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The Use of Fear Appeals to Communicate Public Health Messages

Katie Sweeney and Dr Simon Stephens

Abstract

This paper provides an insight into the use of fear appeals to communicate a public health message. A fear appeal is a means of persuasion that threatens the audience with a negative, physical, psychological, and/or social consequence that is likely to occur if they engage in a particular behaviour. This paper explores: the effectiveness of fear appeals; the impact gender and age have on the effectiveness of a fear appeals; and ethical concerns relating to fear appeal advertising. This study comprises a two stage data collection process: focus groups and depth interviews. Firstly, two focus groups were conducted. The participants were higher education students. The focus groups explored attitudes and opinions regarding the effectiveness of different styles of fear appeal advertisements. Secondly, four in-depth interviews were conducted with road safety experts to assess the effectiveness of fear appeal advertisements and to assess the feedback from the focus groups. The findings from this research indicate that fear appeal advertising is effective at creating awareness about road safety. However, fear appeals alone do not change the driving behaviours and attitudes of viewers. Fear appeal campaigns must be supported by enforcement if attitudes and behaviours are to change. The findings of this research indicate that gender does not have a significant effect on the impact of fear appeal messages. Both genders recognise that all individuals are subject to the consequences displayed in fear appeal advertisements. However, participants in this study report that they and their peers continue to drive whilst tired, distracted, and using a mobile phone.

Keywords: Marketing, Fear appeals, Road safety, Ethical advertising

Introduction

Fear appeals are frequently used to communicate important health messages and encourage people to change their behaviour. A fear appeal is a means of persuasion that threatens the audience with a negative physical, psychological, or social consequence that is likely to occur if they engage in a particular behaviour (Algie, 2010 p. 264). Fear appeals are also referred to as threat appeals. Fear appeals rely on aspects of an individual's well-being that motivates the individual towards action to prevent an unwanted outcome (Thornton, 2005). Arousal of fear is believed by many practitioners to be necessary to motivate and persuade people to undertake a certain activity that is beneficial to themselves or others. A typical fear appeal advertisement consists of a negative consequence being presented such as graphic imagery of a dead body in a crumpled car, with viewers either being told or assuming for themselves that they too are susceptible to such consequences. Evidence suggests that fear appeals are effective in gaining the audience's attention and communicating messages (Hastings *et al.* 2004; Brennan and Binney, 2010; Job, 1988). However, Lewis *et al.*, (2007) suggest young males are subject to psychological biases. Therefore, fear appeals are ineffective because young males believe that fear appeals are irrelevant and aimed at someone else. This paper

explores the opinions that young adults and road safety experts have towards the use of fear based road safety campaigns. Specifically, this paper explores: the effectiveness of fear appeals; the impact gender and age have on the effectiveness of a fear appeal; and the ethical concerns relating to fear appeal advertising.

Fear Appeals: A Method for Communicating a Public Health Message

Fear appeals emerged primarily from the clothing industry, in particular Benetton, Calvin Klein, and Richard James in the early 1980s. Benetton and Calvin Klein used shocking content in their advertisements and won awards for heightening public awareness about social issues. This inspired public health campaigns including road safety, AIDS prevention and anti-smoking to use this approach (Dahl *et al.*, 2003; Thompson *et al.* 2009). Fear appeals confront people in a hard and shocking way by highlighting the negative consequences of risky behaviour with the expectation of changing undesirable behaviour. The persuasive message which evokes fear or concern is meant to motivate people to pay attention to the message and to adopt the recommendations in the message. A fear appeal frequently uses personal words combined with tough or painful pictures. Fear appeals motivate adaptive danger control actions such as message acceptance and maladaptive fear control actions such as defensive avoidance or reactance (White and Allen, 2000). A fear-based message captures and holds peoples' attention and thus meets one of the requirements of successful information dissemination. Williams (2012) suggests that individuals better remember and more frequently recall advertisements that portray fear than they do to warm or upbeat advertisements with no emotional content.

There are various scientific opinions regarding the way in which a fear appeal communicates its message. Lewis *et al.*, (2007) propose that a fear-based message starts two opposing mechanisms. First, 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, such as denial where the viewer believes the message is not true. This mechanism will result in the fear diminishing and the message not being taken seriously. Second, and in contrast, there is a tendency to cope with the message by actually adopting its recommendation; this is the desired outcome of fear appeal advertisements. In both cases fear is the motivating factor, but this motivation can be either negative or positive for the acceptance of the message (Lennon and Rentfro, 2010).

Fear appeals are composed of three main components. These components are fear, threat and perceived efficacy (Williams, 2012). Fear is a negative emotion that is usually accompanied by heightened arousal. Threat is an external motivation which provides viewers with the perception that they are susceptible to the same negative situation or outcome. Lewis, (2007) explains that fear appeals can evoke a range of negative emotions other than fear such as guilt and remorse. Fear arousing messages can be persuasive when the audience have high self-efficacy and perceive high response efficacy (Woolley, 2004). Perceived efficacy is a person's belief that the message recommendations can be implemented and will effectively reduce the threat depicted in the road safety message (Gore *et al.*, 1998). White and Allen (2000) claim that fear appeals must contain both high levels of threat and high levels of efficacy. Tay and Watson, (2002) propose an alternative view. That is the fear elicited in the advertisements may have negative outcomes and often result in maladaptive behaviour. A fear appeal may amplify the dominant response and may actually increase the tendency to speed if the target audiences are habitual speeders.

Fear Appeals and Road Safety Advertisements

In Ireland, the Road Safety Authority (RSA) is renowned for its use of physical threats predominantly in advertisements showing the death or injury of parties involved in a car crash. The RSA uses fear appeals to persuade the audience to recognise danger and avoid this danger by changing their driving habits. Many of the threats conveyed by the fear appeal advertisements show how negative behaviour by a driver affects other road users. One particular RSA advertisement shows a drunk driver crashing into a garden and killing a young child as the child's father watches in despair. The aim of such advertisements is to illustrate how dangerous driving behaviours can affect others. In addition, RSA advertisements now aim to highlight the emotional consequences of road safety issues. Indeed, the RSA advertisements are now demonstrating how dangerous driving can affect your family and loved ones (Williams 2011, p. 20). Road safety advertisements using emotional consequences aim to leave the viewer feeling scared with the intention to change driving attitudes and behaviours.

There is evidence that individuals better remember and more frequently recall advertisements that portray fear than advertisements with no emotional content (Snipes *et al.* 1999, p. 273). However, a challenge is that there are concerns about the long-term effects of the fear appeals. Williams, (2012, p. 16) proposes that it is unlikely that the response to fear appeals remains static over time and that this wear-out effect is a major concern for agencies who use fear appeal advertisements. Furthermore, Lewis *et al.* (2007) suggest that society is no longer affected by scenes of carnage because these images are now commonly portrayed in the media. Advertising agencies are acknowledging the limitations of shock, so rather than road-safety advertisements based on an explicit car crash or anti-smoking campaigns showing stomach-churning images of fat-filled arteries, agencies have begun to take a different approach. Sibley and Harre (2009) compared the effects of positive framed (demonstrating safe alternatives to dangerous driving) and negative framed (demonstrating drivers being killed in crashes) road safety advertisements on young drivers. They report that the positive advertisements were more effective than the negative advertisements in reducing explicit overestimation of self-enhanced bias.

There is growing evidence that traffic law enforcement programmes such as random breath testing and speed cameras are effective in reducing illegal high risk behaviours. Breath testing is a major contributor to improved road safety. Breath testing helps save lives and prevents serious injuries. Other contributing factors include better roads, speed cameras, compulsory driving lessons, police presence, higher fines, penalties, and mobile phone bans. The social stigma associated with losing a driving license is more effective than fear appeal advertisements alone (Lewis, 2007). A law enforcement or penalty can aid the effectiveness of a fear appeal advertisement. Messages highlighting financial consequence such as fines for speeding and lifestyle consequences such as the loss of a driving license may be more effective in conjunction with fear appeals than the use of fear appeals alone. Williams, (2011) suggests that a supportive message or reward may produce more favourable results; improving awareness and changing attitudes.

Gender and Road Safety Advertisements

There are concerns surrounding the effectiveness of fear appeals for communicating road safety messages to young males. Tay, (2002); Elliott, (2003); Woolley, *et al.* (2004); and Harre *et al.* (2005) suggest that young adult males are subject to psychological biases, such as optimism bias. Therefore, young adult males exposed to fear appeals perceive the message as being relevant to others and are less likely to adopt the recommendation in a fear appeal

advertisement (Das, 2001). Indeed, RSA chairman Gay Byrne has said that hard-hitting advertisements are “a waste of time” when it comes to targeting young men (Nolan, 2009, p. 20). Therefore, it is crucial that persuasive appeals targeting this group of road users are designed with the greatest likelihood of being effective. Lennon and Rentfro (2010) and Harre *et al.* (2005) conducted research on the third-person effect to explore its association with the extent to which male and female drivers report intentions to adopt the recommendations of road safety advertisements depicting high physical threats. Their findings suggest that young males are affected more by social threats such as the threat of losing their driving licence.

In contrast Lewis *et al.* (2007) suggest that young adult females are subject to the reversed third-party effect which proposes that individuals believe that the threatening and fearful message is aimed at them and they are subject to the negative consequences. However, White and Allen (2000, p. 602) report that individual differences do not appear to have much influence on the processing of fear appeals, generally, studies have reported no effect on acceptance of fear appeal recommendations due to gender, age, ethnicity or group membership. Goldenfeld *et al.*, (2008) report that anti-speeding fear appeals had a positive or neutral effect for females but evoked counterproductive negative reactions from males. After viewing fear appeal advertisements males had less positive attitudes to speed zones, they were less likely to perceive speeding as a problem and had weaker intentions to comply with speed limits in comparison to females. Male drivers dissociate their own speeding behaviour from a social problem, essentially a defensive self-justification response to the fear appeal (Woolley, 2004). Lewis (2007) conducted an experiment examining pre-exposure and post-exposure driving intentions and perceptions of anti-speeding and drink driving advertising depicting high physical threats. Females reported that the messages would have more influence on themselves than others while males reported the messages would have more influence on others. Males reported more unsafe speeding and drink driving intentions than females after viewing the advertisements.

Fear appeals may fail to reach and influence the most relevant target group for which they were developed (Rossiter and Thornton, 2004). In contrast to the view that individuals do not feel vulnerable to the consequences displayed in road safety advertisements. A study on the relationship between the third-person effect and the acceptance of fear-based advertisement conducted by Lewis *et al.* (2007) indicate that most individuals perceive themselves as more vulnerable to being persuaded by threat-based road safety advertisements than other drivers in general. Lewis, (2007) suggest that positive emotional appeals may be more persuasive for males than fear-based negative emotional appeals.

Methodology

Data was collected in two phases: firstly, two focus groups were held with six female and six male higher education students. The focus group participants were shown seven road safety advertisements. Only one of the advertisements had been viewed previously by the participants. The adverts were sourced from the UK and Australia.

1. Advertisement 1: This is a graphic fear appeal advertisement that was developed by the Gwent police department to show the consequences of driving and texting. <http://adland.tv/commercials/gwent-police-psa-texting-while-driving-2009-416-uk>
2. Advertisement 2: This is a fear appeal advertisement that uses shock very well to communicate the dangers/possible consequences of speeding. <http://www.youtube.com/watch?v=H5EyOnccJLg&feature=related>

3. Advertisement 3: This advertisement shows graphic imagery of an injury but cleverly highlights how this injury could be avoided. It offers a coping strategy. <http://www.youtube.com/watch?v=XUUX77Uzds4&feature=related>
4. Advertisement 4: This advertisement shows the guilt felt by someone through their lifetime as a result of killing a young boy by drink driving. <http://www.youtube.com/watch?v=0s033MjVR7o>
5. Advertisement 5: This advertisement features the father of a boy who got killed in a traffic accident. It is an advertisement from the campaign 'everybody hurts sometime'. It is similar to the RSA in Ireland's 'crashed lives' campaign. <http://www.youtube.com/watch?v=pJjCxEbEvY&feature=relmfu>
6. Advertisement 6: This advertisement is called 'dear mom and dad'; this ad contains emotion and informative content. http://www.youtube.com/watch?v=_krbxXawoAU&feature=related
7. Advertisement 7: This advertisement shows the positive effects of slowing down <http://www.coloribus.com/focus/samaya-strashnaya-i-shokiruyuschaya-reklama/9845505/>

After viewing each advertisement the focus group participants filled in an assessment sheet with questions relating to how the advertisement made them feel and what element of the advertisement would encourage or not encourage them to drive safely. The participants were asked to state which advertisement they felt would be most effective at encouraging them to drive more vigilantly. Secondly, depth interviews were conducted to explore the key issues arising from the questionnaire. The interviews were conducted with road safety experts. Guided by Foley (2008) and Farquharson (2005) snowball sampling was used to identify respondents. Six individuals with a wide variety of experience were approached to participate in this study. Four were available and agreed. The interviews explored three issues: the effectiveness of fear appeal; the impact gender and age have on the effectiveness of a fear appeals; and the ethical concerns relating to fear appeal advertising. The interviews were taped, transcribed, and superfluous material removed such as digressions and repetitions to assist the analysis. Narrative structuring (Kvale, 1996) was used to create a coherent story of the experts' experience(s) of using advertisements to improve road safety.

Findings

The research findings indicate that the attitudes of males and females differ in relation to the effectiveness of particular fear appeal advertisements. The male focus group participants stated that they were more likely to drive vigilantly after being exposed to advertisements containing emotional or positive content rather than gruesome and graphic imagery. Expert 2 cited evidence supporting this:

From conducting surveys after road safety classes and workshops it was evident that the emotional stories told by parents who had lost a child affected males more positively than females (Expert 2).

Lewis *et al.*, (2007) suggest that positive emotional appeals may be more persuasive for males than fear-based, negative, emotional appeals. Lennon and Rentfro (2010) report that males are affected by advertisements containing graphic content whilst this study indicates that males are affected by advertisements containing emotional content. In contrast to the males, the females indicated that fear appeal advertisements containing graphic content were

more persuasive at encouraging safer driving and communicating a public health message. Previous studies (Lewis et al., 2007; Tay and Ozanne, 2002) indicate that strong physical threats (a fatality) are more effective for females than males.

One female participant stated that:

Once exposed to a fear appeal advertisement for the second time it becomes less effective at encouraging safer driving (Female D).

However, when shown all seven road safety advertisements each of the females ranked advertisement 1 as being the most effective at encouraging safer driving even though each of the females had been previously exposed to a shorter version of that advertisement. Therefore, this study suggests that whilst viewers may believe an advertisement is becoming less effective, the impact of the first time effect remains in the viewer's subconscious and when the advertisement is seen for the second time, although easier to watch it subconsciously triggers the first time effect of being exposed to the advertisement. This idea is supported by Expert 3 who proposes that:

Viewers find fear appeal advertisements easier to watch the second time. However, if the RSA receive the desired effect in their fear appeal advertisements the first time it is viewed then the second viewing may act as a reminder of how the viewer felt the first time they became exposed to the advertisement.

Each of the twelve focus group participants stated that they tend to forget the message communicated in [road safety] advertisements:

Once exposed to the advertisement the message remains with me for a short period, perhaps two days but I eventually forget about it and continue driving as usual (Male B).

White (2007) reports that viewers have learned to simply ignore fear appeal advertisements and block the fear appeal message. However, when asked to recall road safety advertisements each of the twelve focus group participants were able to recall in detail road safety advertisements. The participants recalled the people and vehicles involved; the music being played and the slogan or message. This indicates that although viewers believe they forget fear appeal advertisements it is evident that the message remains in their subconscious and memory. The assessment sheet results indicated that the majority of focus group participants believe they could be subject to the consequences highlighted in the seven road safety advertisements. White and Allen, 2000; Thornton, 2005; Williams, 2011, suggest that males are subject to the classical third party effect whereas females are subject to the reversed third party effect. That is females believe that the advertisements are aimed at them whilst the males believe the advertisements to be more relevant to others (Lewis, 2007).

The open discussion revealed that both genders were subject to the reversed third-party effect, both the males and females stated that the advertisements were relevant to them and they were subject to the consequences shown. One female stated that they:

Do not drink and drive. However, many people are aware of individuals who do drink and drive and therefore those advertisements are relevant to all viewers as they must encourage those people not to drink and drive. (Female A).

And a male made a similar comment:

I know I am subject to the consequences shown in the advertisements, every driver, passenger, pedestrian and cyclist is. However, I ignore the message and forget that I am subject to the consequences until I hear of an actual road accident ... then remember the messages of the fear appeal advertisements but only for a short period and then I block the message from my memory. (Male A).

It was evident from the focus group discussions that both genders are subject to the reversed third party effect. That is they know they are subject to the consequences of dangerous driving. However, they do tend to ignore the consequences. Studies conducted by White and Allen, 2000; Harre, 2005; Williams, 2011 indicate that males are prone to psychological bias such as optimism bias; they consider the advertisements to be irrelevant and aimed at someone else. This view is supported by the road safety experts. Expert 3 stated that:

Males are subject to psychological bias and therefore the females should be targeted through fear appeal advertisements as they will influence the male. (Expert 3).

The experts believe that females are not subject to psychological bias. However, the focus group results indicate otherwise with one female stating that:

Sometimes whilst driving I realise I am driving too fast and a RSA message or advertisement will come to mind, but I then intentionally forget about it and think that I will not be involved in an accident and continue driving as I did before the message came to mind. (Female D).

Lewis et al. (2007) suggest that young males appear to be affected more by social threats such as the threat of losing their driving licence. Each of the experts agreed that law enforcement and/or penalty can aid the effectiveness of fear appeal advertisement. One of the focus group participants stated that:

The fear appeal advertisements are good at creating awareness but it is enforcement that changes attitudes and behaviours to road safety. (Male D).

In comparison one expert stated that:

The advertisements are part of a larger toolkit which consists of education, enforcement and engineering. (Expert C).

Evidence suggests that a supportive message or reward may produce greater awareness; attitude change; and attempts to quit the undesired behaviour (Williams, 2011). However, Lewis, (2007) states that the possibility of using more positive enforcement and rewards in road safety initiatives generally, as well as in advertising more specifically, represents a rather contentious issue. One male participant highlighted the collaboration between the RSA, the Garda Síochána, a regional radio station and their listeners. They were offering a reward of €100 to drivers who were caught driving under the speed limit. The males felt that incentives such as these are effective at encouraging drivers to slow down. However, the females stated otherwise:

Incentives such as those only last for a short period, eventually drivers begin to slow down only when they see an actual speed camera or for the time period that the reward is being offered. (Female B).

There was general agreement amongst the focus group participants and the experts that fear appeal advertisements are good at creating awareness. However, it is difficult to quantify how effective they are at changing attitudes and behaviours to driving and it is enforcement that changes the attitudes and behaviours of drivers towards road safety and dangerous driving. Evidence suggests that young adults who have been exposed to graphic and violent images in video games, movies, and television may be desensitized to the kinds of images often used in fear appeals (Lennon and Rentfro, 2010). The focus group discussion uncovered that fear appeal advertisements are no more gruesome or graphic than the content shown in television programmes. It was also identified that the proliferation of graphic media has caused widespread compassion fatigue in society.

Conclusion

Previous research indicates that males were affected positively by advertisements that contain positive content. This study provides a similar result. In addition participants identified emotional content as a powerful tool for encouraging young adult males to change their driving habits. Similar to previous studies, this study indicates that females are affected more positively by graphic content in fear appeal advertisements than males. Previous studies specified that males were subject to psychological bias, this study identified that both males and females are subject to psychological bias. The literature suggests that females were subject to the reversed third party effect whereas males were subject to the classical third party effect. This study indicates that both genders are subject to the reversed third-party effect. Both genders understood that they were subject to the consequences portrayed in road safety advertisement. This study indicates that viewers retained road safety messages subconsciously. Participants initially believed that the advertisements had limited impact but when prompted each focus group participant and each of the experts were capable of recalling a road safety advertisement and to describe the advertisement in detail. It was evident from the findings that fear appeals are subject to the wear-out effect. Therefore, it is important that the RSA ensure their advertisements are realistic and believable. Although it is difficult to quantify if fear appeals change attitudes and behaviours there was general consensus from the respondents that fear appeal advertisements are good at creating awareness about road safety. However, in order to change attitudes and behaviours the fear appeal advertisement need to be used in conjunction with a wider toolkit which consists of engineering, education, and enforcement.

References

- Algie, J. (2010), Fear patterns: a new approach to designing road safety advertisements, *Journal of Prevention and Intervention in the community*, Vol. 38, No. 4, pp. 264-279.
- Brennan, L. and Binney, W. (2010), Fear, Guilt, and Shame Appeals in Social Marketing, *Journal of Business Research*, Vol. 63, No. 2, pp. 140-146.
- Dahl, W., D. Frankenberger, K. and Manchanda, V. (2003), Does it pay to shock? Reactions to shocking and non-shocking content among university students, *Journal of Advertising Research*, Vol.43, No.3, pp. 268-280.
- Das, E. (2001), How fear appeals work: motivational biases in the processing of fear-arousing health communications, Ph.D. Thesis, Research Institute For Psychology and Health, Utrecht.
- Elliott, B. (2003), *The psychology of fear appeals re-visited*, Paper presented at the Road Safety Research, Policing and Education Conference, 24-26 September, Sydney, NSW.
- Farquharson, K. (2005), A different kind of snowball: identifying key policymakers, *International Journal of Social Research*, Vol. 8, No.4, pp. 345-53.
- Foley, D. (2008), "Does culture and social capital impact on the networking attributes of indigenous entrepreneurs?", *Journal of Enterprising Communities: People and Places in the Global Economy*, Vol. 2 No. 3, pp. 204-224.
- Goldenbeld, C. Twisk, D. and Houwing, S. (2008), Effects of persuasive communication and group discussions on acceptability of anti-speeding policies for male and female drivers', *Traffic Psychology and Behaviour*, Vol. 11, No.3, pp. 207-220.
- Gore, P., Madhavan, S., Curry, D. and McClurg, G. (1998), Persuasive Messages, *Marketing Health Services*, Vol. 18, No. 4, pp. 32-43.
- Harre, N. Foster and O'Neill, N. (2005), Self-enhancement, crash-risk optimism and the impact of safety advertisements on young drivers, *British Journal of Psychology*, Vol. 96, No.2, pp. 215-230.
- Hastings, G. Stead, M. and Webb, J. (2004), 'fear appeals in social marketing: strategic and ethical reasons for concern', *Journal of Psychology and Marketing*, Vol.22, No. 11, pp. 1114-1122.
- Job, S. (1988), Effective and Ineffective Use of Fear in Health Promotion, *American Journal of Public Health*, Vol. 78, No. 2, pp. 145-157.
- Lennon, R. and Rentfro, R. (2010), 'Are young adults fear appeal effectiveness rating explained by fear arousal, perceived threat and perceived efficacy', *Innovation Marketing*, Vol.6, No.1, pp. 44-56.
- Lewis, M. (2007), *The relationship between the third-person effect and the acceptance of fear-based road safety advertisements*, Ph.D. Thesis, Queensland University of Technology.
- Lewis, M., Watson, B., Tay, R., and White, M. (2007), The role of fear appeals in improving driver safety: a review of the effectiveness of fear arousing (threat) appeals in road safety advertising, *International Journal of Behavioural and Consultation Therapy*, Vol.3, No.2, pp. 203-222.

- Nolan, B. (2009), Road safety lost on boy racers, *The Irish independent*, 04 January.
- Rossiter, J. and Thornton, J. (2004), Fear-pattern analysis supports for the fear-drive model for anti-speeding road safety television advertisements, *Psychology and Marketing*, Vol. 21, No. 11, pp. 945-960.
- Ruiter, R., Abraham, C., and Kok, G. (2001), Scary warnings and rational precautions: A review of the psychology of fear appeals, *Psychology and Health*, Vol. 16, No. 1, pp. 613-630.
- Sibley, C. and Harre, N. (2009), The impact of different styles of traffic safety advertisement on young drivers' explicit and implicit self-enhancement biases, *Transportation Research*, Vol. 12, No.1, pp. 159-167.
- Snipes, R., La Tour, M. and Bliss, S. (1999), A Model of the Effects of Self-Efficacy on the Perceived Ethicality and Performance of Fear Appeals in Advertising, *Journal of Business Ethics*, Vol. 19, No. 3, pp. 273-285.
- Tay, R. (2005), Drink driving enforcement and publicity campaigns: are the policy recommendations sensitive to model specifications? *Journal of Accident Analysis and Prevention*, Vol. 37, No. 2, pp. 259-266.
- Tay, R. and Watson, B. (2002), Changing drivers' intentions and behaviours using fear based driver fatigue advertisements, *Health Marketing Quarterly*, Vol.19, No.4, pp. 55-68.
- Thompson, L., Barnett, J. and Pearce, J. (2009), Scared Straight? Fear-Appeal Anti-Smoking Campaigns, Risk, Self-Efficacy and Addiction, *Health, Risk and Society*, Vol. 11, No. 2, pp. 181-196.
- Thornton, J. (2005), Fear patterns in anti-speeding advertisements: effects on simulated driver behaviour, Ph.D. Thesis, University of Wollongong, Australia.
- White, K. and Allen, M. (2000), A meta-analysis of fear appeals implications for effective public health campaigns', *Journal Of Health Education and Behaviour*, Vol. 27, No. 5, pp. 591-615.
- Williams, K. (2012), Improving fear appeal ethics, *Journal of Academic and Business Ethics*, Vol.5, No. 1, pp. 1-24.
- Williams, K. (2011), Fear appeal theory, *Research in Business and Economics Journal*, Vol. 5, No. 1, pp. 44-56.
- Woolley, J., Hutchinson, T., and Wundersitz, A. (2004), *Best practices in road safety mass media campaigns: a literature review*, (accessed December 2012) available [online] from <http://casr.adelaide.edu.au/reports>.