

It's Time to Quit: Using Advertising to Encourage Smoking Cessation

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This paper seeks to contribute to social advertising practice by examining the effectiveness of two different quit smoking ads. This research uses Prochaska and DiClemente's (1983) transtheoretical model of addictive behaviour to understand which advertising messages work at different stages of change. Using an experimental design method two real ads were shown to smokers in different stages of change. The results of this experiment indicate that the self-liberating 'Get Unhooked' ads led to more favourable attitudes towards quitting in smokers looking to quit soon, while the more consciousness-raising British Heart Foundation ad was more effective for those smokers not looking to quit. This research highlights the need for more targeted advertising messages and provides key implications to theory and practice.

Keywords: smoking; advertising; transtheoretical model; social marketing

Introduction

The British Prime Minister, Gordon Brown (2007), recently announced over £100 million to encourage smokers to quit. These funds have been set aside in response to the UK's 1.4 million hospital admissions and 88,000 deaths in 2004/2005 due to smoking-related diseases. Smoking also continues to be the leading cause of preventable death in the USA (Mokdad, Marks, Stroup, & Gerberding, 2004) with similar trends seen in Europe (Boyle, 1997). There is an increasing prevalence of various quitting strategies, such as smoking bans, taxes on cigarettes and promotional campaigns. This study contributes to the extant knowledge by examining how social marketers can encourage smokers to quit. It focuses on the impact that advertising messages can have on attitudes towards quitting. This research draws upon Prochaska and DiClemente's (1983) transtheoretical model as a means to understand whether smokers at different stages of quitting respond differently to advertising messages encouraging quitting. Specifically, two quit smoking ads are compared using 200 responses from UK smokers to see which ad is best utilised at different stages of change in order to encourage quitting. The following section outlines the theoretical background to the research.

Background

Prochaska and DiClemente's (1983) transtheoretical model of addictive behaviour outlined five stages of change. At each stage different therapeutic actions were necessary in order to exact the desired result. The five stages identified were Precontemplation, Contemplation, Preparation, Action and Maintenance. These

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Table 1. Change therapy strategies to be emphasized at different stages of change.

	Stage of Change		
	Precontemplation	Contemplation	Preparation
Recommended change	Consciousness raising		
Therapy strategies	Dramatic relief Environmental re-evaluation	Self-re-evaluation	Self-liberation

Source: Table adapted from Prochaska et al. (1992, p. 1109).

stages of change have been used extensively to help understand therapy strategies in a number of different contexts, including smoking (Prochaska, DiClemente, & Norcross, 1992), weight loss (Logue et al., 2005), HIV prevention (Prochaska, Redding, Harlow, Rossi, & Velicer, 1994) and women's health (Aveyard et al., 2006).

The domain of the social marketer is to encourage Action and aid in Maintenance of addictive behavioural change, such as smoking cessation (Andreasen, 1994; Donovan & Henley, 2003). By targeting appropriate messages at the Precontemplation, Contemplation and Preparation stages one would expect significant differences in behavioural change depending on the message type/stage of change match. Table 1 outlines the three stages of change relevant to this research and the suggested therapy strategies outlined by Prochaska et al. (1992).

Prochaska and DiClemente's (1983) model and the subsequent Prochaska et al. (1992) model aimed to make predictions about what factors would be important to the smoker depending on the stage they were in. In the Precontemplation stage smokers are likely to be extremely defensive about their addictive behaviour as they feel that they are not doing anything wrong. In extreme cases smokers will feel that they are not actually addicted and will therefore not be considering changing their behaviour in the foreseeable future. Smokers within the Contemplation stage are starting seriously to consider changing their addictive behaviour. This is, therefore, where therapeutic strategies and processes start becoming of use. The process of the utmost importance in this stage is consciousness raising, as the smoker is starting to collect and absorb information about the dangers of smoking. During the Contemplation stage the need for self-evaluation becomes paramount, while Preparation smokers are actively thinking of steps to quit. Preparation smokers are most influenced by strategies encouraging self-liberation, freeing themselves from the grip of their addictions.

As quitting is a salient part of the Contemplation and Preparation smokers' consciousness it is expected that they will respond more favourably towards ads that promote quitting behaviour. Therefore, the following can be hypothesised:

H1: Smokers in the Contemplation and Preparation stages of quitting will respond more favourably towards messages encouraging quitting behaviour than smokers in the Precontemplation stage.

The most valuable strength the stage of change model possesses is its strong reliability and validity (McConaughy, Prochaska, & Velicer, 1983; Prochaska, Velicer, DiClemente, & Fava, 1988). Its strength in terms of validity is both predictive (Lam, McMahon, Priddy, & Gehred-Schultz, 1988) and constructive (Armitage, 2006).

The stages of change model considers the factors relating to self-changers in relation to smoking; however, there have been many attempts to control smoking in a more forceful manner: taxation, health warnings, advertising restrictions, prohibiting sales to minors and bans and partial bans on smoking in public places and workplaces have all helped to slow the growth of cigarette consumption (Fava, Velicer, & Prochaska, 1995). Previous research shows that mass media anti-smoking campaigns can facilitate quitting behaviours among smokers and also lead to decline in levels of smoking among youths (Siegel & Biener, 2000; Worden et al., 1996). There is also substantial evidence showing that mass media anti-smoking campaigns can be effective (Hu, Sung, & Keeler, 1995; Popham et al., 1993). In the United States, Australia and Britain, anti-smoking campaigns have been regularly used to target behavioural changes in smokers. McVey and Stapelton (2000) show that advertising has been successfully used as a means of controlling tobacco intake. However, the means of communicating smoking cessation have been varied and often provide contradictory results.

Hassard (1999) believes that communication that has a strong, affective component is often successful in motivating behaviour change. Pechmann and Reibling (2000) later found that campaigns that emphasise the harm that smoking behaviours cause to family are likely to be more effective. Witte and Allen (2000) and Hill, Chapman and Donovan (1998) suggest that advertising campaigns that portray the adverse consequences of smoking to the smokers are likely to be most effective.

Studies by Biener, Gilpin and Albers (2004) and Biener, McCallum-Keeler and Nyman (2000), suggest that anti-smoking advertising campaigns, which attempt to portray the negative consequences of smoking, by triggering fear and scares, are much more likely to be effective. Other researchers argue that those anti-smoking campaigns associated with confidence build-up are more likely to stimulate smokers to get rid of tobacco (Biener & Taylor, 2002; Hill et al., 1998).

Currently, researchers tend to assess the relationship between advertising characters and audience responses rather than identify how smokers change behaviour under the influence of media campaigns. Ji, Xiong, Gilpin and Biener (2007) suggest that social marketers and advertisers should be concerned with identifying the types of ads that are most memorable to the viewer.

The model developed by Prochaska and DiClemente (1983) provides a basis for understanding the types of messages to use in advertising depending on the stage an individual may be at, but whether this strategy is effective is not well understood. The strategies they propose are commonplace in fields such as psychiatry and psychotherapy, but few studies test the effectiveness of social marketing campaigns designed to enact behavioural change. This research looks to see if advertising messages that match the common strategies outlined in Table 1 do lead to behavioural change. That is, Precontemplators would respond more favourably to consciousness raising messages, while Contemplators and Preparers would respond better to self-liberating messages. Therefore, the following can be hypothesised:

H2: Precontemplation smokers will respond most favourably towards consciousness raising ads compared with self-liberation ads.

H3: Preparation smokers will respond more favourably towards self-liberation ads compared with consciousness raising ads.

The following section outlines the methodology employed to test the stated hypotheses.

Method

Subjects, design and procedure

A total of 200 responses were collected from smokers at a south-western British university. The mean age of experimental participants was approximately 22 years old and a split of 49% female and 51% male. The design of the experiment was a 3 (Stage of Change: Precontemplation, Contemplation, Preparation) X 2 (Ad type: Consciousness Raising, Self-liberation) between subjects factorial design. Participants were pre-screened to ensure that they were smokers before the study began.

Stage of Change was used as a measured independent variable while ad type was manipulated. Stage of Change was measured through self-evaluation by participants as per Prochaska and DiClemente (1983). Participants were asked whether they were: *Not thinking of quitting in the next six months* (Precontemplation), *Seriously thinking of quitting in the next six months* (Contemplation) or *Planning to quit smoking within a month* (Preparation).

Two ads were chosen based on a pre-test (thirty participants) to determine whether an anti-smoking ad was either consciousness raising or self-liberating. The results of the pre-test showed that the British Heart Foundation's (BHF) 'Every cigarette we smoke' ad was deemed to be consciousness raising ($p < .01$) as it focused on educating the effects of smoking. The NHS's Smokefree 'Unhooked' ad was deemed to be more self-liberating ($p < .01$) as it showed that by quitting you will be liberating yourself from the hold that cigarettes have on your life.

The BHF ad shows a cigarette unwrapping revealing a fatty substance inside with the text 'Every cigarette we smoke makes fatty deposits stick in your arteries. We'll help you give up before you clog up completely.' The Unhooked ad showed a young man with a fishhook in his cheek and the text: 'The average smoker needs over five thousand cigarettes a year. Get unhooked.'¹

Participants were informed that the research was being carried out to understand smoking behaviour and the effect of anti-smoking campaigns on quitting behaviour. Participants were asked general demographic questions and their self-evaluated Stage of Change before being shown either the Consciousness Raising or Self-liberating ad. Participants were then asked to complete questions relating to the dependent variables used in the study. The experiment took on average ten minutes to complete.

Attitudes and behavioural intentions

The key dependent variables of this study are that of attitudes towards the ad (A_{ad}) and intentions to quit smoking. A_{ad} was measured using a five-point Likert scale asking whether the ad was believable, informative and offensive. Six questions were asked regarding participants' attitudes towards quitting and intentions to quit smoking based on Prochaska and DiClemente (1983). A five-point Likert scale was used to determine whether participants: were more aware about the consequences of smoking; would think more about the consequences of smoking; whether the ad has a negative effect on their self-image; whether the ad is a positive reminder to quit smoking; whether they would contact the helpline shown on the ad; and whether they would make a commitment to quit after seeing this ad. Internal reliability for the A_{ad} and $A_{Quitting}$ were .57 and .80 respectively. As the Alpha score for A_{ad} was significantly lower than that recommended it was not used in the subsequent

hypothesis testing and only A_{Quitting} was used as the dependent variable (Cronbach, 1951; Nunnally & Bernstein, 1994).

Results

Hypothesis testing

Hypothesis 1

Attitudes towards quitting were tested using an ANOVA model with Stage of Change used as the independent variable and A_{Quitting} used as the dependent variable. The results showed a significant two-way main effect for Stage of Change ($F_{(2,197)}=3.57$, $p<.05$, $\omega^2=.43$). The strength of the effect shown here shows that there is a strong relationship between the independent and dependent variables (Cohen, 1977). This is even more pertinent as high effect sizes are often not expected in experimentation (Fern & Monroe, 1996). Higher scores in this test represent more favourable attitudes and desire to quit. From this ANOVA model it was shown that attitudes towards quitting were significantly lower for Precontemplation smokers (mean=2.72) than Contemplation smokers (mean=3.12) or Preparation smokers (mean=3.01). Therefore, hypothesis 1 has been supported.

Hypotheses 2 and 3

Consumer responses to the ads were investigated using an ANCOVA model. The results showed a significant two-way Stage of Change X Ad Type interaction ($F_{(2,198)}=5.549$, $p=.05$, $\omega^2=.11$). Once again, the effect size shown here is considered to be high. The means and standard deviations for the hypothesis testing is shown in Table 2.

From this test it was revealed that participants who had no intentions to quit showed significantly more favourable attitudes towards quitting when shown the Consciousness Raising ad (mean=2.91) compared with the Self-liberating ad (mean=2.60). This result supports hypothesis 2.

Participants in the later stages of quitting had significantly more favourable attitudes towards quitting when shown the Self-liberating ad (mean=3.35) compared

Table 2. Means and standard deviations for attitudes towards quitting categorised by Stage of Change and ad type.

		Attitudes towards quitting	
		Mean	Standard deviation
Precontemplation	Overall (H_1)	2.72	.09
	Consciousness Raising (H_2)	2.91	.12
	Self-liberating (H_3)	2.60	.12
Contemplation	Overall (H_1)	3.12	.09
	Consciousness Raising (H_2)	3.00	.12
	Self-liberating (H_3)	3.30	.13
Preparation	Overall (H_1)	3.04	.14
	Consciousness Raising (H_2)	2.74	.19
	Self-liberating (H_3)	3.35	.19

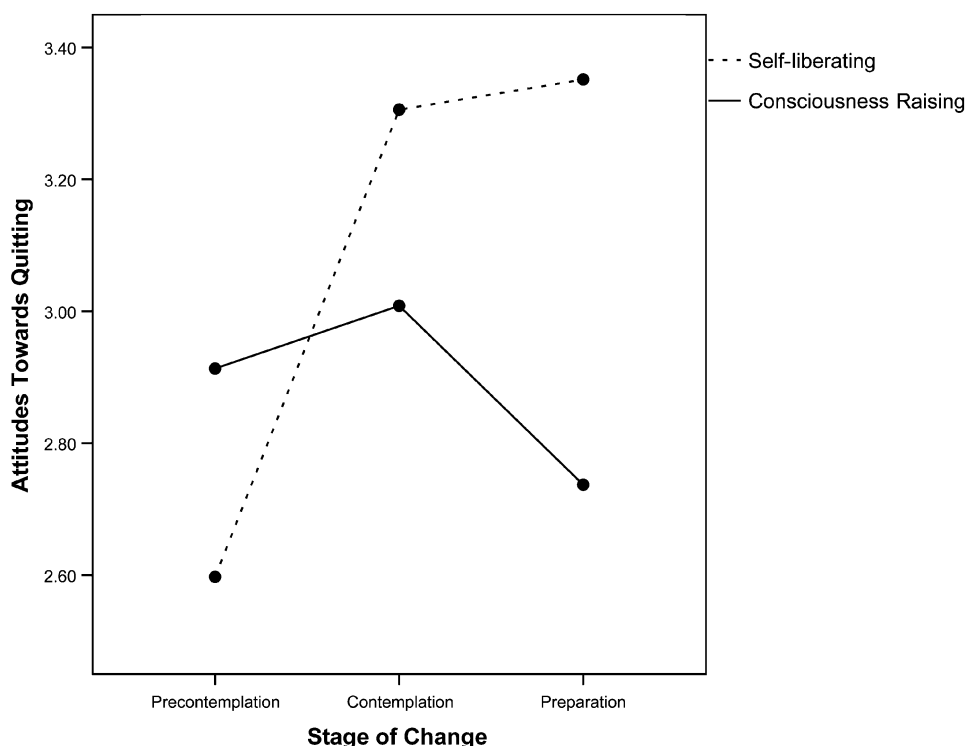


Figure 1. Stage of Change by ad type on attitudes towards quitting.

with the Consciousness Raising ad (mean=2.74). This result supports hypothesis 3. The results of the hypothesis testing are shown graphically in Figure 1.

Covariates

A number of covariates were measured to reduce experimental error through statistical control. These covariates included gender, age and prior exposure to the advertisements shown. As actual advertisements were used in the study it was deemed necessary to measure whether participants had seen the ads before as this could bias their responses in the experiment. Results from the ANCOVA model showed that only gender had a significant effect ($F_{(1, 198)}=6.3$, $p<.01$, $\omega^2=.06$). A one way ANOVA showed that Female participants (mean=3.08) reported significantly higher A_{Quitting} than Male participants (mean=2.85). No other covariates reported a significant effect on the overall ANCOVA model, indicating that the experimental design was able to control for these factors.

Discussion

From the results it can be seen that all hypotheses were supported as expected. This research shows that that for the Consciousness Raising (BHF) ad the most favourable attitudes towards quitting came from consumers who were not thinking

of quitting. Conversely, for the Self-liberating (Unhooked) ad the most favourable attitudes towards quitting came from consumers who were either contemplating or preparing to quit. These results are consistent with Prochaska and DiClemente's (1983) theory on therapeutic strategies for addictive behaviours. What this research demonstrates is that therapeutic action does not necessarily require personal contact or communication. Mass communication tools, such as advertising, can have a powerful effect on smokers' desire to quit. This research also sheds light as to why a social marketing campaign may not be successful in one market despite success in other markets. The cognitive differences in individual participants in this study show how significant changes in attitudes towards quitting can be seen.

The model developed by Prochaska and DiClemente (1983) offers valuable insight for the social marketer as to the messages that a target audience would be more receptive to. By understanding what stages of change a target population may generally be in a social marketer would be able to develop appropriate marketing messages, whether they be in the form of advertising materials or intervention groups, that can best meet the needs of the population. This is further explicated by the significant covarying effect that gender had on the ANCOVA model. Overall, female participants were more likely to respond to the quit smoking ads than male participants. This result is in contrast to previous studies that have shown that males tend to have better recall when presented with an ad (Petty, Cacioppo, & Schumann, 1983). One explanation could be found in understanding the nature of the ads presented. Both ads presented information in a negative fashion. Research has shown that in general, women are prone to negative and fearful messages far more than men (Ortega & Myles, 1989), which can be attributed to a greater sensitivity towards emotions (Wild, Erb, & Bartels, 2001). Little is known about response differences between males and females with respect to fearful advertising and as such further research should be undertaken before any conclusions can be made.

One interesting point from the results is the drop in attitudes towards quitting from the Contemplation smokers to the Preparation smokers. This difference could be an indication that Preparation smokers have already made a decision to quit and as such their attitude towards quitting is lower compared with Contemplation smokers. These smokers are still in a phase of self-evaluation and are consciously absorbing relevant information to help justify quitting actions. The Contemplator's liminal state between being a smoker and being someone who is trying to quit could be a time of extreme struggle (Turner, 1964). It could be argued that this liminal state would also mean that Contemplators are more susceptible to messages encouraging them to continue smoking as well as quit smoking. Further research into the attitudes and actions of Contemplation smokers would be of use to social marketing practitioners targeting this group.

Prior exposure to the ads played no significant role in participants' evaluations of the ads. One would expect that prior exposure would impact future evaluations, either due to advertising wearout or wearin effects (Blair, 2000; Craig, Sternthal, & Leavitt, 1976; Fry, 1996). That is, previous experiences with the ads presented either dull the sensitivity towards the ads' messages, leading to a less effective response (advertising wearout) or that an ad's message builds in effectiveness over multiple exposures (advertising wearin). An explanation for why these effects were not seen here is proposed. The sample size of those who had seen the ads was not large enough to show any significant differences. Less than 40% of the participants

responded to seeing the ads before. This represents either: (1) that the coverage of the quit smoking campaigns by the BHF and Smokefree agencies is inadequate and the participants were never exposed to the ads; or (2) that participants have seen the ads before but did not engage significantly enough at the time to retain any knowledge of being exposed to the ads. Both of these explanations are of acute concern to the social marketing agencies responsible for launching these campaigns. When prior research shows that ad exposure and ad engagement are often the most important factors to ad success (Gotlieb & Sarel, 1991; Woodside & Dubelaar, 2003) then both BHF and Smokefree have failed to reach successfully the participants used in this study. The following section outlines the managerial implications from this research.

Managerial implications

The key managerial implication from this research is the importance that the individual has on the effectiveness of a quit smoking ad campaign. Both ads tested proved to be successful, but only relatively so depending on the individual differences between consumers. Previous studies have shown how individual differences can impact ad responses (Forehand & Deshpandé, 2001; Reed, 2004). This research further cements this notion by showing how an abstract difference, such as stage of change, can significantly impact attitudes towards quitting.

Social marketing campaigns launching into a new area should have a fuller understanding of the target population's current stage of change before developing messages encouraging quitting. One example of targeting messages appropriately would relate to the increase in people thinking of quitting due to recent bans on smoking in public places in the UK, Australia and New Zealand. Studies have shown that smoking bans lead to increased desire to quit smoking (Longo, Johnson, Kruse, Brownson, & Hewett, 2001), effectively moving smokers into a Contemplation or Preparation stage of change. Self-liberating advertising messages would be the key now for these groups of smokers to help in their quitting behaviour.

Limitations and future research

One limitation of this study is the use of a university student sample, which reduces its generalisability to the wider population. Although student samples are prevalent in advertising and consumer research (Maheswaran & Meyers-Levy, 1990; McQuarrie & Phillips, 2005), this type of sample, compounded with the laboratory experiment procedure used, lessens the overall external validity of the research. However, university students can be seen as a key demographic for anti-smoking campaigns with a large number who smoke (Webb, Ashton, Kelly, & Kamali, 1996). Future research should look to extend this study by using a non-student sample and measuring actual quitting behaviour, rather than attitudes towards quitting. Attitude and intention measures are common dependent variables used in advertising research (Dimofte, Forehand, & Deshpandé, 2004; Martin, Lang, & Wong, 2004; Martin, Veer, & Pervan, 2007; McQuarrie & Phillips, 2005) and often provide valuable insight into advertising effects. However, future studies should look to focus on behavioural change as well as intentions to understand further what impact advertising has on smoking cessation. This would provide an even greater understanding of the effects shown here for advertisers.

Note

1. Examples of the BHF and Unhooked ads used in this study can be found at www.BHF.org.uk and www.gosmokefree.co.uk respectively.

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