

Public information about road safety

Summary

In the Netherlands, public information is often used as an instrument to improve road safety. The purpose of each public information campaign is a voluntary and lasting change in traffic behaviour. This requires road users to have sufficient knowledge about a problem and to adapt their behaviour. Good preparation is essential for a maximally effective public information campaign. Research plays an important role in determining the content and campaign method, as well as in developing the set-up of the evaluation. The more road users relate to a problem, the more effective a public information campaign will be, especially when it involves behaviour that is easily adapted. Public information campaigns are most likely to influence behaviour when combined with police enforcement, rewards, or other behaviour modification methods. Even if a public information campaign does not directly influence behaviour, it can be useful through its role in placing a problem on the social agenda.

Background and content

Public information is often used as an instrument to improve road safety. Beside traffic instruction and driver training, public information is part of the wider field of traffic education. Public information about hazardous behaviour is defined as a methodical communication activity that aims at motivating people or helping them to behave healthily or safely (Brug et al., 2008).

This fact sheet discusses the history and set-up of public information campaigns, the principles of behavioural psychology that need to be taken into account, and other factors that determine the effectiveness of public information. We will mainly restrict ourselves to public information through the mass media aimed at convincing the public, which is called *mass media persuasive communication*. A specific form of this type of public information, [Fear-based information campaigns](#), is discussed in another SWOV fact sheet.

How is public information about road safety organized in the Netherlands?

In the period 1970-2000, road safety information campaigns were often carried out on ad hoc basis, initiated by various organizations (Dutch Traffic Safety Association, Ministry of Transport, Dutch Association of Insurers). The connection between national and regional activities was not always clear. In recent years, the government's public information policy with relation to road safety has been more coherent and facilitating. Greater coherence gained ground as mass media information was joined with enforcement and regional activities in planned campaign periods. Greater coherence in content was also achieved by merging separate campaign themes like seatbelts, alcohol, aggressive behaviour, or bicycle lighting under the common denominator 'Arriving home safely'. Campaigns at the regional level are facilitated by a toolkit that has been made available consisting of information material that has been developed at the national level (Tamis, 2004).

How does persuasive information work?

A model that is often used to understand and analyse how persuasive information works is McGuire's 12-step model (McGuire, 1985; also described in Delhomme et al., 2009). In order to make information result in behaviour change, McGuire states that people must be (1) subjected to the message, (2) pay attention and (3) be interested in it. Next, people have to (4) understand the content of the message, (5) possess or acquire the skills to perform the desired behaviour, and (6) bring their attitude in accordance with the message. Then people have to (7) store the new information, knowledge, and attitude in memory and (8) be able to retrieve it from memory at the right time and in the right situation. Next, people have to (9) decide to adapt their behaviour according to the recollected information, and (10) act on the decision. Finally the actual behaviour must (11) immediately be confirmed/rewarded, and (12) be maintained.

Only when all twelve steps have been taken, a durable behaviour change will be achieved. Since each step is preconditional to the next step, and because there can be a hitch at any step, this theory makes it understandable that it is often difficult to achieve behaviour change through public information.

Which psychological principles are important in public information?

Several psychological principles are important in the set-up and content of information campaigns. Examples are the fact that people *do not process information objectively*, the differences between *central en peripheral* information processing and between *planned behaviour* and *habitual behaviour*.

No objective processing of information

When confronted with information campaigns that threaten the feeling of personal invulnerability, people have a tendency to ignore the information, discard it as unreliable or unimportant or to 'explain it away' (Velthuisen, 1996). Their personal risk assessment is based on their own experiences, such as the conviction that they drive well, have never been involved in a crash and always wear a seatbelt. This causes them to assess the general risk information presented in information campaigns as relevant for others but not for themselves (Velthuisen, 1996). A public information campaign can evoke a feeling of being patronized or threatened in personal freedom of choice, which can lead to psychological resistance against the message of the information campaign (Tertoolen, 1994).

Central versus peripheral processing of information

When people strongly relate to a subject, for example because it affects them personally, they are motivated to search for information on that subject and to process that information thoroughly. This so-called central processing enables a lasting change of attitude and behaviour. When the relation to a subject is limited, superficial, so-called peripheral processing of information takes place. Changes in attitude and behaviour are still possible, but these are less likely to be lasting (Petty & Cacioppo, 1986).

Planned behaviour versus habitual behaviour

A fundamental difference in information processing is also involved in planned behaviour and habitual behaviour. When behaviour is planned, it is based on deliberate choices. Habitual behaviour is not preceded by deliberate choices. In its most extreme form, habitual behaviour has become an automatism of which one is totally unaware. In less extreme cases a 'deliberate choice' is made for what one is accustomed to because this is a safe and comfortable choice. Public information is more likely to influence planned behaviour than habitual behaviour.

Do road safety campaigns have the desired effect?

Many information campaigns combine public information and police enforcement. In the Netherlands, this combination has, for instance, resulted in an increased use of seatbelts and child protection devices, and an increased use of bicycle lights. (Goldenbeld & Schaap, 1999; DVS, 2009). More recently, the so-called 'Goochem campaign', focusing on of seat belt use, and the 'Bob campaign', focusing on drink driving were both successful in altering attitudes and improving behaviour. Both campaigns are mentioned as best practices in the SUPREME handbook and are being used in many European countries (SUPREME, 2007). Other countries (e.g. Australia, New Zealand and the United States) also found that a combination of police enforcement and information results in improved road safety (see Delaney et al., 2004).

Public information has a greater behaviour effect when it is part of a larger integrated campaign which also includes enforcement and complementary information or reward campaigns at regional or local levels, than when it is used as a stand-alone measure (Tamis, 2004; Silverans & Neve, 2007; Delhomme et al., 2009). However, as public information is usually combined with enforcement, it is difficult to isolate the effects of information on behaviour. Indirect measurements show that the effect, if at all present, is very small. In relation with drink-driving, for example, no measurable changes in driving and drinking behaviour of Dutch drivers were found in periods of unchanged police enforcement (in the 1980s) and the use of annual information campaigns only (Mathijssen, 2006). Yet, the fact that public information has very little effect on traffic behaviour when implemented as a stand-alone measure does not mean that public information should be left undone. Such information is a demonstrable contribution to knowledge increase and change of attitude. It can also contribute to the acceptance of unpopular but effective measures such as enforcement. On a more abstract level, information as a stand-alone measure can contribute to an alternative way of thinking, to the emergence of new social norms, to social awareness and to placing a problem on the social agenda.

What can be done to increase the effect of an information campaign?

Firstly, the effect of an information campaign can be increased by stimulating personal involvement in the problem. The information campaign has a greater chance of success through central processing, as mentioned above, when the target group feels involved in the issue. If the information is aimed at a problem in which people are very interested anyway, the conditions for the campaign are favourable from the start. There will, in any case, be much attention for the content of the message (Rooijers & De Bruin, 1988). In 1995-1996, for example, the campaign concerning the right adjustment of head rests coincided with great media interest for whiplash, which was a new phenomenon at the time. With this support the campaign resulted in a considerable increase of correctly adjusted head rests. A stronger commitment, and hence a positive basis, can also be expected when the information is in line with social trends, behaviour patterns, or 'life styles' (Wittink & Goldenbeld, 1996). This was the case for the Bob campaign, for example, which did not exclude people from a lifestyle (or circle of friends) that involves going out and drinking (Pol et al., 2007).

Involvement can be stimulated in various ways (Schaalma et al., 2008), for example by:

- presenting the message in an unusual, new manner; a Dutch example is 'Goochem the armadillo' who stimulated attention for child safety in connection with seatbelts;
- presenting a new or unexpected message; an example is the Bob campaign, which did not discourage drinking, as is customary, but instead supplied information on a concrete and feasible solution for transport after drinking;
- making an explicitly personal demand for taking an interest in the message (for example 'Who is the Bob, you or me?').

Secondly, the effect of an information campaign can be increased by altering habitual behaviour. If information focuses on behaviour that is changed relatively easily, for example the adjustment of head rests, the effects are clearly greater than in a situation where very strong habits have to be changed. An information campaign can attempt to break habitual behaviour in various ways. Schaalma et al. (2007) present the following five manners:

1. presenting information at those moments when people go through an important change (e.g. moving house, marriage, child birth), as at these moments the old behaviour is evaluated;
2. reminding people at crucial locations (for example, the presence of Goochem the armadillo in the car to remind the child and its parents to use the seatbelt);
3. giving feedback on habitual behaviour at regular intervals (for example with a speed feedback sign alongside the road);
4. drawing attention to alternative behaviour and rewarding this behaviour;
5. giving people advice on what exactly they should do to replace old habits with new ones.

How can a good information campaign be set up?

There are some rules of thumb for setting up a good information campaign (Damoiseaux, 1998; Pol et al. 2007; Delhomme et al., 2009). Proper preparation of the content is the basis of a good campaign. In the preparation phase, one should examine the relation between problem and behaviour, the personal, social or environmental factors that determine the behaviour, and one should investigate whether these factors can be influenced. This can be done through literature study, through consultation of experts or through new research. The set-up of the evaluation is also part of the campaign preparation; this concerns determining the effects on behaviour, and, if possible, on crashes.

When the preparation has been done, the campaign itself can be developed. This involves selecting the target groups, formulating the campaign message and choosing which campaign media and monitoring instruments can best be used. Firstly, the campaign message should be properly tested on the target group in advance (a pre-test) in order to ensure that it meets the expectations, wishes and possibilities of the target group. In general, a campaign message is more effective when it appeals to people's own responsibility and freedom of choice and when it shows the desired behaviour. Also, a pre-test should show whether the right media are selected and whether these media render the message clearly and correctly to the target group.

More campaign elements which can enhance the effect of the message's content are: attracting attention by referring to emotions or abuses; showing exemplary behaviour in the target group's surroundings and derived from the target group's views on the world; attaching material or immaterial

rewards to the desired behaviour and using reminders to ensure that people remember the message at the right moment.

We refer to the publication of the recent EU project CAST – Campaigns and Awareness-raising Strategies in Traffic Safety (Delhomme et al., 2009) for an extensive handbook on the set-up and assessment of road safety campaigns. This handbook consists of two parts. Part 1 presents an overview of theories on public information and communication. Part 2 describes how a successful campaign should be set up, executed and assessed; it moves from starting the campaign to situation analysis, to designing the campaign, to designing the assessment and then to reporting on the project.

Conclusions

The purpose of persuasive mass media information is to provide knowledge, to change attitudes and to change behaviour. Under favourable conditions, such as a target group committed to the subject from the start and a focus on new, relatively easy behaviour, public information can result in a change in attitude and behaviour. Under less favourable conditions (automatic or complex behaviour, behaviour that is difficult to change or a target group showing little involvement), the chances of changing behaviour through public information as a stand-alone measure are considerably smaller. Public information which increases the knowledge about and awareness of a problem can also be useful, as it contributes to a shift in thinking about the problem. The strongest possibility of a behavioural effect can be achieved by making public information part of a larger campaign which also contains elements of police enforcement, rewards, or other behavioural modification methods.

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