Perceptions of the Average Driver’s Speed compared to Perceived Driver Safety and Driving Skill

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Abstract

This study investigates the self-enhancement bias in driver attitudes, the finding that drivers rate themselves better than the average driver on safety and skill perceptions (Svenson, 1978, 1981; McCormick, Walkey & Green, 1986). A sample of 86 New Zealand drivers were asked their perceptions of their own and others’ speeds in two conditions, 50 km/h and 100 km/h. The results established the self-enhancement bias for speed and safety, but not skill. Between 85% and 90% of drivers claimed to drive slower than the ‘average driver.’ A new methodological technique derived from Harré and Gillett (1994) was used to investigate the direction of the self-enhancement bias. The results support Downward Comparison Theory (Wills, 1981) because drivers consider other drivers negatively, rather than exaggerating their self-perceptions.
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Introduction

Studies of drivers’ attitudes towards their safety and skill have revealed a seemingly universal phenomenon of self-enhancement bias (Delhomme, 1991). When asked to compare themselves to the average driver, people display an over-confidence in their own abilities and attitudes. Drivers claim to be safer and more skilled than others, notwithstanding that people overestimate the number of deaths by motor vehicle accidents (Slovic, Fischhoff, and Lichtenstein, 1979). Svenson (1981), for example, found that between 70-90% of drivers, in her sample, claimed to be safer and more skillful than the average driver. The finding of this bias has been repeated in several studies and it is found that between 60-90% of people claim to be better than the average driver across a range of phenomena (Delhomme, 1991). People claim to be more considerate, reliable, wise and careful (McCormick, Walkey & Green, 1986) although the bias was eliminated when the reference was to a ‘very good driver’ rather than the ‘average driver.’ McKenna, Stanier & Lewis (1991) found the effect with reference to twenty driving behaviours. The effect has been found in Sweden, the United states (Svenson, 1981, 1985), France (Delhomme, 1991) and New Zealand (McCormick et al. 1986).

The self-enhancement bias is explained as a ‘positive self’ bias rather than a ‘negative other’ by McKenna et al. (1991). Drivers are thought to possess a self-enhancing cognition that operates to distort their perceptions of their abilities and over-inflate their confidence. Wills’ (1981) ‘Downward Comparison Theory’ suggests that people seek comparisons with those who are worse than themselves and therefore distort their own confidence accordingly. However, the idea that drivers believe themselves to be better than average because their perceptions of the average driver are negative is dismissed by McKenna et al. (1991) who claim that the self-enhancement bias is a ‘positive self’ phenomenon. Notwithstanding, the ‘negative other’ hypothesis has recently found some support in Groeger and Grande (1996) who compared the perceptions of experienced drivers to novice, newly qualified drivers, although the result is speculative with Groeger and Grande offering two alternative explanations from their results. Further to these questions concerning the direction of the
relation people hold to the ‘average other,’ the self-enhancement bias has been criticised as arising from the wording of the questionnaires (Groeger and Brown, 1989) and the ambiguity of the reference group (Dunning, Meyerowitz & Holzberg, 1989; Groeger and Grande, 1996; and Guirin, 1994). For example, Groeger and Grande (1996) interpret the absence of the self-enhancement effect in McCormick et al. (1986), when the very good driver was used as a comparison, as indicating the self-enhancement bias disappears when the reference group is less ambiguous.

There have been several calls for careful theorising about the phenomenon of self-enhancement bias in driver attitudes (Assum, 1997; Guirin, 1994). Perhaps the most important reason for such analysis is that drivers’ attitudes do have implications for accident rates. Assum, (1997) reports that ‘wrong attitudes’ do increase the rate of accidents, although interestingly the effect is not found within age groups. Most authors mention the implications that driver attitudes have for traffic safety campaigns (Guirin 1994; Svenson, 1981). The reasons for the poor attitudes towards driving behaviour need to be understood so that effective intervention can be targeted efficiently.

The methodology adopted in the present study was developed to operationalise a social constructionist, or discursive, ontology of psychology developed by Harré and Gillett (1994). They believe that psychological explanation is set against arrays of people who actively construct their realities through discursive exchanges. Concomitant with a constructionist outline of psychology is much criticism of traditional social psychological investigations (Gergen, 1985; 1994; 1997; Harré, 1989; 1994; Harré and Gillett, 1994). The notion that an individual is active in constructing their reality with others, including the researcher, has implications for traditional forms of psychological investigation and theorising.

The use of the ‘average other’ as an index to determine the overestimation of the driver attitudes ignores the relations an individual may hold to the average driver (however vaguely or precisely the term ‘average’ is defined). Individuals can regard themselves to be better or worse than an average driver and they may, individually, judge the average driver’s ability accurately or inaccurately. This fact makes obscure the reasons for the self-enhancing bias when the ‘average’ other is used as an index of comparison. In any sample of drivers’ attitudes, indexed with reference to others, any variability in the notion of the ‘average driver’ will ensure that respondents fall into at least four distinct groups: those who overestimate their own ability and the ability of the average driver; those who overestimate their own ability and underestimate the ability of the average driver; and the two corresponding groups for those who underestimate their own abilities.
This methodological ambiguity led Groeger and Grande (1996) to criticise, correctly, McKenna et al. (1986) for their assumption that their results are ‘more consistent with a self enhancement bias rather than a downward comparison theory’ (p. 50). McKenna et al. (1986) suggested that drivers do not hold negative evaluations of the average driver since they rated the average driver as slightly above 5 on a scale of 0 to 10. Groeger and Grande (1996) point out:

> It is impossible to say whether the same ‘average driver’ was used as the basis of comparison in all cases. Thus a ‘better’ or ‘worse’ average driver might easily have been used when the driver felt variously secure or insecure about his or her ability to perform a particular manoeuvre (p. 64).

Whether that argument succeeds, the McKenna et al. (1986) argument is invalid. It does not follow from the fact that drivers regard the average driver as midway between very poor and very good that they do not hold negative evaluations of drivers when they compare themselves to the average driver. The Downward Comparison Theory argument is equivalent to the ‘positive self’ position that McKenna et al. prefer but the evidence that subjects rate drivers midway between very poor and very good does nothing to prevent the interpretation that the effect is due to a ‘negative other’ evaluation. McKenna et al. use a statistician’s sleight of hand. The average ability need not be represented as midway between very poor and very good on any of the abilities McKenna et al. present, despite the fact that a group of subjects report this. For example, it would be strange indeed if the average driver were not reasonably good at judging the correct speed for bends or corners since presumably even less than average drivers manage to do this effectively most of the time. Only 3.3 per 10,000 drivers had an accident as a result of cornering in 1995 (Land Transport Safety Authority [LTSA], 1996). The standard for average driving is not accurately assessed by a weighting from 0-10. A score of five may be as much of an indictment on the average driver’s ability as an IQ score of 100 is to a potential Mensa candidate. Evaluations of a slightly better than 5 weighting simply indicate a weighting subjects give to the average driver which are proportionally less than the weighting they give to themselves and does not indicate a judgement of the standard of abilities required for performance of the driving measures.

The present investigation attempts to calibrate the relations between self and average other by assessing actual average speed of driving, the self-reported speed of subjects, the perception of the average driver’s speed and the relation between actual speed of driving and the average of self-reported speeds. We sought to establish that the method described below has broad utility as an alternative to the traditional self-other indices used in social psychological research in isolating subgroups of individuals in the way they relate to the average reference person. Three hypotheses relate to this goal: (i) that the
‘irrationality’ described by Svenson (1978; 1981) is disproportionately represented by one type of relation the individual holds to the ‘average reference person’; (ii) that self-reported driving speed is subject to the self-enhancement bias; (iii) that the differentiation of the subjects into the relations they hold to the actual and average other will relate to the groups’ self-enhancement bias of perceived safety and skill.
Method

Subjects

The sample consisted of 86 subjects drawn from staff at the Open Polytechnic of New Zealand or organisations that were associated with the polytechnic through a staff member. We were attempting to test a method so we simply called for volunteers from those associates in our immediate working environment. These people ranged in occupations and education, they were not all professionals but comprised a variety of occupational categories that reflect the diversity of functions of the Polytechnic’s staff. There were 45 males and 40 females and 1 missing response. All participants were regular drivers. The median age was in the category 43-48 years. Our sample is notably different from studies that have used a student samples. However, the range of subjects was between ‘under 25’ to ‘over 70.’

Procedure

A short questionnaire was distributed to the subjects. The opportunity to remain anonymous was granted by allowing the questionnaire to be returned by post or internal mail.

The questionnaire included of two questions concerning the speed the subject estimates they drive as indicated on a measured continuous scale. Subjects placed an x on the line indicating their perceived usual speed of driving in a 50 km/h zone. The same procedure applied for a question concerning a 100 km/h zone. These conditions were selected to match the two speed limits that apply to New Zealand roads. 50 km/h speed zones apply to urban areas and 100 km/h zones apply to highways and motorways. The maximum speed limit in New Zealand is 100 km/h. For each of these questions subjects were asked to indicate how fast they thought the average driver drives their car in the same conditions. We asked subjects to indicate whether or not they were a safer driver than the average driver. We also asked whether they were more skilful than the average driver.

We defined the average driver as someone who ‘is better than half the people on the road while at the same time is worse than half the people on the road.’ The definition of the average driver was left deliberately broad so that the definition would cover all the conditions when the ‘average driver’ was referred to in the questionnaire. Further, we instructed subjects that it is a
difficult task to compare themselves to the average driver and reminded them that not all drivers are equally safe.

A final section of questions included demographic items and the number of insurance claims subjects had made for accidents that were their fault.

The independent variable for this study was determined post hoc to the collection of the data. By asking subjects to report on their perceived speed and their perception of the average speed for drivers there is a simple relationship set up between perceived self (X) and perceived other (Y). It is such a relationship that has been traditionally exploited to serve as an independent variable. By obtaining data as to the actual speed people report they drive in either a 50 km/h zone and the actual reported speed in a 100 km/h zone the ‘actual average’ is introduced as a third variable (Z). There are two ways in which this third variable might be introduced. It is possible to obtain actual data of speeds travelled (Z’) or one can take the actual average of variable X: that is, the actual average of perceived self (Z). The relationship between (Z) and (Z’) indicates the relationship between self-reported scores and actual behaviour. Thus Z’ serves as a calibration of the XYZ schemata described below. If subjects wrongly report their actual behaviour there will be a significant difference between Z and Z’. If there is no significant difference it is possible to conclude that the self-reports are an accurate assessment of self-reported driving behaviour. For internal consistency we used Z instead of Z’ to produce the following schemata. Had Z’ been significantly different from Z we would have used Z’.

**The XYZ schemata**

There are six permutations that can be derived from the variables: (X) The self reported behaviour (Y) the perceived rating of the average, and (Z) the actual average of self-reported behaviours. Each permutation describes the relationship an individual holds to the perception of the average and describes the accuracy of that relationship with reference to Z. These categories are not statistical categories. The categories are logical categories derived from an analysis of the relationships not the analysis of any data set.

The categories set out below are a graphical representation of the logical categories. The categories are: (A) self-reported speed is less than the perceived average and the perceived average is less than the actual average speed; (B) self-reported speed is higher than the perceived average and less than the actual average; (C) self-reported speed is less than the average speed and the perceived average is higher than the actual average speed; (D) self reported
speed is greater than the average speed and the average speed is greater than the perceived average speed; (E) self-reported speed is greater than the average speed and the perceived average speed is greater than self-reported speed; (F) self-reported speed is greater than the perceived average speed and the perceived average speed is greater than the actual speed. The logical categories (A to F) are represented algebraically: XYZ, YXZ, XZY, YZX, ZXY, ZYX and are illustrated in Table 1.

**Table 1**

*Graphical Representation of the logical categories of the XYZ schema*

<table>
<thead>
<tr>
<th>Category</th>
<th>Graphical Representation</th>
</tr>
</thead>
<tbody>
<tr>
<td>a)</td>
<td><img src="a.png" alt="Graph" /></td>
</tr>
<tr>
<td>b)</td>
<td><img src="b.png" alt="Graph" /></td>
</tr>
<tr>
<td>c)</td>
<td><img src="c.png" alt="Graph" /></td>
</tr>
<tr>
<td>d)</td>
<td><img src="d.png" alt="Graph" /></td>
</tr>
<tr>
<td>e)</td>
<td><img src="e.png" alt="Graph" /></td>
</tr>
<tr>
<td>f)</td>
<td><img src="f.png" alt="Graph" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>a)</th>
<th>Slow</th>
</tr>
</thead>
<tbody>
<tr>
<td>b)</td>
<td>X represents the subject’s self-reported driving speed.</td>
</tr>
<tr>
<td>c)</td>
<td>Y represents the subject’s belief about the average driving speed of others.</td>
</tr>
<tr>
<td>d)</td>
<td>Z represents average driving speed (mean X) or a corroborated actual average driving speed.</td>
</tr>
</tbody>
</table>

The graphical representations of the categories misrepresents the variables in that the distances between the variables X, Y and Z are represented evenly, though in practice the magnitude of the relationship varies.
Results

As a total group, the respondents reported their driving speeds accurately. Compared to the mean driving speeds obtained from the LTSA (personal communication, September 5, 1997) (mean driving speeds, 55.4 km/h and 103.9 km/h, SD 11.9) subjects reported their own speeds at 54.7 km/h (N = 86) and 103.2 km/h (N = 86). There was no significant difference between actual driving speed of the general population and that self-reported by the subjects in the 100 km/h condition Z=–1.046 N.S.)\(^1\). However, subjects overestimated the speed at which others drive. Subjects reported that the average driving speed of others as 58.8 km/h and 109.6 km/h respectively.

Subjects’ estimations of the average driver’s speed was not only overestimated (as a group) but in the 50 km/h condition 90% of subjects (Categories A, C and E) claimed to drive slower than the average driver. We expected such a result and it is the reason we chose estimation of speed for the separation of the independent variable. In the 100 km/h condition 85% of subjects reported that they drive slower than the average driver.

Overall 67.4% of subjects reported that they were safer than the average driver, with 3.5% missing on that question. When the missing values are excluded the percentage of subjects who claim to be safer than the average driver rises to 69.9% of the total sample. This result repeats previous studies that find an overestimation of driver abilities and was expected. The same result was not found for self-reports of driver skill. Overall 51.2% of the subjects reported that they were more skilled than the average driver with 3.5% missing. When the missing results are excluded the percentage rises to 53.0%. Examination of the results in relation to perceived driving skill will not continue past this point except as they relate to other variables.

The XYZ schemata successfully differentiated the subjects’ responses into six groups\(^2\). There were two conditions in which the XYZ schema applied: 50 km/h zone and 100 km/h. If subjects were randomly assigned to the six groups each group would contain one sixth of the overall respondents. In both the 50 km/h and 100 km/h conditions all groups were represented, but not evenly. A chi-squared test applied to the groups revealed that the categories differ from a random assignment. In the 50 km/h condition the chi-squared test of independence established that the groups were not of random assignment ($\chi^2(1, N = 86) = 78.13, p <0.001$). Similarly for the 100 km/h condition ($\chi^2(1, N = 86) = 86.32, p <0.001$). Categories (C) and (E) dominated in both conditions. These condition are: Category (C): those respondents who believe that they drive slower than the average driver and are accurate in that estimation. Category (E) drivers: those respondents who believe that they drive slower than the average
driver but are inaccurate in that estimation. Category (E) drivers report that they drive slower than average when they do not, relative to what others report.

When the aggregate results are analysed within the XYZ scheme it is found that there is no significant difference between the way the groups responded to the self-reports about safety ($\chi^2(5, N = 83) = 9.4$, N.S.) or skill ($\chi^2(5, N = 83) = 3.78$, N.S.) for the 50 km/h condition. Similarly, in the 100 km/h condition there was no significant difference between the way the groups responded to the safety question ($\chi^2(5, N = 83) = 5.73$, N.S.) or the skill question ($\chi^2(5, N = 83) = 2.8$, N.S.). The binomial test was used to determine whether the way each group responds to the safety question is significant. The overall total for the self reports for safety are significant to the $p < 0.001$ level. The binomial test is summarised in Table 2.

Subjects reported that they are safer than the average driver to a significant level but no group answered any differently from any other group in the relative proportions of that overestimation of safety preference. All groups answered the same way about their perceived safety compared to the average driver. All groups answered in a way that indicated they believed that they were, as a group, safer than the average driver. Subjects’ claims that they are safer than the average driver is significant in two categories. Groups (C) and (E) show a significant preference for claiming that they are safer than the average driver. All other groups are not significant in their proportional responses.

**Table 2**

*Examination of Groups C and E*

*Binomial test distributions for self-reported estimates of safety compared with the average driver by grouping according to the XYZ schemata derived from the 50 km/h and 100 km/h conditions.*

<table>
<thead>
<tr>
<th>Category</th>
<th>50 km/h Zones</th>
<th>100 km/h Zones</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Safe</td>
<td>Unsafe</td>
</tr>
<tr>
<td>A</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>B</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>C</td>
<td>23</td>
<td>6</td>
</tr>
<tr>
<td>D</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>E</td>
<td>25</td>
<td>10</td>
</tr>
<tr>
<td>F</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Totals</td>
<td>58</td>
<td>25</td>
</tr>
<tr>
<td>Percentage</td>
<td>69.88%</td>
<td>30.12%</td>
</tr>
</tbody>
</table>

* $p<0.05$
** $p<0.001$ level of significance
Groups A, B, D and F are not considered from this point in any detail although they remain part of the analyses. Our focus was on the difference between groups C and E. Using the 50 km/h categories drivers did not differ significantly on the number of accident claims they had made ($\chi^2(5, N = 86) = 1.93, \text{N.S.}$), gender ($\chi^2(5, N = 86) = 4.5, \text{N.S.}$), age ($\chi^2(40, N = 85) = 47.98, \text{N.S.}$) or occupation ($\chi^2(25, N = 81) = 30.71, \text{N.S.}$). In the 100 km/h condition there were similar results. In the 100 km/h condition drivers did not differ in gender ($\chi^2(5, N = 86) = 3.30, \text{N.S.}$), age ($\chi^2(40, N = 85) = 22.07, \text{N.S.}$) or occupation ($\chi^2(25, N = 81) = 16.29, \text{N.S.}$). However, there was a significant result in relation to the number of accidents that were the subject’s fault resulting in an insurance claim when using categories derived from the 100 km/h condition ($\chi^2(5, N = 86) = 14.8, p < 0.01$). The finding is not significant when the data are adjusted (using an adjustment for continuity) to account for the thin cells in category (B) which produces the highest difference from expected (The two drivers who fall into category B claim that they drive faster than the average driver but this perception is not accurate. Both these drivers have made an insurance claim for an accident that was their fault). In summary, no distinction between Category (C) and Category (E) drivers could be established with our sample. Both Category (C) and Category (E) drivers report the same proportions of responses to the question concerning their relative safety compared to the average driver.

We compared those who had answered that they were better than the average driver on skill and safety with those who had answered that they were not more skilled and not safer with the self-reported speeds of self and others using a simple factorial ANOVA. As is clear from the XYZ schemata these groups did differ in their reported speed. Self-reported speed is the distinguishing characteristic of Categories (C) and (E). However, Categories (C) and (E) had similar reported estimations of the average driver’s speed (though they need not have as part of the definition of the categories). This made us suspicious that the variable responsible for over-estimation of safety is the common characteristic of Categories (C) and (E), since no other distinction could be established and yet there is a logical difference between the groups. The common characteristic is the way individuals in these two groups report on the speed of the average driver. Both groups overestimate the speed the average driver drives. Other investigations could not perform such an analysis since the ‘average’ driver has traditionally been considered as an index for the measurement of deviation whereas in our design perceptions of the average driver’s speed was considered a variable to be measured.

The results of the ANOVA are presented in Table 3. We found no difference between respondents that claimed to be safer than average (50 km/h condition $F(1, 79) = 0.533, p = 0.468, \text{N.S.}$) (100 km/h condition $F(1, 79) = 0.046, p = 0.831,$
N.S.), or more skilled than average (50 km/h condition $F(1, 79) = 0.688, p = 0.409, \text{N.S.}$) (100 km/h condition $F(1, 79) = 0.326, p = 0.570, \text{N.S.}$) in their self-reported driving speed in either condition (50 km/h zones or 100 km/h zones).

Table 3

The relationship between claims to be safer than the average driver, claims to be more skilful than the average driver and either self-reported speed of self or reported speed of the average driver, in two conditions 50 km/h and 100 km/h.

<table>
<thead>
<tr>
<th></th>
<th>50 km/h</th>
<th>100 km/h</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Self-reported speed</td>
<td>Reported speed of ‘average’</td>
</tr>
<tr>
<td>Safer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>55.0</td>
<td>59.7</td>
</tr>
<tr>
<td>No</td>
<td>54.6</td>
<td>57.4</td>
</tr>
<tr>
<td>Skilled</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>54.5</td>
<td>58.3</td>
</tr>
<tr>
<td>No</td>
<td>55.3</td>
<td>59.8</td>
</tr>
</tbody>
</table>

Actual Average = 55.4 (69% overestimate Z) Actual Average = 103.6 (86% overestimate Z)

There is a significant difference between those who claim to be safer or more skilled and the perception they have of the average driver’s speed. Those that claimed to be safer than average differed from those who claimed not to be as safe as the average driver in their estimation of the average driver’s speed (50 km/h condition $F(1, 79) = 11.62, p < 0.001$). The effect was found across both conditions (100 km/h condition $F(1, 79) = 9.829, p < 0.002$). Similarly with the variable skill (50 km/h condition $F(1, 79) = 10.447, p < 0.002$), (100 km/h condition $F(1, 79) = 4.486, p < 0.04$). The interactions between the variables skill and safety are significant to the $\alpha = 0.05$ level (50 km/h condition $F(1, 79) = 4.465, p < 0.04$), (100 km/h condition $F(1, 79) = 4.728, p < 0.04$).

Those respondents who claimed to be safer than the average driver regard the average driver as driving at a more exaggerated speed than those who claim not be as safe as the average driver. Furthermore, those who claim to be less safe than the average driver have more realistic impressions of the average driver’s speed, although, that estimation is still somewhat exaggerated.
Discussion

We were somewhat disappointed with the results in that we would have liked one group to demonstrate a greater level of overconfidence in their safety estimation relative to other groups. If group F drivers had been sufficiently represented and demonstrated a high proportion of overconfidence as to their self reports of safety, we would have been able to conclude that those person who claim to drive faster than others, when this is true, over-represent the proportion of irrationality described by previous studies—successfully repeated here. Unfortunately we cannot conclude that this is the case, although we would speculate that a sample that included more younger drivers might reveal such a result. However, the conclusion that can be drawn is perhaps even more profound, albeit less obvious, than that we had hoped for. The XYZ schemata failed to be a powerful enough device to isolate simply the differences in respondents’ beliefs about their own safety and skill. However, the XYZ schemata proved to be a powerful diagnostic device since it pointed us in the direction of the relationship between the perception of others’ speed and overconfidence in safety and skill.

The categories formed are logical categories. The difference between category (C) and (E) drivers is that Category (C) drivers hold an accurate assessment of the direction of the relationship they hold to their perceived norm. Category (E) drivers hold an inaccurate assessment of the relationship they hold to their perceived norm. The common relation that both Category (C) drivers and Category (E) drivers share is the nature of the relationship they hold to the perceived norm. Both groups of drivers claim that they drive slower than the average driver. The distinguishing feature between the categories is the accuracy of the judgement they have of their own driving compared to others: Category (C) drivers are correct whereas Category (E) drivers are incorrect in their own assessments. Both groups have the same proportion of overestimation of safety, it makes no difference to their overestimation of safety whether they hold an accurate assessment of their own speed or not. A tentative conclusion, then, is that it is not the accuracy of the subject’s judgement that is related to their overestimations of their safety but the relation they hold to the perceived average driver.

The notion of ‘Downward Comparison theory’ (eg. Wills, 1981) introduced to the self-enhancement of driver skills literature by McKenna et al. (1991) and subsequently supported by Groeger and Grande (1996) is supported by our investigation. It appears that, at least as far as driving speed relates to self-enhancement of driver safety, the self-enhancement is not due to the perception of the individual’s speed but the consideration that others are worse in their driving behaviour, and speed at higher levels than they actually do. Even those
who claimed to be not as safe as the average driver over-estimated the extent to which the average driver speeds, and thus our results cannot support the claim by McKenna et al. (1991) that drivers generally do not regard the average other as a ‘negative other.’ Although our investigation is somewhat limited in the range of variables we investigated, at least as far as speed is concerned, drivers in general hold negative evaluations of the average driver.

The variable of ‘speed’ can be added to the range of variables that display the self-enhancement bias. It seems unusual that a reasonably well developed literature has not focused on a factor such as perception of speed in self—other comparisons more systematically since traffic campaigns target speed, and travelling ‘too fast for conditions’ is the largest contributing factor to fatalities in motor vehicles (LTSA, 1996, p. 49). Perhaps our focus on this variable reflects local conditions and recent traffic campaigns. The result is clear that people generally regard the average driver as travelling at greater speeds than themselves.

We acknowledge that we failed to find the effect on the skill variable but would account for its absence by suggesting that our sample age was much higher than in other research, rather than suggest that the finding indicates contrary evidence to that research. Other researchers have found that younger drivers have higher levels of confidence in their skill than older drivers (Spolander, 1982; Matthews and Moran, 1986; Finn and Bragg, 1986; see Gregersen and Bjurulf, 1996 for a review).

The method we adopted has some utility beyond its diagnostic capacity to reveal the relations individuals hold to the ‘average other.’ Neither the subject nor the experimenter knew in advance which group the respondent would fall into as a result of their individual scores since these were determined post-hoc on the basis of average scores and relations to other respondents. Along with the anonymity of the respondents’ answers, the method reduces any influence the researchers might have over the respondents answers. McKenna et al. (1991) argue that anonymity alone removes the tendency to attempt to please the experimenter but that overlooks the fact that while the participants name is removed from the research, the participant is not. Here the method we adopted reduces any such influences, although we do not claim to eliminate them. The accuracy of self-reported speed, compared to the average supplied by the LTSA, notwithstanding the psychophysical literature that suggests people have difficulty in assessing speed (Recarte and Nunes, 1996), is an indication of the honesty of respondents since as a group they admit to speeding, within the tolerance of the law. As such, the method allows a description of the types of attitudes drivers have. We could for example, use the method to determine the numbers of people who fall into each type of grouping if a greater, more
representative sample is taken. It may be of use to traffic safety campaigners to know how many people have a Category (F) attitude, believing themselves to have more extreme attitudes or behaviours than others and are correct in their belief (Category F drivers, for example, believe that they are less considerate than others, and are correct). This is partly the reason the method is being developed and tested across a range of phenomena. The fact that the method identifies any such people at all attests to its broader utility.

The inaccuracy of individual driver’s judgements of the average driver’s speed is indicative of more a general point that there is a severe methodological error in simply asking subjects to index their relation to the average driver and trying to account for the effect. If our results can be extended to establish that ‘driving speed’ is an arbitrary indicator of the effect and that in general subjects will regard themselves as better than others provided they believe others are worse than themselves, then it makes no sense to simply ask subjects to compare themselves to an ‘average other.’ On this view, the traditional use of the ‘average other’ is like measuring with a ruler without knowledge of its calibration. We have been in the position of measuring objects of various lengths with our stride and then being astounded by the fact the objects subsequently do not measure up to a metre rule. Without knowing the relation of the measure to the standard used to assess it, the task is empty of significance. If the measure of the effect is itself responsible for the effect, further explanation can only be detached speculation that passes by the method that produced the phenomenon in the first place. The perceived average other is part of the explanation of driver self-enhancement, not something that can be seen as a simple standard for comparison.

It is worth reflecting on the consequences of the ‘negative other’ or ‘Downward Comparison’ hypothesis being borne out by further investigations and the effect that this might have on attempts to modify driving behaviour. Svenson (1981) suggested that traffic safety campaigns may have little or no effect on a population that holds irrational over-confidence in their abilities and safety. Others suggest that over-confidence in safety may contribute to engaging in more risky driving manoeuvres (Guirin, 1994) or that drivers believe that campaigns are directed at others and not themselves (Delhomme, 1991). But if the over-confidence of drivers is really related to a poor perception of the average driver, then it is possible that traffic campaigns may reinforce the beliefs of all but the most extreme drivers, by suggesting that the others, to whom drivers make their comparisons, actually are as bad in their attitudes and behaviours as people seem to believe. The alternative type of campaign is to show drivers what average people actually do on the roads, and the attitudes they possess, and a positive disapproval by others of deviations from normal behaviour, so that those who have poor attitudes may recognise in themselves
their deviations from the norm and adjust their behaviour accordingly. This strategy should not seem counter-intuitive since it is a general technique for removing bias or prejudice in other areas of social behaviour and has been established as having an effect on attitudes towards speeding (Parker, Stradling and Manstead, 1996).

Our intention was never to resolve the difficulties of the literature surrounding the self-enhancement bias and its connection to road safety. We sought to test a method for measuring attitudes by isolating the relations individuals hold to the average other. The limitations of our sample are transparent and the findings are specific to a set of variables. Notwithstanding, our results show clear support for Groeger and Grande (1996), have demonstrated the self-enhancement bias in speed, and demonstrated the utility of a methodological device that isolates the relations individuals have to the average driver. We would urge caution in using the ‘average other’ as a simple index to observe a phenomenon by comparison. The index traditionally used, the ‘average driver,’ is not a static ideal, but a dynamic relation which may play a larger role in the explanation of the self-enhancement bias than research has traditionally accepted.

1 Calculation of the Z test for the 50 km/h condition was not done since the LTSA does not keep information on the standard deviations of its samples.

2 If all respondents had answered in one way they would have fallen into one category. The fact that they did not is indicative of the variance of self-report about actual speed. The fact that they fell into six groupings is an indication of the relationship between self-reported speed and the variance of reports about the average speed of drivers (see the discussion section for more information on the method and a theoretical investigation of the use of the ‘average’ driver for this type of investigation).

3 We were unwilling to delete the outliers or collapse the categories since this would have an impact on the theoretical purpose of overlaying the XYZ schema on the data. In any case it made no difference to the level of significance/insignificance when we adjusted for continuity or deleted the outliers.
References


