WHAT MOTIVATES DRIVERS TO DISOBEY TRAFFIC REGULATIONS AND HOW CAN WE CHANGE THIS BEHAVIOUR?

Sonja E. Forward, PhD.
Swedish Road and Transport Research Institute, VTI
SE-581 95 Linköping, Sweden.
Telephone: +46 13 20 41 33
E-mail: sonja.forward@vti.se

ABSTRACT
A traditional approach taken in road safety research has been to view accidents as a failure to cope with the perceptual motor skills required for a safe journey. The task was therefore to increase driver’s skills and to modify the environment. However, in recent years, it has been found that the problem does not always lie in what the driver can or cannot do but what he/she actually decides to do. The crucial issue is therefore to understand what motivates drivers to commit an act, which puts both themselves and others at risk. Different campaigns have been developed trying to change peoples’ behaviour although some of them have had little or no effect. One conclusion drawn from this could be that money could be better spent. However, in this presentation I will argue that the reason for this failure is that the programmes are poorly developed and use a language which does not address the psycho-social processes underlying the behaviour.

1 INTRODUCTION
Road safety communication campaigns can be an effective method to use when trying to persuade road users to adopt safe behaviours. The campaign can reach a large audience through the use of mass media or smaller group using a more informal approach. Road safety media campaigns are not always separate initiatives and is sometimes used together with police enforcement or when introducing new legislation. The main purpose of the campaign is to increase the public knowledge of the problem, change social attitudes and norms which in turn should reduce the number of traffic violations committed.

Campaigns aimed at various traffic-safety-related behaviours have been evaluated through the use of a meta-analysis (Delhomme et al., 1999; Phillips, Ulleberg, & Vaa., 2009; Vaa, Assum, Ulleberg, & Veisten, 2004). In these studies the reduction of accidents during the campaign was very similar (8.9%, 9% and 8.5%, respectively) and after the campaign it was 14.8%. Phillips et al (2009) were also able to show that the use of seatbelts increased by 25 per cent and speeding and drink-driving behavior decreased by 16 and 17 percent respectively. The results from the meta-analysis also indicated that a campaign is more likely to succeed if it includes only one theme, select a specific target audience and if it is based on a theoretical model. A theory is needed in order to determine what factors predict the target groups behaviour and provides a valuable input when designing the campaign.

However, a more professional approach to campaigns appears to be the exception rather than the rule. Instead campaigns tend to be poorly designed and not built around a specific
theory (e.g., Foon, 1988; Delhomme, De Dobbeleer, Forward, & Simões, 2009). Furthermore, Phillips et al (2009) found that out of the 437 campaigns which were examined in their meta-analysis only 81 were based on a psycho-social theory or model. It is therefore not surprising that some campaigns fail but unfortunately this has sometimes resulted in arguments against using campaigns and other actions to change road user behaviour. In a Memo from the European Commission it is stated that actions encouraging road user behaviour in most Member States are “regrettable” (European Commission, 2007). This raises a great deal of concern, especially if we consider that the majority of road crashes are due to the human factor (Sabey & Taylor, 1980) and that a large number of those crashes are caused by a deliberate intention to violate (Parker, Reason, Manstead and Stradling, 1995a).

In this paper I will present some results from studies using a theoretical framework and then discuss how a campaign should be designed and evaluated. In an EU funded project (CAST) an extensive manual was produced which clearly outlines how to develop a campaign (see Delhomme, et. al., 2009). This paper will provide a short outline of this very elaborate process.

2 IDENTIFYING AND DEFINING THE PROBLEM THROUGH THE USE OF THEORETICAL MODELS

The first step to take when developing a campaign is to identify and define the problem. This step also involves selecting partners and stakeholders who should get involved in the work. Having practitioners, researchers, and decision-makers working closely is a major requirement to make the campaign a success. The second step is to analyse the situation, which involves an in-depth analysis of the problem and research carried out to understand the reasons for the target group behaving in an unsafe manner. It is in connection with these steps when the use of a theoretical model becomes important.

The field of transportation psychology has attracted many different theories yet in recent years one model has been pre-dominated, namely the Theory of Planned Behaviour (TPB). This model has received a large body of evidence in its favour and has predicted a range of behaviours including traffic violations (Elliott, Armitage & Baughan, 2003; Forward, 2009a; Parker, Manstead, Stradling, Reason & Baxter, 1992a; Parker, Manstead, & Stradling, 1995b; Wallén Warner & Åberg, 2008; Åberg, 1993). The model includes three major factors: attitudes, subjective norm and perceived behavioural control. A behavioural intention is regarded as a sufficient immediate cause of behaviour and describes motivation. The theory states that perceived behavioural control can have a direct or an indirect effect on behaviour. It is a significant predictor of behaviour when the control over the behaviour is low.

Attitudes are said to be functional and are held since they meet certain individualistic needs. It is also characterised by its evaluative, pro-con, nature. The outcome of this process depends on the perceived consequences of the behaviour. For example, with regard to speeding, which is a frequently reported violation (e.g. Gras, Cunill, Sullman, Planes, & Aymerich, 2004; Stradling, Manstead & Parker, 1992), studies have found that drivers who intend to speed believe that the outcome will be positive (Forward, 2009b; Parker et al., 1992b). In the study by Forward (2009b), drivers who violated, believed that speeding made driving more pleasant and was better adjusted to the speed of other drivers. In addition to this, speeding also meant that they could get to their destination quicker and that it made the driving more exciting. In contrast, these drivers were less likely to believe that their own
behaviour could result in an accident with another vehicle or pedestrians. One reason for disregarding negative outcomes is that drivers who violate regard themselves as more skilled than other drivers and therefore less likely to be involved in an accident. However, it is not uncommon that drivers in general perceive themselves as very skilled but the difference is that violators believe that even if they disregard the rules they would still be able to master the car and avoid an accident. Another reason is that the violation might have been carried out over a length of time without encountering any negative consequences. This in turn further reinforces a belief in their own invulnerability. It is also interesting to note that the interpretation of what it means to be a safe driver differs between violators and non-violators. According to a study by McDonald, Ingham, Hall, & Rolls (1991) drivers who were observed to disobey traffic rules perceived a safe driver as somebody who could master the car, whereas drivers who obeyed the rules interpreted it as somebody who could drive without causing any disturbance to other road users. This would then indicate that a campaign asking drivers to drive safely might not get the result it hoped for.

**Subjective norm** is another important factor according to the TPB which influences the behaviour and according to Akers, Krohn, Lanza-Kaduce, & Radosevich (1979) the underlying mechanism that governs this relationship would be that friends provide social reinforcement or punishment and serve as models to imitate. The influence of peer pressure and social norms on driver behaviour has been demonstrated in a number of studies (i.e. Forward, 2009a; Parker et al., 1992a; Wallén Warner & Åberg, 2008; Åberg, 1993). In some studies subjective norm has been found to be the most important factor in explaining drivers’ intention to follow closely behind another car (Parker et al., 1992a) and the intention to drink and drive (Åberg, 1993).

However, a number of studies, including two different meta-analyses (Armitage & Conner, 2001; Hausenblas, Carron, & Mack, 1997), have indicated that subjective norm presents itself as the weakest link. Although this does not necessarily refute the theory since the weight of subjective norm may vary with the type of behaviour and the target group. For instance, Andrews and Kandel (1979) argued that social support was not needed when the behaviour had been established but suggested that it was important in the beginning. This might explain why younger drivers reported more social pressure from friends and partners to drink and drive as compared to older drivers (Parker et al., 1992b). In a more recent study focusing on young moped riders similar results were presented. In this study the participants were more likely to drink and ride a moped if their parents accepted it and if they felt a pressure from friends to do the same (Forward, Henriksson, Nyberg & Forsberg, 2012).

**Perceived behavioural control** was added to the TPB in order to deal with behaviours we have less control over. The importance of perceived behavioural control has been demonstrated indicating that violators perceive themselves to have less control over the situation. In fact, in some studies perceived behavioural control was the most important predictor of speeding (Elliot et al., 2003; Parker et al., 1992a; Wallen Warnér & Åberg, 2008). Studies have also found that older drivers and female drivers perceived more control over the situation than younger drivers and male drivers (Elliot et al., 2003; Parker et al., 1992b). Hence, the positive relationship between intention and perceived behavioural control might suggest that they have no or little control over their own behaviour. However, other studies have found that those who perceive low risk also expressed greater ability to carry out an unsafe act (Evan & Norman, 1998) and those who perceived higher risk had greater control over themselves avoiding the violation.
(Sutton, McVey, & Glanz, 1999). This was also supported by Forward (2009b) who concluded that with regard to driving, low control does not necessarily mean that the behaviour is non-volitional. Parker et al. (1992b) also pointed out that an expressed low level of control could be a form of ego defence and a way to protect their own self-esteem. Nevertheless there might be some exceptions if we are talking about drinking and driving, a behaviour which many times is linked to a long term abuse of alcohol (Forward, Linderholm, & Forsberg, 2007).

It could therefore be concluded that the use of theoretical models can help us to predict road users’ behaviour and increase our understanding of why some violate the rules and others don’t. An intervention programme should therefore focus on the target groups underlying beliefs and the message needs to:

- Increase the perception of negative outcomes
- Decrease the perception of positive outcomes
- Raise perception that significant others disapprove of the behaviour
- Discuss the options available and how to implement them

The third step which needs to be taken when developing a campaign is related to the message itself. The content of the message and style needs to be decided on and then a media plan established. In the media plan it shall be clear in what context the campaign will be presented and by whom.

3 DEVELOP THE CONTENT OF THE MESSAGE

Many traffic safety campaigns inform people about safe actions, but as previously been discussed in this paper, this is not always enough. In many countries the use of seat belts is compulsory and this is something most drivers are aware of. The problem amongst drivers who do not use seat belts is not that they do not know about the rules but that they do not want to comply. The reason that some seat-belt campaigns have failed is that they tried to appeal to reason rather than to emotion. But we are not all ‘reason’ and it is just as important to address our so called ‘irrational’ part like “seat-belts make me to feel locked in”, “it might stop me from getting out of the car if I am involved in an accident” etc. How a message is evaluated depends, at least in part, on the receivers own underlying beliefs. A message which runs counter to an individuals’ belief may be re-interpreted to become more consistent, partly ignored, repressed or compartmentalised. To be effective we need to involve both the intellect and our emotions and it is these beliefs which need to be challenged. According to Delhomme et al. (2009) an effective message should fulfil the criteria’s outlined in Figure 1:
Figure 1. Seven characteristics of an effective message

According to the figure the message needs to be appealing (attractive), easy to understand (clear) used repeatedly (consistent), believed by the audience (credible), able to generate change (persuasive), it needs to focus on an actual problem (relevant) and the alternative presented should be possible to achieve (trustworthy). DeBono (1987) maintained that successful communication needs to make the audience dissatisfied with their own views and convince the person that their own attitudes are redundant and that the one presented is better.

For instance, if we want to increase traffic safety then a safe behaviour needs to be regarded as positive and worthwhile. If contradictory and more appealing information are presented then the initial message will quickly lose its impact and it will be regarded as untrustworthy. Thus it becomes clear that the message needs to be based on a sound understanding of the target groups own beliefs and before the campaign is launched the message needs to be tested on a group similar to the target audience. This pre-test should be able to confirm or modify the message if it fails to achieve its goal.

When discussing messages and campaigns the use of fear is often mentioned and also frequently used. It is not unusual that campaigns try to link traffic violations with road crashes presenting images of injured people. Fear is an emotional response to a threatening situation which motivates the person to seek ways of coping with the danger and if that is not possible to avoid it. Hence, the assumption is that a person who is afraid is easier to persuade. However, studies have also found that fear can have a negative effect, leading to increases in maladaptive responses rather than adaptive responses. It has also been shown that some people are less receptive to fear than others, for example low-anxiety personalities, people who perceive themselves as physically invulnerable, or those who can’t relate to the message (see Delhomme, et. al., 2009). If fear should be used then the message needs to include some effective recommendations (safe behaviour) describing how to cope with this threat but more importantly how to avoid it from happening in the first place. It also needs to increase the target’s confidence in his/her abilities to successfully and easily perform the recommended behaviour. In the CAST manual it was therefore stressed that if a campaign includes fear, it is very important to carefully pre-test the message in order to avoid negative effects. It could also be argued that campaign developers need to become more inventive and try other forms
of messages. Instead of using fear it can include humour mixed in with an important message. People after all usually like to be entertained.

3.1 The message source
Like the message itself the presenter of the message also needs to be credible and trustworthy. For instance when trying to change young drivers’ behaviour it might be more effective to use a person who is an important figure in their life, or at least somebody who they can identify with. Another alternative, is to allow somebody who themselves has changed their behaviour, to put the message across. This would then show them that it is possible to change. Before and after the campaign is conducted an evaluation needs to be carried out which is the fourth step.

4 THE EVALUATION OF THE CAMPAIGN
In order to determine whether the campaign was effective or not an evaluation before and after the campaign needs to be carried out. Preferably during the campaign itself which will help in making adjustments to the plan itself before it is too late. In the meta-analysis by Phillips et al (2009) very few campaigns had been evaluated and if they were it was only conducted during or after the campaign. Sometimes the evaluation only tries to determine if people can recall elements of the campaign and if they like it. Obviously this does not say anything about the impact of the campaign itself and if it changed the target group. This is a major problem because without an evaluation it is not possible to say anything about its outcome.

The methods used in an evaluation can be interviews, focus groups and/or surveys. It is also important to remember that changing people’s behaviour can take time, especially if it has become a habit. If that is the case then we cannot expect to see a change in behaviour straight away. Instead an understanding that their perception of their own driving skills might have been overestimated should be regarded as a success since it is an important step towards change. Thus both primary and secondary objectives should be evaluated (see also Forward & Kazemi, 2009).

Primary objectives:
• Has the number of road crashes caused by the targeted behaviour been reduced?
• Has the targeted offence decreased?

Secondary objectives:
• Has the beliefs, attitudes, norms and perceived control in the target audience towards the targeted behaviour changed?
• Has the understanding of the problem been increased?

The results from the evaluation should be presented in a final report. This will help others to design, implementing and evaluating future campaigns. One problem is that some evaluators are reluctant to report failures. But both success and failures are important to report since the latter can prevent others from making the same mistakes.
5 COMBINATION OF EFFORTS

Research has also found that the effectiveness of the campaign can increase if it is combined with other activities such as enforcement, new legislations and improvements to the infrastructure. Indeed the results from a meta-analysis showed that 8.5 per cent of accident could be reduced if traffic safety campaigns were combined with traffic enforcements. If this was followed by yet another campaign then this figure increased to 15 per cent (Delhomme, et al., 2000).

This is also substantiated by other research showing that enforcement programmes have little or no effect if it is not coinciding with, or preceded by, some form of public information campaigns. Indeed, the success of a Random Breath Test (RBT) legislation in New South Wales appeared to be due to a combination of publicity and visible enforcement (Homel, Carseldine & Kearns, 1988).

6 CONCLUSION

It could therefore be concluded that many areas within the field of transportation can benefit from input from the behavioural sciences including the design and execution of a road safety campaign. The crucial issue is to base the campaign on a sound understanding of the target group and use a well-established theory. A theory is not only able to explain traffic violations it can also help in predicting its occurrence. That is providing insight or account of how or why such factors relate to each other and if they affect behaviour. Hence, a theory can help in deciding which elements should be targeted by a traffic safety campaign.

It is worth remembering that changing road users’ behaviour is a long term process. It is therefore unrealistic to believe that road users will suddenly change their behaviour after being exposed to one single campaign, especially if the behaviour has become habitual. Research in other areas of psychology has shown that a change in awareness is a first step towards behavioural change. Thus, a change in attitudes or normative beliefs should be regarded as a sign of success which should be followed up by further attempts.

It is therefore wrong to jump to the conclusion that it is not possibly to change road users behaviour because we are not pleased with the outcome of a particular campaign. People do change, we only have to look at the attitude to smoking which has radically changed in the last twenty years. If we as humans were not adaptable and willing to change we would not have survived. A quote by Kelly’s (1966) sums up some of this:

”..even the most obvious occurrences in daily life might be utterly transformed if we were inventive enough to construe them differently”

(In Adams-Webber and Mancuso,1983).
REFERENCES
Forward, S. E. Linderholm, I., & Forberg, I. (2007). *Alkohol i trafiken: djupintervjuer med personer som fällts för rattfylleri*. (Drinking and driving. In-depth interviews with convicted...
drivers). VTI report 553, Swedish National Road and Transport Research Institute, Linköping, Sweden.