identify themselves with the group of cyclists in general. Therefore, we expected no difference between men and women in their responses with regard to others, whether concerning cautiousness or competence. By contrast, when the question was about self, gender identity should be more prominent. Therefore, as for the responses with regard to self, it was expected that the assessment of their own cautiousness would be higher among women, compared to men. We also assumed that assessment of their own competence would be higher among men, compared to women (Karlaftis et al., 2003).

3. Method

3.1. Participants

A randomized, controlled intervention trial was carried out in Bordeaux, a city of 600,000 inhabitants located in south-west France. Participants were recruited from June 19th 2009 to August 13th 2010 at a municipal structure ("La Maison du Vélo") where people can take out a bicycle on loan free of charge for a minimum period of 4 months. Information about the trial was given to each person entering the structure during the recruitment period. They had to be the sole users of the bicycles borrowed. Precise oral and written information was delivered at the investigation centre to potential participants. During the study period around 6000 loan agreements were concluded and 1799 participants agreed to take part in the study (estimated recruitment rate: 30%).

The population therefore consisted of 1799 subjects (1042 women and 757 men, mean age = 31.6 years, SD = 12), urban (96.70% live in the inner city), half the subjects were from various professions and the other half students, or unemployed. We used a face-to-face questionnaire given at the municipal bicycle rental site. This sample can be described as follows: 72.50% of the participants used the bicycle for trips between home and work, 86.70% cycled regularly, or very regularly, 3–7 days a week. Concerning protective equipment, 87.20% did not wear helmets, 86.10% did not wear other protective equipment (mirror, reflective vest, etc.). Concerning the history of bicycle incidents, 16.70% had had a fall while cycling in the previous 12 months and 12.70% had required medical attention after the fall.

In France, urban cyclists are predominantly male, but women are more represented in cities where the cycling population is high, as in Strasburg where parity is approached. Bordeaux, today the second "cycling city" behind Strasburg, follows the same trend (Atout France, 2009). Regarding occupational distribution, the population surveyed was comparable to the population cycling in the region of Bordeaux, i.e. 51% school children, students and unemployed (Enquête Ménages Déplacements, 2009).

3.2. Materials and procedure

The measurement of SCS consisted of a pair of items: subjects provided a self-assessment of their own cautiousness and an assessment of that of others. The same procedure was used to assess competence. We used indirect assessment which distinguishes self-assessment from that of others using two questions with a 10-point Likert scale: "*When cycling, I am not cautious/competent at all*" (=1) to "*very cautious/competent*" (=10); "*Other cyclists are generally not cautious/competent at all*" (=1) to "*very cautious/competent*" (=10).

Note that in responding with regard to others, the subjects did not refer to an objective standard or a particular group, nor even a majority of cyclists. The wording "others" is used in the SCS questionnaires to specify a descriptive norm, that is to say what they can observe on the road.

To identify the SCS effect, we needed to find a difference between the response with regard to self and that with regard to others: the subject should have a higher score when responding with regard to self.

4. Results

Each participant obtained two scores for the cautiousness component (response with regard to self and that with regard to others). These scores were submitted to a 2 (type of answer: with regard to self vs. with regard to others) × 2 (participant gender) ANOVA, with repeated measures on the first factor. The results showed a main effect of the type of answer ($F_{1,1792} = 956.69$, $p < 0.001$, $\eta_p^2 = 0.35$) and of gender ($F_{1,1792} = 6.20$, $p < 0.05$, $\eta_p^2 = 0.003$). The results also yielded a type of answer × gender interaction ($F_{1,1792} = 19.11$, $p < 0.001$, $\eta_p^2 = 0.01$). For the competence component, each participant obtained two scores (response with regard to self and that with regard to others). These scores were submitted to a 2 (type of answer: with regard to self vs. with regard to others) × 2 (participant gender) ANOVA, with repeated measures on the first factor. The results showed a main effect of the type of answer ($F_{1,1787} = 724.12$, $p < 0.001$, $\eta_p^2 = 0.29$) and of gender ($F_{1,1787} = 15.97$, $p < 0.05$, $\eta_p^2 = 0.01$). They also showed a type of answer × gender interaction ($F_{1,1787} = 99.83$, $p < 0.001$, $\eta_p^2 = 0.05$).

The analysis of simple effects, considered with a Bonferroni corrected p-level of 0.013 revealed a pattern of means consistent with our two first hypotheses (see Tables 1 and 2). We examined the