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# **Fear Appeals in Anti-Smoking Advertising: How Important is Self-Efficacy?**

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# **Fear Appeals in Anti-Smoking Advertising: How Important is Self-Efficacy?**

## **Abstract**

Fear appeals are frequently used in anti-smoking advertising. The evidence on the effectiveness of fear appeals is mixed and in some studies strong fear appeals have been found to reinforce the undesirable behaviour. Individual self-efficacy may play a role in moderating the effects of fear appeals. In advertising contexts where the intention was to encourage socially desirable behaviours it has been shown that greater self-efficacy is associated with a more positive response to fear appeals. Similarly, in such contexts the perceived ethicality of a fear-appeal advertisement appears to be positively related to self-efficacy. The purpose of this article is to examine the relationship between self-efficacy, perceived ethicality and the impact of advertising on behavioural intentions in a context where the aim is to discourage undesirable behaviour, namely, anti-smoking advertising. Questionnaire data were gathered from 434 respondents in London, England. Respondents with higher reported self-efficacy were found to have more favourable views of the ethicality of fear-appeal advertising, more positive attitudes towards the advertising, and stronger intentions to quit smoking. It is recommended that when using fear appeals in advertising to discourage undesirable behaviour, advertisers should incorporate messages designed to enhance self-efficacy.

## **Keywords**

Social marketing; fear appeals; self-efficacy; perceived ethicality.

## **Introduction**

The intellectual foundations for the extension of marketing into domains such as the non-profit, voluntary and governmental sectors were laid by Philip Kotler and colleagues in the 1960s and 1970s (Kotler and Levy 1969; Kotler 1972; Kotler and Levy 1971; Kotler and Zaltman 1971). This work championed the ideas, now common-place, that marketing was not solely a tool of commercial enterprises but was applicable widely across society (Kotler 1969; Kotler and Zaltman 1971), and that marketing was not

simply concerned with increasing demand, but could equally well be used to reduce demand through 'demarketing' (Kotler and Levy 1971). Since then marketing researchers and practitioners have engaged enthusiastically with the challenges of social and non-profit marketing, and it is accepted, indeed perhaps expected, that governments and other organizations will use marketing campaigns to try to dissuade citizens from engaging in harmful behaviours, such as over-eating, driving under the influence of alcohol, and smoking.

Even in their original conceptualisation of social marketing, Kotler and Zaltman (1971: 5) emphasised that "social marketing is a much larger idea than social advertising and even social communication", defining social marketing as "the design, implementation, and control of programs calculated to influence the acceptability of social ideas and involving considerations of product planning, pricing, communication, distribution, and marketing research". Fox and Kotler (1980:25) argued that the roots of social marketing lay in social advertising, but that social marketing is "a larger paradigm for effecting social change", incorporating the entire marketing mix. The conception of social marketing as the use of marketing research and the marketing mix to bring about desirable social change has been reflected in more recent research (McDermott et al 2005, Peattie and Peattie 2008), although Peattie and Peattie (2003) have argued that social marketing should seek to reduce its dependence on commercial marketing theory.

This paper, while falling within the broad scope of social marketing, concentrates on the use of advertising as a means of deterring smoking. It is acknowledged that advertising must be viewed in the context of much wider efforts to reduce smoking, including restricted distribution, health warnings on packaging, regulation of pro-tobacco advertising and many others. Nevertheless, anti-smoking advertising still plays an important role in the overall effort to reduce tobacco consumption.

Anti-smoking advertising campaigns have a long history (Wakefield et al 2003; Warner 1977). Questions to do with the most effective advertising appeals to use and with how advertising messages should be framed have come in for a great deal of attention (Cohen et al 2007). Cohen et al (2007) found that the advertising approach adopted in anti-smoking campaigns focuses largely on attempts to change attitudes, and that easily the most common affective message used to change attitude is a fear appeal. Comparatively few anti-smoking advertisements engage with issues to do with the benefits from and barriers to giving up smoking and the smoker's self-efficacy beliefs regarding quitting smoking, even though psychological models suggest that self-efficacy is an important factor in successful behaviour change (Cohen et al 2007). The present paper explores the influence of smokers' self-efficacy beliefs on their response to an anti-smoking campaign based on a fear appeal.

Fear appeals have been widely used in social marketing with the aim of reducing harmful behaviour such as smoking, dangerous and drink-driving, unsafe sexual practices and alcohol abuse (Hastings et al., 2004; de Meyrick, 2001; Smith and Stutts,

2003; Timmers and van der Wijst, 2007). Fear appeals can be defined as “persuasive communication attempting to arouse fear in order to promote precautionary motivation and self-protective action” (Ruiter et al 2001: 614). Despite widespread use, the effectiveness and ethicality of fear appeals in social marketing remain controversial. Although many studies have concluded that fear arousal enhances persuasion (Higbee, 1969; King and Reid, 1990; La Tour and Pitts, 1989; Millar and Miller, 1998; Rotfeld, 1988), other researchers have found that fear appeals tend to reinforce behaviour (Duke et al., 1993; Hovland et al., 1953; LaTour and Zahra, 1989). In addition, there are concerns about the ethics of exposing consumers to frightening or offensive images without consent (Hyman and Tansey, 1990). Excessively high fear appeals, and appeals that consumers regard as offensive, may be counter-productive (Duke et al. 1993; Hovland et al. 1953; Hyman and Tansey, 1990; LaTour and Zahra, 1989).

Some research has suggested that the consumer’s *perceived efficacy* in dealing with the implied threat is an important factor in determining responses to fear appeals (LaTour and Rotfield, 1997; Snipes et al., 1999; Tanner et al., 1991). Snipes et al (1999), building on the work of Arthur and Quester (2004), LaTour and Rotfield (1997), Maddux and Rogers (1983) and Sutton and Eiser (1984), established that self-efficacy has considerable impact on the ways that consumers respond to fear appeals. The Snipes et al (1999) study was based on an experiment that involved an advert in which women were *encouraged*, through fear appeals, to buy a stun gun for protection against assault or rape. The researchers recommended that the self-efficacy model be tested within other contexts of traditional social marketing, which are typically aimed at

*discouraging* behaviour assumed to be harmful to self or others (Snipes et al., 1999). The purpose of this study was, therefore, to examine the perceived self-efficacy model in the context of anti-smoking campaigns. This study contributes to improved understanding of the self-efficacy model, especially whether or not fear appeals can be extended to contexts of *discouraging* consumers from harmful behaviour.

## **Background to the study**

Fear appeals are commonly applied in social marketing, mostly to discourage dangerous behaviour, such as smoking, reckless driving, drink-driving, unsafe sexual practices and alcohol abuse (Hastings et al., 2004; de Meyrick, 2001; Smith and Stutts, 2003; Timmers and van der Wijst, 2007). Early research into fear appeals suggested an inverted-U shaped relationship between the strength of the threat and the effectiveness of the appeal (Janis 1967; McGuire 1968, 1969). In other words, there was an optimal level of fear appeal at which the behavioural response would be maximized; below this level fear arousal was insufficient to initiate action, while above this level the fear appeal would interfere with message acceptance and initiate defensive processes such as message denial and threat derogation. However, some empirical evidence has suggested that the relationship between fear appeal strength and appeal effectiveness is not an inverted-U, but linear, that is, appeal effectiveness is directly correlated with fear appeal strength (Sutton 1982). Similarly, in a study of fear appeals on public attitudes towards AIDS Bennett (1996:194) found “general support for the proposition

that attitude change responds to high emotion horrific fear appeals in a monotonic increasing fashion”.

Nevertheless, the debate on the relationship between the strength of fear appeals and their effectiveness is not wholly closed, since empirical studies have produced apparently conflicting results. Whilst many studies concluded that fear arousal enhances persuasion (Higbee, 1969; King and Reid, 1990; La Tour and Pitts, 1989; Millar and Miller, 1998; Rotfeld, 1988), other researchers (Hovland et al., 1953) concluded that fear appeals often produce negative results, such as reinforcing the undesirable behaviour. Research following an HIV/AIDS prevention campaign in Scotland, for example, showed that the target group understood the intended message as ‘to frighten people’, but felt that the ‘scare tactics’ would not work for them (Hastings et al., 1990). Hyman and Tansey (1990) also established that campaigns using high levels of fear appeals tend to evoke extreme emotional response, such as becoming hostile or depressed. However, studies carried out in the 1990’s (LaTour and Rotfield, 1997; Snipes et al., 1999; Tanner et al., 1991) showed that an individual’s perceived self-efficacy in addressing a threat implied in the fear appeals message is an important antecedent to the individual’s response to the fear appeal. The self-efficacy model was developed from Witte’s (1992) and Rogers’ (1975; 1983) studies of fear appeals as explained in the following section.

The apparently paradoxical empirical results, that stronger fear appeals are sometimes associated with greater effectiveness and sometimes with less effectiveness, seem to

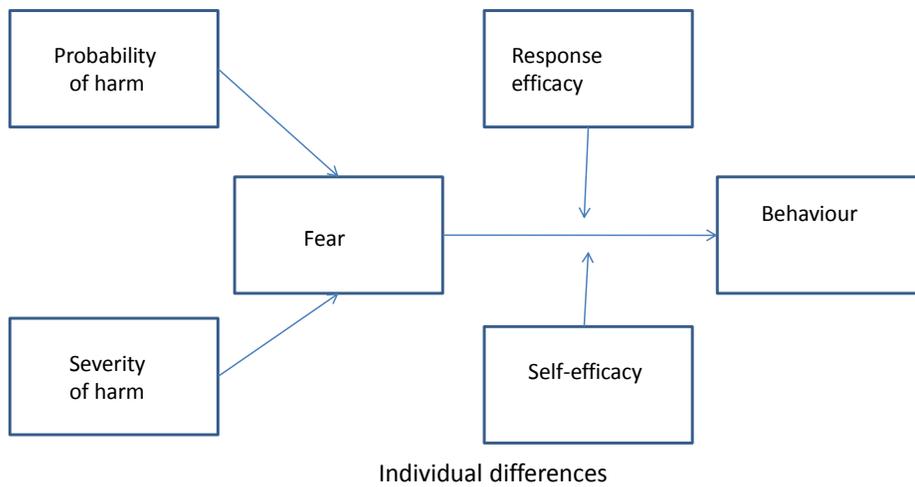
be explained by the mediating effect of efficacy. Ruiter et al (2001:613) asserted that “it is questionable whether health-related fear appeals are evidence-based in the sense that they reflect research findings”. They noted that fear arousal refers to an unpleasant emotional state, which is distinct from cognitive processes. The cognitive perception of a threat is related to, but distinct from, fear arousal. The idealized notion of an effective fear appeal is that the message recipient is exposed to an appeal that includes a threat to which the recipient is susceptible and which is considered severe; the communication includes suggested protective action that the recipient perceives to be both easy to execute and effective. Ruiter et al (2001) considered that efficacy components – the message recipient’s self-efficacy and the perceived efficacy of the suggested response – are particularly important determinants of protective action by the recipient.

Where fear appeals are used in advertising, the perceived ethicality of the appeal also becomes a matter for consideration (Duke et al 1993). Perceived ethicality is known to mediate consumer response to advertising (Treise et al 1994). According to Treise et al (1994) ethical considerations arise in particular where advertisers employ strong, graphic fear appeals designed to illustrate the adverse consequences of certain behaviours. In the context of the use of graphic images of combat, Tansey, Hyman and Brown (1992) found that the originator of the advertisement made a difference to perceived ethicality; the use of graphic images was considered more ethically acceptable where the advertiser was a governmental or non-profit organization (such as the Red Cross), rather than a commercial organization. Snipes et al (1999) found that perceived ethicality had a significant effect on the consumer’s attitude towards an

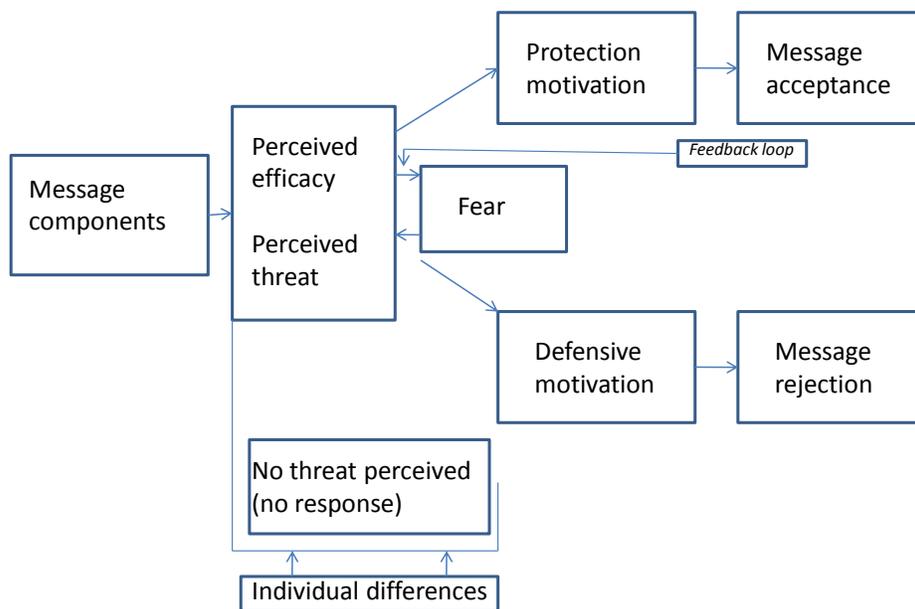
advertisement. Consequently, the perceived ethicality construct is included in the present study. It is measured using an adapted version of the multidimensional scale developed by Reidenbach and Robin (1990).

### *Perceived self-efficacy in fear appeals models*

The two most widely used theoretical frameworks for explaining the effect of fear appeals on behaviour are Rogers's Protection Motivation Model (PMM) and Witte's Extended Parallel Process Model (EPPM) (Rogers 1975, 1983; Witte 1992). **These models are illustrated in Figure 1.**



**Protection Motivation Model**



**Extended Parallel Process Model**

Figure 1: Protection Motivation Model and Extended Parallel Process Model (PMM, source Arthur & Quester (2004), p. 680; EPPM, source Timmers & v.d. Wijst (2007), p.22)

These two models are similar in that they incorporate, in different forms, 'perceived threat' and 'perceived efficacy' in explaining the effectiveness of fear appeals on behavioural change. The PMM proposes that where a threat is presented alongside an effective means of coping, danger control processes are triggered which include adopting the suggested means of coping and changing the maladaptive behaviour (Wood 2000). The PMM suggests that maximum acceptance of the message will be achieved when both threat and coping are high (Rogers and Prentice-Dunn 1997). The EPPM, however, differentiates between two types of motivation responses, namely, 'protection motivation' response and 'defensive motivation' response. The 'protection motivation' responses in the EPPM lead to the acceptance of fear-laden messages. The 'defensive motivation' responses, on the other hand, result in message rejection (Timmers and Wijst, 2007). Consequently, very high fear appeals may be counter-productive.

Rogers' (1975; 1983) original PMM consists of three stimulus variables in the appraisal process of fear appeals: (1) the severity of the threat, (2) perceived probability of occurrence, and (3) the availability and effectiveness of the coping response (Arthur and Quester, 2004; Pechmann et al., 2003; Snipes et al., 1999). The model is built on the assumption that the outcome of this process is 'protection motivation', which arouses, sustains, and directs activity in response to fear appeals (Arthur and Quester, 2004).

Maddux and Rogers (1983) further developed Rogers' original PMM to include self-efficacy, a concept originally developed by Bandura (1977). Lev and Koslowsky (2009:

452), building on the work of Bandura (1997) and Woods and Bandura (1989), defined self-efficacy, as the “belief in one’s capabilities to organize and execute the course of action required to produce given attainments and to mobilize the motivation, cognitive resources, and courses of action needed to exercise control over events”. Empirical evidence supports a domain-specific conceptualization of self-efficacy (Bandura, 1997; Grabowski et al. 2001). For example, academic self-efficacy is specifically related to academic goal setting and achievement (Bandura et al. 1996; Pintrich and De Groot, 1990; Zimmerman et al. 1992). Occupational and career self-efficacy are important factors often considered in career choices (Betz and Hackett, 1986; Lent and Hackett, 1987; Taylor and Popma, 1990). Similarly, self-efficacy in the anti-smoking domain is positively related to the smoker’s ability to achieve the goal of quitting smoking. Thus, self-efficacy in the anti-smoking domain can be conceived of as an individual’s perceptions of his/her ability to carry out the protection task successfully, that is, to quit smoking (Arthur and Quester, 2004).

According to Snipes et al. (1999), self-efficacy is a key factor in motivational models where the threat is perceived to be omnipresent, such as women’s fear of being assaulted or raped. Snipes et al. (1999) established a structural relationship between self-efficacy, perceived ethicality, attitude toward the advertisement, attitude toward the brand, and ultimately, behavioural intentions. They concluded that self-efficacy positively affects the perceived ethicality of the advertisement, attitude towards the advertisement, attitude toward the brand and behavioural intentions (Snipes et al., 1999). Similar conclusions were reached by Henthorne and LaTour (1994) and LaTour

el al., (1990), who also found that perceived ethicality positively affects attitude toward the brand, and behavioural intentions. Snipes et al. (1999) recommended that further tests of the self-efficacy structural model should be conducted in other contexts, including the traditional social marketing one of discouraging individuals from harmful behaviour, such as smoking. The present study was a response to the call to test the self-efficacy model in the context of *discouraging* people from engaging in behaviour harmful to themselves or others, **rather than in the context of *encouraging self-protective forms of behaviour***. More specifically, the purpose of this study was to determine whether or not the self-efficacy structural model is applicable to anti-smoking campaigns, which are typically aimed at *discouraging* people from smoking.

A theoretical justification for the proposition that communication messages of *discouragement* may affect people differently from messages of *encouragement* can be found in message-framing theory. This well-supported theory posits that positively-framed messages influence people differently from negatively-framed messages (Rothman et al 2006, Tversky and Kahneman 1981). A positively framed message is one that explains the benefits that will accrue if a behaviour is implemented, while a negatively framed message is one that explains the costs that will accrue if a behaviour is not implemented. Messages of discouragement are inherently negatively framed ('cease this damaging behaviour because otherwise harm will befall you'), while messages of encouragement are inherently positively framed ('take this preventive action and you will be better off as a result'). According to Rothman et al (2006) loss-framed messages are preferable when promoting detection behaviours (such as cancer

screening), while gain-framed messages are preferable when promoting prevention behaviours.

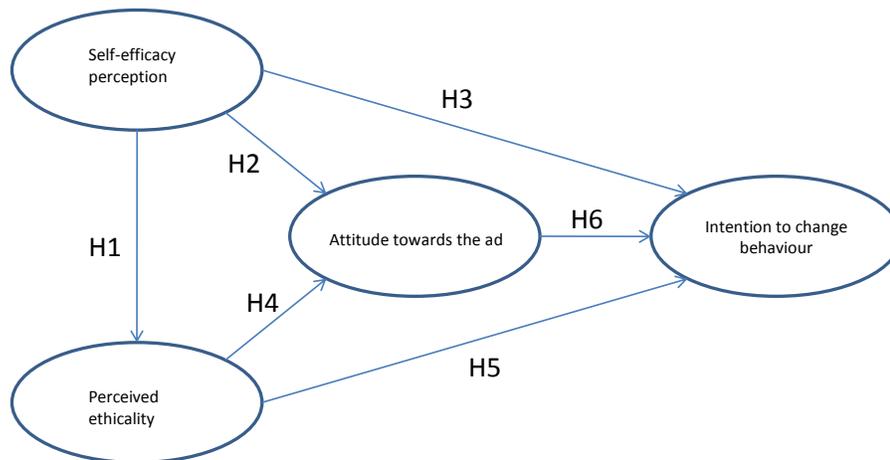
### *Research hypotheses*

Past studies of fear appeals (Latour and Zahra 1989; Latour and Pitts 1989; Snipes et al, 1999) provided empirical evidence that an individual's self-efficacy is an important antecedent to the person's perception of the ethicality of fear appeals in an advertisement. The studies also showed that self-efficacy has significant positive impact on the individual's attitude towards the advertisement. Furthermore, although Snipes (1999) discovered weak evidence for the direct positive effect of self-efficacy on attitude towards the brand and purchase intention, the direct effect of perceived efficacy on perceived ethicality was found to be significant. Snipes et al. (1999) established a structural relationship between an individual's self-efficacy, perceived ethicality of the advertisement featured in the fear appeals campaign, attitudes towards the brand, and intention to purchase. However, the validity of the model is still limited to the context of *encouraging* individuals to buy a product that would help to protect the individuals from attacks. *The self-efficacy model seems not to have been tested in the context of discouraging individuals from engaging in harmful behaviour, such as smoking. Perhaps surprisingly, self-efficacy has not featured prominently in prior studies of anti-smoking advertising. For example, in neither of two systematic reviews of empirical studies of anti-smoking advertising, which between them review over 50 empirical studies, is there any mention of self-efficacy (Flay 1987, Wakefield 2003).* In fact, Snipes et al. (1999) recommended that the structural model be tested in other contexts, such as those

related to anti-smoking campaigns. Therefore, the purpose of this study was to test the self-efficacy model in context of anti-smoking campaigns.

The proposed structural model for this study is shown in figure 2. It is hypothesised that self-efficacy has a significant direct positive influence on perceived ethicality of the advertisement and on attitudes towards the advertisement, and that perceived ethicality has significant positive influence on behavioural intention. In view of the pervasive influence of self-efficacy in the fear appeals model, self-efficacy is considered to be the most important component of the structural model. Perceived ethicality is hypothesised to have a direct positive influence on attitudes towards the advertisement and towards behavioural intention (Henthorne and La Tour, 1994; La Tour et al. Al., 1990). In accordance with past studies (Henthorne and La Tour, 1994; La Tour et al., 1990; Snipes et al. 1999), it was also hypothesised that the attitude towards the fear appeals advertisement has a direct positive influence on behavioural intention.

Figure 2: Perceived self-efficacy for anti-smoking message



A summary of all the 6 hypotheses for this study is given below.

H1: Self-efficacy perception has a direct positive influence on perceived ethicality of the advertisement used in the fear appeals campaign.

H2: Self-efficacy perception has a direct positive influence on attitudes towards the advertisement used in the fear appeals campaign.

H3: Self-efficacy perception has a direct positive influence on intention to change behaviour.

H4: Perceived ethicality has a direct positive influence on attitudes towards the advertisement used in the fear appeals campaign.

H5: Perceived ethicality has a direct positive influence on intention to change behaviour.

H6: Attitude towards the advertisement used in the fear appeals campaign has a direct positive influence on intention to change behaviour.

## **Research Method**

### *The study context and sample*

The study was carried out in the context of a UK government advertising campaign aimed at discouraging smoking. The campaign involved displaying fear appeals on tobacco packs; these appeals included graphic images of dead bodies and of people suffering from diseases often associated with smoking, such as cancer of the throat and lungs, and decayed teeth. The images from the campaign were shown to respondents who answered questions designed to measure their perception of the ethicality of the advertising, their attitude towards the advertisements, their perceived self-efficacy towards giving up smoking, and the effect of the advertisements on their behavioural intentions towards smoking. Data were collected using a questionnaire administered to smokers. Respondents were adult smokers, over 18 years of age. A filter question was used to ensure that only smokers completed the questionnaire. A total of 434 usable questionnaires were collected, by approaching people in outdoor public spaces in London, England. In common with a growing number of European countries England now has a complete ban on smoking inside public buildings, including shopping malls,

railway stations, cinemas, night-clubs and work-places, so that it is now common-place for smokers to congregate in public spaces outside public buildings, which facilitated the data collection process.

### *Measures and procedures*

Reidenbach and Robin's (1990) multiple-item scale was adapted to measure perceived ethicality. This ethicality scale has been shown to exhibit a higher level of validity than other scales (Snipes et al 1999). The original construct includes three dimensions of ethical decision-making: (1) moral equity, which deals with matters of fairness and what is "right" and "wrong"; (2) the relativist dimension, which concerns the influence of social norms on individuals; and (3) contractualism, which is concerned with issues of implied obligations, social contracts, duties and rules. However, the ethical dimension concerned with contractualism was omitted from the measurement used in this study because the dimension has been found to be more suited to evaluating the ethics of selling scenarios than of advertising (Henthorne and LaTour, 1995; Snipes et al., 1999). Items included in the scale for measuring perceived ethicality for this study were: fair/unfair; culturally acceptable/culturally unacceptable; morally right/ morally wrong; in the best interest of the smoker/not in the best interest of the smoker; acceptable if it will lead to reduced number of smokers/unacceptable even if it will lead to reduced number of smokers. Respondents were asked to evaluate the advertisement (graphic images) on tobacco packs on a 7 point bi-polar scale for each of the items.

Following the practice adopted in several prior studies, respondents' perceptions of self-efficacy were measured using a single item scale (Arthur and Quester, 2004; Basil et al., 2008; Lev and Koslowsky, 2009; Snipes et al. 1999). Smokers were asked to rate, on a six point scale that ranged from 'strongly agree' to 'strongly disagree', the extent to which they agreed with the statement: "I feel very confident in my ability to quit smoking".

A multiple-item semantic differential scale, adapted from Snipes et al. (1999), was used to measure attitudes towards the advertisement. After being shown the fear appeal images used in the anti-smoking advertising campaign respondents were asked to respond on five bi-polar semantic differential scales: positive/negative, interesting/boring, pleasant/unpleasant, inoffensive/offensive, powerful/weak, and useful/useless.

Following similar approaches to assessing 'intention to behave' in past studies a single item 5-point scale was used to assess the respondents' 'intention to change behaviour', that is, their intention to quit smoking, after seeing the images on the tobacco pack. Respondents were also asked to indicate, on the following standard behavioural intentional scale, the extent to which they intended to quit smoking: 'I definitely will quit smoking', 'I probably will quit smoking', 'I am uncertain whether I will quit smoking', 'I probably will not quit smoking', and 'I definitely will not quit smoking'.

### *Model of data analysis*

Structural equation modelling (SEM) was used to test the model fit and to estimate the interrelations among the four variables of the conceptual model shown in figure 1. 'Intention to change behaviour' was an observed exogenous variable, and also the dependent variable in relation to all other variables in the model. 'Perceived self efficacy' was the only observable exogenous variable. 'Perceived ethicality' and 'Attitudes towards the advert' were the unobserved endogenous variables. Maximum likelihood estimation was used to test the hypothesised model

## **Results**

### *Profile of respondents and descriptive analysis*

Table 1 provides a demographic profile of the respondents. The sample of adult smokers included more men than women (53.5% male, 46.5% female), and more people in the younger age categories than in the older age categories (69.1% aged under 35, 30.9% aged 35 and over). This respondent profile is consistent with the general population of adult smokers in England. According to the UK National Health Service, women are less likely to smoke than men (19% of women, 22% of men), and the incidence of smoking is negatively correlated with age; while 29% of those aged between 25 and 34 smoke, only 22% of those aged between 50 and 59 smoke, and only 12% of those aged over 60 smoke (NHS 2009).

Table 1: Distribution of respondents across age and gender

Age category	Gender category	Respondents
18-25	Male	102
	Female	58
	Total	160
26-34	Male	62
	Female	78
	Total	140
35-49	Male	42
	Female	36
	Total	78
50 and over	Male	26
	Female	30
	Total	56
TOTAL		434

The sample also contained a relatively high proportion of respondents from lower socio-economic categories, compared to their representation in the general population; 45.9% of respondents were from socio-economic categories D/E, 37.5% from categories C1/C2, and 16.6% from categories A/B. This socio-economic profile is unsurprising since respondents had to be adult smokers, and smoking is found disproportionately among people from lower socio-economic categories. For example, Evandrou and Falkingham (2002) found that smoking is three times as prevalent in unskilled male manual workers as in male professionals, and over twice as prevalent in unskilled female workers as in female professionals. Consequently, taking account of age, gender and socio-economic category, the sample is considered to be representative of the English population of adult smokers

The multiple-item scales for the perceived ethicality and attitudes towards the advertisement showed high internal reliability, with Cronbach's alpha coefficients of 0.92 and 0.85 respectively. Table 2 shows the means and standard deviations for the four key constructs. The mean response of 3.46 for self-efficacy was close to the scale mid-point and, in general, as many people felt low self-efficacy as felt high self-efficacy in relation to quitting smoking. The mean self-efficacy score for men was significantly higher than that for women. Respondents tended to perceive that the graphic images used in the fear appeals were ethical, although there was a substantial spread of opinion. Men were more likely than women to say that the advertising appeals were unethical. The mean 'attitude towards the advertisement' was a little below the scale mid-point, indicating relatively positive overall attitudes (there was no significant difference between men and women on this construct). Finally, the 'intention to change behaviour' (that is, intention to quit smoking) was more or less evenly distributed around the scale mid-point, with a slight skew towards not quitting (and with no significant difference between men and women).

Table 2: Descriptive Statistics

Construct	Scale used	Mean	Standard deviation
Self-efficacy	6 point scale (1 means low)	3.46	1.65
Perceived ethicality	6 point scale (1 means ethical)	1.92	1.05
Attitude towards the advertisement	7 point scale (1 means positive)	3.31	1.14
Intention to change behaviour (intention to quit smoking)	5 point scale (1 means strong intention)	3.20	1.16

The differences between the mean scores of respondents from different socio-economic categories on self-efficacy, perceived ethicality, attitude towards the advertisement, and intention to quit, were tested for statistical significance. Only on 'intention to quit' was there a significant difference, with respondents from the highest category (A) showing a significantly stronger intention to quit than respondents from the lowest category (E). This is consistent with prior studies, which have consistently found that smokers from lower socio-economic categories are less inclined to give up smoking and less successful in attempts to do so (Fiore et al., 1998; Pierce et al., 2000; Wetter et al., 2005).

#### *Tests of the hypothesised model*

The widely recommended two-step approach was followed in testing the hypothesised model (Anderson and Gerbig, 1988; Gallagher et al., 2008). The measurement model was assessed using confirmatory factor analysis (CFA) first, followed by testing of the full SEM model. The measurement model was tested for the convergent validity, construct reliability, discriminant validity, and overall model fit (Hair et al., 2010; Janssens et al., 2008).

The indicator variables for two latent constructs (perceived ethicality and attitudes towards the advertisement) were unidimensional, (loadings  $>.50$ ,  $p \leq .05$ ), indicating convergent validity for all the indicator variables. The Average Variance Extracted (AVE) for 'perceived ethicality' and 'attitudes towards the advertisement' were .713 and .503 respectively, further confirming acceptable convergent validity for the two latent constructs. The construct reliability of .92 and .86 for perceived ethicality and attitudes

toward the advertisement, respectively, showed good internal consistency for the two constructs.

In spite of the acceptable convergent validity and construct reliability, the squared inter-construct correlation for 'perceived ethicality' and 'attitudes towards the advert' (.88) was higher than the AVE for both constructs, indicating poor discriminant validity for the measurement model. Furthermore, all the baseline indices, which are the recommended measures of fit because they are independent of sample sizes (Garver and Mentzer, 1999; Marsh et al., 1988), showed poor overall model fit (NFI= .766, IFI = .784; TLI = .721, CFI = .782).

The model diagnosis showed that the measurement model could be improved by deleting some indicator variables. The standardised residual measure associated with the indicator variable 'useful/useless' for the construct 'attitudes towards the advertisement' was above 2.5 on two connections, reflecting potential candidacy for deletion for the indicator variable. Two other indicator variables for the construct 'perceived ethicality, ('culturally acceptable/culturally unacceptable' and 'acceptable if it will lead to reduced number of smokers/ unacceptable even if it will lead to reduced number of smokers') were also deleted for showing high modification indices. These modifications did not violate the original theoretical considerations of the model as both constructs had at least three indicator variables after the modification. The modified model was run again after the deletion of the 'offending' indicator variables.

*Final testing of the hypothesised model*

Table 3 presents the summary results of the confirmatory factor analysis results, which were used for testing the final measurement model. The loadings (standardised regression weights,  $\lambda$ ), for each of the indicator variables, are in the 3<sup>rd</sup> column of the table.

Table 3: Hypothesised model: Standardised factor loading ( $\lambda$ ), composite (construct) reliability, and Average Variance Extracted

Construct	Variable	$\lambda$	$\lambda^2$	Measurement Error- e ( $1 - \lambda^2$ )	CR	AVE
PE	Fair	.930	.865	.135		
PE	Cultural	.951	.904	.096		
PE	Moral	.926	.857	.143		
SUM		2.807	2.626	.374		
SUM <sup>2</sup>		7.879			.96	.875
A <sub>GI</sub>	Good/Bad	.766	.587	.412		
A <sub>GI</sub>	Interesting	.797	.635	.365		
A <sub>GI</sub>	Appealing	.586	.343	.657		
A <sub>GI</sub>	Informative	.688	.473	.527		
SUM		2.837	2.038	1.961		
SUM <sup>2</sup>		8.049			.804	.510

Key:

- PE = Perceived ethicality
- A<sub>GI</sub> = Attitude towards the advert
- $\lambda$  = standardised loading
- CR = Construct (composite) reliability =  $(\sum \lambda)^2 / (\sum \lambda)^2 + \sum e$
- AVE = Average Variance Extracted =  $\sum (\lambda)^2 / \sum (\lambda)^2 + \sum e$

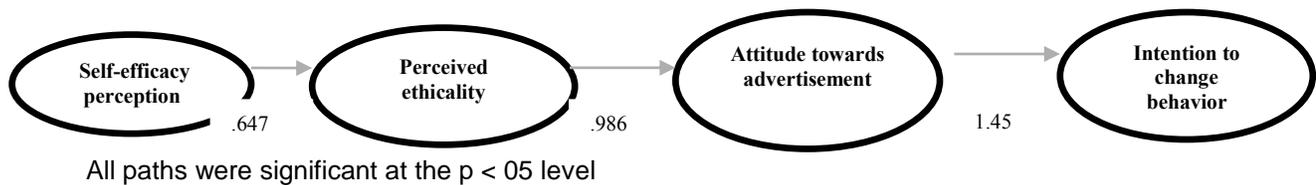
Table 3 shows that all the indicator variables were unidimensional ( $\lambda > .05$ ;  $p \leq .05$ ), indicating convergent validity. The AVE of .875 and .510, which are above the minimum threshold of .50, confirmed the acceptable convergent validity for the two constructs. The two AVE measures (.875 and .510) were both higher than the squared correlations

between 'perceived ethicality' and 'attitudes towards the advertisement', affirming the discriminant validity of the two constructs.

Although the chi-square index ( $\chi^2 = 63.062$ , DF 13;  $p = .000$ ) indicated poor overall measurement model fit, the recommended baseline indices (NFI = .943, IFI = .954, TLI = .925, CFI = .954) and the RMSEA index of .076 were all above the minimum acceptable threshold level. Two additional indices (GFI = .907, AGFI = .800) gave further support for acceptability of the measurement model. In the light of the acceptable measurement model, the SEM model was tested.

Analysis of the final structural model showed moderately acceptable model fit. Although the chi-square index was significant ( $\chi^2 = 92$ , 30,  $df = 23$ ), pointing towards poor overall model fit, the final acceptance of the hypothesised model was based on indices that are independent of sample size, which all showed acceptable model fit (NFI = .930, IFI = .950, TLI = .913; CFI = .950) (cf. Anderson and Gerbig, 1988; Gallagher et al., 2008). The percentage of the variance explained by the model ( $R^2$ ) on 'perceived ethicality', 'attitudes towards the advertisement', and 'intention to change behaviour' (intention to quit smoking) were 42%, 94%, and 39% respectively. These figures show that the hypothesised structural relations contributed substantially to the explanation of variable relationships in the structural model. The standardised path estimates for the hypothesised structural model are summarised in Figure 3.

Figure 3: Perceived self- efficacy for anti smoking message



Only three paths were significant at  $p < 0.05$  level. The significant paths led to the *acceptance* of three hypotheses:

H1: Self-efficacy perception has a direct positive influence on perceived ethicality of the advertisement (0.647,  $p = 0.000$ );

H4: Perceived ethicality has a direct positive influence on attitudes towards the advertisement (0.986,  $p = 0.000$ );

H6: Attitude towards the ad has a direct positive influence on intention to change behaviour (1.45,  $p = 0.003$ ).

The other three paths were not significant and the associated hypotheses were *rejected*:

H2: Self-efficacy perception has direct positive influence on attitudes towards the advertisement, (-0.024,  $p = 0.671$ );

H3: Self-efficacy perception has direct positive influence on intention to change behaviour (0.147,  $p = 0.177$ );

H5: Perceived ethicality has direct positive influence on intention to change behaviour (-0.994,  $p = 0.311$ ).

## Conclusions and practical implications

The purpose of this study was to determine whether or not the self-efficacy model is applicable to the context of *discouraging* smoking, a type of harmful behaviour. Results of this study provided evidence that an individual's perception of self-efficacy has direct and positive effect on the perceived ethicality of fear-based adverts. These results indicate that people who believe that they can quit smoking if they decide to (high self-efficacy) are more likely to perceive fear appeals in anti-smoking advertising as acceptable. These results extend those reported in past studies which were carried out in the context of *encouraging* self-protection behaviour (Snipes et al 1999).

Although direct effects of self-efficacy on attitudes towards the advertisement and intention to change behaviour could not be established, the research results showed that self-efficacy has indirect and positive effect on attitudes towards the advertisement and the intention to change behaviour. These results were slightly different from those reported for the context of *encouraging* self-protection behaviour (Snipes et al., 1999). Whilst Snipes et al. (1999) established that self-efficacy has a direct and positive effect on attitudes towards the advertisement, only an indirect linkage between self-efficacy and attitudes towards the advertisement was found in this study.

The overall results of this study indicate that the self-efficacy model is important in the context of *discouraging* behaviour, just as in encouraging behaviour, but with some modifications. The main similarities of results in both contexts of *encouraging* and

*discouraging* behaviour are that studies in both contexts show that individuals who perceive higher self-efficacy are more likely to perform adaptive behaviour in the face of fear appeals adverts. The main differences of results in the two contexts, on the other hand, is that, whilst self-efficacy has a direct effect on the advertisement used in the fear appeals campaign in the context of *encouraging* protective behaviour, the effect of self-efficacy on the advertisement in the context of *discouraging* harmful behaviour is indirect, through the perception of ethicality of the advertisement.

The main contribution of this study is, therefore, to confirm the validity of the self-efficacy model in the context of anti-smoking, which is the traditional social marketing area typically related to discouraging behaviour harmful to self and others. The study also helps to show the adaptations required for the self-efficacy model for it to apply to the context of discouraging harmful behaviour (see figure 3). **A surprising finding from this empirical study is that the hypothesised direct path from self-efficacy perception to intention to change behaviour (H3) was not found to be significant. Owing to the counter-intuitive nature of this finding, further empirical studies examining the self-efficacy perception/intention to change behaviour relationship in the context of discouraging harmful behaviour would be particularly interesting. It is possible that the specific context of this study, namely, anti-smoking advertising in the UK, has influenced this finding. In essence, the rejection of H3 suggests that respondents who believed more strongly that they were able to give up smoking were no more likely to express the intention to actually give up smoking. One could speculate that this is because, after decades of anti-smoking campaigns and years of decline in the number of smokers,**

many of the adult smokers in the UK are smokers by choice, so that self-efficacy is not as important in this context as in others, such as over-eating and obesity. However, that is a matter for future research.

The key practical implication from the study is that advertisers need to consider the self-efficacy of the target audience when designing a campaign using fear appeals to discourage undesirable behaviour. The context of the present study was anti-smoking, but the findings are relevant in other important health-related marketing contexts, including campaigns designed to reduce consumption of unhealthy foods such as those high in salt, sugar and fat, and campaigns designed to reduce alcohol consumption and related undesirable behaviours such as drink-driving. The effectiveness of campaigns in these areas will be greater if attention is paid to enhancing the perceived self-efficacy of the target audience. Presenting graphic advertising about the damaging effects of a poor diet or of excessive alcohol consumption without also enhancing the audience's self-efficacy is unlikely to be the most effective creative strategy, and could even be counter-productive. On the basis of the present study it is not possible to say how best to incorporate positive self-efficacy messages into fear-appeal-based advertising campaigns. A number of questions remain to be answered. For example, should the self-efficacy message be incorporated into the same advertisement as the fear-appeal, or should the campaign be designed to include both types of message in separate advertisements? Are cognitive or affective appeals more effective when conveying self-efficacy messages? How do different segments within the target audience respond to self-efficacy messages – for example, do heavy users respond differently from light

users? These important questions are considered valuable areas for future research. In addition, the present study has only considered self-efficacy in relation to one element of the social marketing mix, namely social advertising. It is tempting to extrapolate from the findings of this study to other elements of the marketing mix, and to suggest that enhancing self-efficacy should be a central concern in integrated social marketing campaigns designed to reduce tobacco consumption. Certainly, the importance of self-efficacy in relation to the broader anti-smoking social marketing mix is another interesting topic for research.

In terms of campaign effectiveness, it is more important to concentrate on audience self-efficacy than on the perceived ethicality of the campaign images and messages. Of course, ethicality remains an important general consideration (advertising must comply with ethical norms and regulations), but the results of the present study suggest that if the self-efficacy of the audience can be increased, then perceptions of ethicality will increase accordingly.

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