

Fear-based information campaigns

Summary

In general, fear is considered a strong motivator of human behaviour. International studies show that fear appeals can have positive effects on attitude and intended behaviour. Conditions for a positive effect are that, besides creating fear, the information stimulates commitment to the message, that there is a clear (campaign) message about the personal vulnerability to a risk and that it offers feasible and convincing behaviour alternatives. However, a number of studies show an unintended negative effect in which participants deny, trivialize, or ridicule the message, or develop strong intentions to actually perform risky behaviour.

Studies have shown that in males and in young people frightening road safety information has less positive effects than information which uses positive emotions (like humour) and positive behavioural examples.

Background and content

Fear appeals confront people in a rather hard and often shocking way with the negative consequences of risky behaviour and also show how to change undesirable behaviour. The application of fear appeals seems to depend on culture (Hastings et al., 2004). Countries such as Australia, New Zealand, the United States, and Great Britain often use fear appeals which show pictures of crashes, casualties, injuries and blood, and the related emotions of pain, sorrow and grief of traffic victims and relatives. Countries such as the Netherlands, Belgium and Canada prefer milder communication styles for road safety information.

This fact sheet discusses the effects of fear appeals on traffic attitudes and behaviour and will mainly focus on information which is spread through folders, advertisements, and radio and television spots. Other information programmes that use a fear-based approach in direct interaction between educator and audience, such as 'Traffic Informers', will not be dealt with here (for a discussion on these types see the English summary entitled 'Literature study on confronting education' in Van Vlierden, 2006). A SWOV Fact sheet is available about the general topic of public road safety information: [Public information about road safety](#). Rules which generally apply for information, also apply for fear appeals, such as the rule that information is more effective in combination with enforcement.

What are fear appeals?

Fear appeal is a type of *persuasive* information in which evoking fear or concern is meant to motivate people to pay attention to the message and to then adopt the recommendations in the message. 'Fear appeals' are persuasive information messages that are meant to frighten people by describing the negative or painful consequences that will occur if they don't obey the message (Witte, 1992; Knobbout & Van Wel, 1996). The content of a fear appeal is frequently confronting, using direct, personal words combined with tough or painful pictures. In addition, the message usually contains clear and applicable recommendations to avoid the negative consequences. In international literature 'fear appeals' are also called 'threat appeals', 'shock tactics', or 'emotive campaigns'.

How do fear appeals work?

There are various scientific opinions about how fear appeals exactly work. However, researchers agree that a fear-based message starts two simultaneous, opposing mechanisms (Rogers, 1975; Witte & Allen, 2000; Ruiter et al., 2001). On the one hand there is the mechanism to reduce evoked fear by means of psychological defence mechanisms that oppose the message. Such defence mechanisms can take various forms: denial ('it's not true'), ridiculing ('absurd film'), neutralizing ('it won't happen to me'), or minimizing ('it's all terribly exaggerated'). As a result of this mechanism, fear diminishes and the message is not taken seriously. On the other hand, there is a tendency to cope with the message by actually adopting its recommendation. In both cases fear is the motivating factor, but this motivation can be either negative or positive for the acceptance of the message.

According to recent theories, a 'mild' amount of fear can be functional provided the message and behaviour recommendation are good, recognizable, realistic, and convincing (Das, 2001, Ruiter, 2000). These theories state that the appeal to an emotion is only a link in a larger, coherent message and is not automatically the most important component. If one of the components of a fear appeal has not been worked out well, the inducement of fear will more likely have an opposite effect, because of the psychological defence mechanisms described earlier. Algie & Rossiter (2010) state that fear appeal does not only involve the level, but also the pattern of fear that is evoked. They did research on the development of fear from one moment to another while watching fear appeal spots that focus on speed. They found that some spots only increase the level of fear (fear-only) while others increase the level of fear for a moment, after which it is lowered again (fear-relief).

Dutch information experts emphasize that the extent of the evoked fear is of lesser influence on the effect than other variables. Experts from the University of Maastricht are of the opinion that it is not the strength of the evoked fear that ultimately determines the behaviour effect, but the so-called effectiveness ('efficacy') of the behaviour recommendation (Ruiter et al., 2001). This effectiveness of the behaviour recommendation is further divided into the aspects of feasibility and response efficacy. The 'personal efficacy' has to do with the perception of the appropriateness of the behaviour recommendation, e.g.: 'am I able to withstand the temptation to drive too fast on that section?' The 'response efficacy' has to do with the extent to which someone believes that the new behaviour really does protect against danger: 'does driving slower really reduce my risk of having a crash?'

Scientists at Utrecht University agree that the evoked fear is not the most important factor which determines the effectiveness of a message (De Hoog, 2005; De Hoog et al., 2005). Other than Ruiter et al. (2001), they find neither the feasibility nor the response efficacy of the behaviour recommendation to be the determining factor. They do, however, think this is the case for the extent to which a person thinks he is vulnerable to a certain (health) risk. Fear-based information has the largest effect on behavioural intentions and behaviour when a person thinks he is vulnerable to a specific risk. When a person believes that he is not vulnerable to a risk, his behaviour will not be affected by information about the serious consequences and the recommendations for effective behaviour.

Cauberghe et al. (2009) performed a study into the influence of fear, threats, personal efficacy and response efficacy of behaviour recommendations concerning speed. They conclude that involvement with the message is very important for an adjustment of attitude and intention, and that creating a limited level of fear is the most important factor in reaching the desired level of involvement.

What is known about the effectiveness of fear appeals?

The most complete research of the effects of fear appeals is an American meta-analysis of 98 studies about this subject (Witte & Allen, 2000). The studies dealt with different kinds of behaviour such as drink-driving, smoking, and safe sex. The results confirm the hypothesis that messages which lead to the strongest reduction of risky behaviour are those that simultaneously evoke a lot of fear and at the same time recommend feasible and effective behaviour. Messages, on the other hand, which do induce fear, but whose behaviour recommendations are insufficiently feasible and effective, have the strongest opposite effects in terms of rejection of and resistance to the message.

With regard to *road safety*, evaluation studies of fear-based information campaigns have found both positive and negative results. Based on research including two fear-based information spots Ulleberg and Vaa (2009) found a positive connection between evoking fear on the one hand, and personal susceptibility to the risk, greater perceived relevance of the message and stronger attempts to control the danger on the other hand. Especially researchers in Australia (see for an example Cameron et al., 2003) and New Zealand (Tay, 2002) have proved that this type of campaign can lead to a reduction in unsafe traffic behaviour. The campaigns are also supposed to have caused a reduction in the number of road crashes. The Australian researchers have tried to separate the effect of fear-based information campaigns from the effects of police enforcement, and have estimated the reduction in casualty crashes as a result of a fear-based information campaign to be 5-7% a year. Vaa & Philips (2009) have reported that there are insufficient studies in the field of road safety in which the explicit use of fear is applied, to perform a meta-analysis on this.

Other studies show that fear appeals can also have unintended, negative effects. American students thought more positively about drink-driving *after* a campaign (Kohn et al., 1982). In a driving simulator

experiment young men drove faster after having seen a frightening film about road safety than the group that had seen a neutral film (Taubman Ben-Ari et al., 2000). This effect was particularly strong among young men who mainly derived their self-respect from good and safe driving. Some more recent studies, too, found opposite, negative effects of fear-based information campaigns, for example on speed behaviour (Jessop et al., 2008), on binge drinking (Jessop & Wade, 2008) and on distraction in traffic (Lennon et al., 2010).

A study in the Netherlands also showed that a television spot with confrontational pictures of a crash had the opposite effect (Goldenbeld et al., 2008). After having seen the television spot, the male subjects judged driving fast to be less dangerous, were less prepared to keep to the speed limit, and they trivialized the message 'driving fast is dangerous' and the behaviour recommendation 'don't drive fast, keep to the limit'.

Belgian studies show that fear appeals may have a short-lived effect on attitudes and opinions, but that the public quickly gets used to the element of fear. That is why the effects ebb away quicker than the effects of campaigns playing on positive emotions (Prigogine, 2004). No systematic research has been done of the effectiveness of fear appeals when the message is repeated (Hastings et al., 2004).

Are there good alternatives for fear appeals?

Hastings et al. (2004) find the question of whether fear-based information is effective less important than the question of whether this type of information works better than other types. They are of the opinion that information that is based on positive emotions such as humour, excitement, love, and sexuality can be just as effective. Knobbout & Van Wel (1996) confirm this position. They asked 800 youngsters with an average age of 16 years to judge ten information spots about road safety, safe sex, and smoking. They compared spots that visualized the danger in a frightening way with spots that did this in a humorous, erotic, or informative way. The results showed that most youngsters took the message seriously in all spots and that fear-based spots were no more effective than the other spots. From a meta-analysis of previous studies, De Hoog (2005) also found that confrontational 'frightening' images were not more effective than presenting the negative consequences in a restrained manner.

For some groups, fear appeals about road safety were in fact found to be less effective than other types of information. Lewis et al. (2008), for example, found that attitude improvement due to fear appeals can only be seen in women and not in men. However, the attitude improvement in women was measured immediately after they had seen the spot, and had already become less at a measurement some weeks later. The positive emotion spots, on the other hand, resulted in an attitude change in both women and men. Especially in men this improvement became stronger with each measurement: an initial improvement immediately after having seen the spot, and further improvement some weeks later. In brief, longer term measurements indicate that fear appeals are less effective than public information which uses positive emotions. This is especially the case for men. The conclusion that fear appeals are less effective with men is also supported by other research on public information about road safety (Lewis et al., 2007; Goldenbeld et al., 2008; Lennon et al., 2010).

A comparison between the effects of fear appeals and of information with a positive angle on young people was also made recently (Sibley & Harré, 2009). In that study the fear appeals consisted of spots showing how people who drive under the influence are killed in traffic. Positive information was in the form of spots showing people making safe choices after having consumed alcohol, like taking a taxi or arranging a designated sober driver. After the young subjects (average age of 19 years) had seen the spots, they were asked to assess their own driving skills in relation with that of other drivers. This made clear that young drivers generally tend to overestimate their skills in relation to those of others (the so-called 'self-enhancement bias'). The fear appeals had no effect on this tendency of overestimating their own abilities. The positive spots resulted in a smaller degree of overestimation.

What should you allow for in fear appeals?

In fear appeals it is important to take into account that:

- Fear appeals can sometimes have the opposite effect. Therefore a thorough pretest should be carried out to see if the actual effects are also the intended effects. For example, Brennan & Binney (2010) found that fear appeals can evoke anger or avoidance of the message, especially if the information does an appeal on the capacity of involvement and is to some extent horror-like or shocking.

- A pretest using focus groups, i.e. group interviews about visual examples, can provide valuable insight in the clarity and attractiveness of the information. However, this approach is insufficient to exclude undesirable effects because people cannot always properly estimate how information will affect themselves and others (Hastings et al., 2004).
- The effects of fear appeals should be tested in an experimental setting in which a control group is used. The test should compare the fear appeals with milder forms of information and test for negative as well as positive effects. Differences in effects between males and females should also be examined (Lewis et al., 2007; Goldenbeld et al., 2008).
- It is also important to investigate in the pre-test whether the information about feasible and effective behavioural recommendations is optimally effective, and whether the information increases someone's perception of personal vulnerability, if it is low (Lewis et al., 2007). The extent of fear or threat is less important.

Experts warn that an unclear message or recommendation in fear appeals reduces the effectiveness. Tay (2002) uses the anti-alcohol slogan used in New Zealand as an example: "If you drink then drive, you are a bloody idiot". This message is not clear about what you can do to prevent a danger. In contrast to this is the Designated Driver campaign in the Netherlands and Belgium which focuses on providing the target group with a concrete solution for drink-driving.

Final remarks

From a scientific and social point of view, using fear appeals is controversial. The scientific studies on this topic differ widely in chosen subject, in research method used, and in results. In addition, there has been hardly any research into the effects of using fear appeals repeatedly.

International research of the effects of fear appeals shows positive as well as negative effects on attitude and self-reported behaviour. In any case, evoking fear should always be combined with stimulation of the involvement with the campaign and with positive expectations regarding the feasibility and response efficacy.

Among people who are not really motivated to change their behaviour, defensive reactions such as denial, trivializing, and ridiculing the message can occur. Studies of road safety information show that fear appeals have less positive effects in males and young people than information with positive emotions or a positive style.

Since fear appeals can also have unwanted effects, it is recommended to perform early pretesting of the effects on the target group, preferably in an experimental setting. It is particularly important to give information which causes people to feel personally vulnerable and to then include feasible and effective recommendations in the information message which are considered credible and fit the interests, self-respect, and ideas of the target group.

Publications and sources

(SWOV reports in Dutch have an English summary)

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