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Changing Attitudes and Behaviour by Means of Providing Information. A Study on Private Car Use

G. Tertoolen and E.C.H. Verstraten

Section of Social and Organizational Psychology, University of Utrecht, Heidelberglaan 1, 3584 CS Utrecht, The Netherlands

Abstract
In a field experiment we attempted to stimulate car users to come to a more selective use of their vehicle by means of providing information and feedback about different negative consequences of their car use. Attitude change was observed but the experimental treatments did not lead to behavioural changes. Attempts to influence car use arouse psychological resistance. Therefore, effects opposite to those intended occurred. We discuss the possible implications of the results for policymaking.

Introduction

One of the emerging objectives of the Dutch environmental policy is to modify behaviour on a voluntary basis. As the car is a means of transportation that is rather damaging for the natural environment, one of the objectives of the present environmental policy in The Netherlands is to restrict private car use. 'Using a pricing policy' and 'influencing behaviour via communication and education' play an important part in the policy strategy. The goal is to achieve a social situation within which there is room for considerable structural changes and whereby traffic participants make a conscious choice between the different means of transportation. Implicitly it is assumed that the effects of the various measures will reinforce each other.

In this paper an investigation is summarized on how private car use can be reduced by applying influence techniques based on behavioural science. We also attempt to gain an insight into the psychological resistance that is aroused when these influence techniques are applied to private car use (see for an extensive report: (1) and (2)).

Research Design

Our study focuses on two research topics: how car use can be restricted by (1) emphasizing the negative collective environmental consequences or by (2) emphasizing the individual financial consequences. In a field experiment (N= 350) we attempted to stimulate car users to come to a more selective use of their vehicle by means of the following manipulations: providing information about the negative consequences of car use, self-monitoring of own transport behaviour and giving feedback on the negative consequences of personal car use. By means of a random procedure the respondents were assigned to five different conditions: three experimental and two control conditions. In the experimental conditions the respondents received information: in condition (1) about the environmental effects of car use, in condition (2) about the individual financial consequences of car use, and in condition (3) about both types of consequences of car use. Subsequently the subjects registered their own transport behaviour for eight weeks. Every two

weeks they received feedback from the researcher's assistant about the consequences of their car use in a person-to-person talk. The content of the feedback referred to the particular kind of information received in the respective experimental conditions. The other respondents participated in the experiment without receiving any information or feedback about driving behaviour from a researcher's assistant (the control conditions). We asked all respondents if they were prepared to use the car as little as possible during the study period. In the experimental conditions, the respondents who gave a positive reply were requested to restrict their car use and thereby making a commitment to a research assistant. In all conditions, at the beginning and at the end of the experimental period questionnaires were filled in to measure the various attitudes with regard to car use and the environment.

Results

The target group was chosen in such a way that it consisted of regular car users. They turned out to be more or less "attached" to using their vehicle. Speed, comfort and independence are mentioned as the most important advantages of the car (see figure 1). The respondents state that when they travel, neither the environment nor the costs are of much interest to them. Apart from the car, drivers make frequent use only of the bicycle; public transport is used sporadically by them. Attitudes play an important role in the perceived possibilities of the reduction of car use. However, these attitudes (including those related to the environment) appear to play hardly any role in the actual (reported) car use. In our study attitude change was observed but the experimental treatments did not lead to behavioural changes; i.e. no decline of car use was observed.

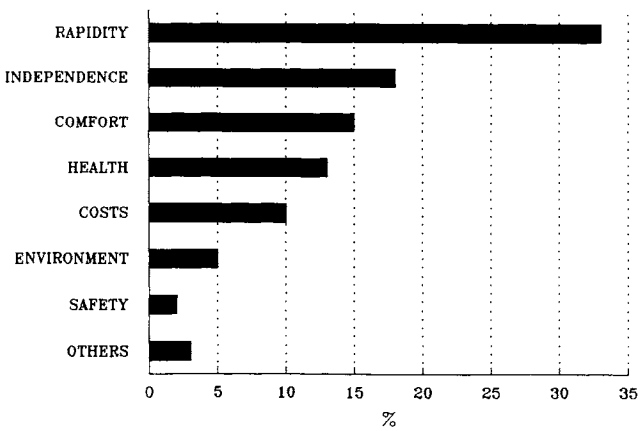

Figure 1. Most important aspects in relation to transportation according to the participants.

Information about the environment leads to a greater general concern about the environment but does not convince people to alter the way they use their car in order to create a cleaner environment. Unexpectedly, information about costs leads to less worry, not only about the environmental effects, but also about the financial consequences of car use.

A combined environmental and costs information programme leads in many cases to results similar to those obtained with the control conditions; as in the pilot study, the effects often neutralize each other. Attempts to influence car use arouse psychological resistance. Information about the environment leads to *dissonance reduction* by means of attitude change. As a result of dissonance-enhancing information about the environment, car users who drive a lot, yet have a positive attitude towards the environment, start thinking that the environment is less important and point out that others are more responsible for the problems than themselves. They also become irritated with the behaviour of fellow road-users.

Information about financial costs of the respondents car use leads to resistance as well. Car users experience financial measures as a restriction of their individual freedom and as a result they have a dim view of both the measures and the authorities responsible for implementing them. In addition, when car users react to these measures in a contrary manner, effects opposite to those intended often occur. The respondents who committed themselves to drive less, did in fact not keep their agreement. Instead they tended afterwards to displace the responsibility for environmental problems on to others.

Those respondents who received information about the environment had a greater appreciation of environmental policy after the research. They probably have a greater understanding of the necessity for environmental protection and of the problems that can arise from a good environmental policy. Those respondents who received financial information had (slightly) less appreciation of environmental policy. By emphasizing how costly a car actually is, a reduction in appreciation of the policy was achieved. After all, it is the authorities who are responsible for the high costs of running a car. Our study received the lowest rating from the respondents who received financial information only.

Discussion

In our research some of the respondents were approached personally during a fairly long period and confronted with information specific to the individual about the effects on the environment of their car use. Such an intensive and personalized procedure should have more effect than a superficial, generalised attempt to influence via mass media, which the authorities often make use of. The environmental information we directed at individuals led to an increased general environmental awareness, but respondents did not become more aware of their own part in pollution. This result gives little encouragement for the authorities' publicity campaigns about the environment. With those respondents who were relatively well environmentally aware before the research and who used the car more than they judged, the information they received actually caused a reduction in environmental awareness. When the discrepancy between attitude (environmental awareness) and behaviour (car use) is pointed out then apparently people are more likely to alter their attitude than their behaviour. Even if the message is formulated so that the receivers cannot avoid the fact that it relates to their own individual behaviour, it still would not automatically lead to a change in behaviour. Just as *disonnance theory* forecasts, if attitude

and behaviour are not in line, it is more likely that attitudes will change (which can mean that the environment becomes less important, as is shown in our research).

Individually relevant information about the costs of running a car lead in our research to a higher estimate of the individual's car costs. However, the awareness that one's own car use has negative consequences (both individual financial and collective environmental consequences) was *reduced* as a result of the cost information. This is interpreted as a form of *psychological reactance*. Car drivers turn against the measures and those who implement the measures more when an attempt is made to reduce car use with financial methods than when environmental information is provided. We assumed that this reactance arose from a motivational state directed towards the re-establishment of free behaviour. If the car user holds the uncompromising view that he or she has *a right* to pollute for the very reason that he or she pays excise duty, reactance could be conceived as a form of protest as well. If taken from such an 'exchange' point of view other policy measures to restrict pollution (such as an appeal to change behaviour) could provoke irritation, since the person has already paid a compensation for the damaging behaviour. This would seriously harm the policy strategy "the polluter pays", which has the intended purpose to stimulate people to pollute less.

Our research shows that in some cases the results of combined cost and environmental information are comparable with the results of the control group, i.e. respondents who did not receive any information at all. The environmental policy, as mentioned above, assumes that the effects of various measures will reinforce each other. Although it cannot be concluded on the basis of our research results that this assumption is essentially wrong, care is probably justified.

Summing up it can be stated as a result of our reserch that little progress can be expected by requesting individual drivers to voluntarily reduce car use. The method of influence used in our research was based on some of the most powerful instruments available in psychology (giving individually directed feedback, self-registration and commitment). Nevertheless, there was no change in behaviour. Drivers will not leave their cars of their own free will, the car is too strongly linked to feelings of independence and convenience for that to happen. There are several positive attitudes, which are linked to various individual advantages where car use is concerned, whereas there are only limited negative attitudes, which are linked to the disadvantages of car use. With such a balance the dissonance theory forecasts that the negative attitudes will change in the direction of the most prominent attitudes. The environment is seen to be important, but we can not talk of a central attitude that is so important that car use is equivalent to it. Mass media publicity campaigns do not seem able to develop such a central environmental attitude on a large scale.

References

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