SOCIAL INFLUENCE AND INTERVENTIONS: PERCEIVED EFFECTIVENESS OF ANTI-SMOKING ADVERTISEMENTS

[1]Dr. Shivani Datta, [2]Ms. Ankita Mishra

[1]Assistant Professor, Dept. of Psychology, K.N.C, University of Delhi
[2]Assistant Professor, Dept. of Psychology, Shaheed Rajguru College of Applied Sciences for Women, University of Delhi

ABSTRACT

Tobacco consumption, in both smoking and smokeless forms, is one of the leading causes of death worldwide. Research has shown that anti-smoking campaigns can help in reducing cigarette smoking prevalence. Literature suggests that social influence through informational and emotional appeal in anti-smoking messages for quitting is particularly useful. In light of such previous findings, the aim of the present research was to explore gender variation in the perceived effectiveness of anti-smoking mass media interventions among smokers and non-smokers. The results were found to be statistically significant for smokers and non-smokers, hence establishing that non-smokers perceive anti-smoking campaigns to be more effective than smokers. These results may provide insights for anti-smoking ad developers, and also give an understanding of whether the content needs to vary with regard to the gender and smoking status of the audience it is directed for.

Keywords: Anti-smoking; Gender; Intervention; Mass media; Social influence

Tobacco is a leading preventable cause of death, killing nearly six million people worldwide each year (WHO Report, 2011). Tobacco was introduced in India by Portuguese traders in 1600. Its use and production proliferated to such a great extent that today India is the second largest producer of tobacco in the world.

Patterns of smoking among youth in India

Cigarette smoking is the second most popular smoking form of tobacco used in India after bidis. Many national and multinational companies all together manufacture about 100 brands of cigarettes in India (Bhonsle et al. 1992). Cigarette use is increasing on campuses all subgroups and types of colleges. The health behaviours of young adults are important because this group is

in a transition between adolescence and early adulthood, a time during which unhealthy behaviours may be consolidated into lifetime patterns. The development of effective interventions and substance abuse policies for colleges and universities is likely to help reduce the long-term morbidity and mortality related to smoking facing this large population of young smokers.

Anti-smoking interventions

Anti-smoking interventions refer to campaigns in place either by the government or other sources that aim to lessen the vast influence of smoking. The Government of India has been engaging with the tobacco problem in the country. The Cigarette and Other Tobacco Products Act (COTPA) aimed at addressing tobacco use in public places, sale and packaging regulations, tobacco advertising and was introduced in 2003, and the Framework Convention of Tobacco Control (FCTC) was brought into force in 2005. The aim of the National Tobacco Control Programme was to set up educational interventions for schools and the general population, training programmes for health workers, teachers, and others, tobacco cessation centres and various mechanisms to monitor and regulate the enforcement of tobacco control laws, specifically at the district level.

Persuasion and anti-smoking interventions

Interventions can be regarded as a form of social influence. Social influence processes like conformity, compliance and obedience, are largely guided by what are known as norms, or the shared beliefs that also extend to the approved form of conduct expected from individuals or groups.

Persuasion is a type of social influence in which a particular appeal or message is used in order to change attitudes or beliefs of people (DiMatteo & Martin, 2002). External stimuli (communicator, communication and situation) affect the target and intervening processes (message learning, transfer of affect, counter arguing etc) may take place which will either lead to change in attitude or source derogation / message distortion / blanket rejection. The broader situational context along with the personality, mood and ego involvement of the individuals also influence the way message is perceived.

Theoretical perspectives underlying the impact of interventions

➢ Health-belief model (Hochbaum et al., 1952)

The health belief model (HBM) is based on the expectancy value theory. It suggests that a person's expectations and values drive his/her motivation. It explains that engagement (or lack of

engagement) in health-promoting behaviour can be predicted by people's perceived susceptibility, perceived benefits of taking health action, perceived threat and barriers to action, perceived self-efficacy and triggers/cues to action.

➢ Social Cognitive Theory (Bandura, 1989)

Social cognitive theory explains that behaviour is a product of reciprocal interactions between cognitive, behavioural, and environmental influences. It builds the base of cognitive behavioural therapy, which considers that people's affect or emotions, behaviours and cognitions can interact with and influence each other to maintain problem behaviours.

➢ Theory of Planned Behaviour (Ajzen, 1985)

The theory of planned behaviour (TPB) posits that people's behaviour and behavioural intentions are determined by their attitudes, subjective norms and the degree of control they perceive they have over their behaviour.

➢ Elaboration Likelihood Model (Petty and Cacioppo, 1986)

The Elaboration Likelihood Model (ELM) is a theoretical approach which offers the required link in the development of messages that can address the needs of communicating with the youth or youth at risk, regarding interventions. The ELM proposes for an elaboration likelihood continuum, whereby, messages with high personal significance and stake are paid attention to, elaborated and processed carefully and others may be processed with minimal effort by using heuristics or peripheral message cues.

➢ Trans-theoretical model/Stages of change

The trans-theoretical model (TTM) theorises that successful behaviour change involves a sequence of steps: pre-contemplation (not even thinking about changing), contemplation (thoughts about changing), preparation (planning for the change), action (adopting new habits), and maintenance (ongoing practice of new, healthier behaviour).

➢ Heuristic-systematic processing model of attitude change

The heuristic-systematic model refers to Chaiken's model of attitude change, when people attend to a message carefully, they use systematic processing, or else they process information by using shortcuts or heuristics. This is utilised by advertising companies when they seek to influence consumers by portraying their products as supported by scientific research or credible opinion.

Review of Literature

Studies have reported that over all television has been suggested to be the most effective, powerful medium for anti-smoking and tobacco-control campaign reaching target general population and smokers (Jepson et al., 2006; Durkin et al., 2012). Media campaigns delivered through internet website and other emerging social media have also found to be effective in preventing youth smoking initiation as well as increase quit attempts among youth and adults (WHO, 2011).

A study by Kumar et al., (2010) has shown that educating people about harmful effects of tobacco can help to enhance the quit rates in the society. Smoking is portrayed as a glamorous activity by the tobacco industry which is an important factor for the use of tobacco at an early age by the college students. It was found that females are less prone to the use of tobacco compared to male students (Trinidad & Johnson, 2002).

A study by Davis and associates (2011) reported that smokers who have a greater intention to quit and who recently have attempted to quit responded more favourably to antismoking messages. Responses to such advertisements may also be moderated by perceived social norms like social acceptability of smoking, family/peer influence, etc. (Spics et al., 2010).

Rise et al., (2008) have shown that the theory of planned behaviour strongly predicts smoking intentions and behaviours, especially perceived behavioural control. An evaluation study of television messages against smoking based on the Elaboration Likelihood Model (Flynn et. al., 2011), suggested that adolescents who are involved with decisions about initiating cigarette smoking will find messages that provide strong factual arguments to be appealing because they supply useful information for active consideration of the pros and cons of cigarette smoking.

Literature suggests that using informational and emotional appeal in anti-smoking messages to communicate reasons for quitting is particularly useful. This study explores whether gender, smoking status, and type of media/advertisement content has any influence on perceived effectiveness. Results may provide insights for anti-smoking ad developers, and also give an understanding of whether the content needs to vary with regard to the gender and smoking status of the audience it is directed for. The following are the hypotheses that are tested in the present study.

Hypothesis 1(a): There would be a significant difference between males and females in the perceived effectiveness of informational anti-smoking messages.

Hypothesis 1(b): There would be a significant difference between males and females in the perceived effectiveness of emotional anti-smoking messages.

Hypothesis 2(a): There would be a significant difference between smokers and non-smokers in the perceived effectiveness of informational anti-smoking messages.

Hypothesis 2(b): There would be a significant difference between smokers and non-smokers in the perceived effectiveness of emotional anti-smoking messages.

Method

Participants

The present research collected 120 sets of responses. The number participants are 60 (30 Male, 30 Female, out of whom 30 are Smokers and 30 Non Smokers), but since each individual responded on the scale twice (one for informational and one for emotional), N is taken as 120. The participants were college students and their age ranged from 18–21 years. They were screened for tobacco usage and frequency.

Measures

The instrument used to assess the perceived effectiveness of advertisements (Appendix A) consisted of 13 items. The first 11 were statements to be responded on a 5 point Likert scale (Strongly agree=1, Agree=2, Neutral=3, Disagree=4, Strongly disagree=5), such that lower the total score higher the perceived effectiveness of the advertisement. Some items were reversed for scoring.

Procedure

Data was collected from a total of 60 participants using purposive sampling technique. After contacting the first participants they were asked to refer a friend who would be willing to participate in the study (snowballing). The sample was categorized on the basis of gender (male and female) and smoking status (smoker and non-smoker), which were the independent variables. Gender, like all social identities, is socially constructed. For the present study, participants were asked to indicate the gender they identify with in terms of male and female. To identify their smoking status, smokers were categorized as those individuals who smoke tobacco regularly, whereas, non-smokers were those who never smoked tobacco. The question used to acquire this information was: How frequently have you seen others around you use tobacco? The participants were to choose between the following responses: frequently, sometimes, and rarely.

The anti-smoking ads were divided on the basis of the type of appeal they used. These were classified as Informational and Emotional. Informational anti-smoking messages presented the viewer with facts and data based information about the harmful impact of smoking and seemed to make a persuasive appeal through rational logic. Emotional anti-smoking messages on the

other hand, aroused some kind of feelings and reactions towards the idea of smoking by including emotional appeals by family of the smokers, or depicted emotional appeals from individuals suffering from certain diseases that resulted from smoking.

Perceived effectiveness was used as a dependent variable. The effectiveness of the advertisement as perceived by the participants was measured using items such as 'I would think twice before consuming these products in the future after watching this advertisement' and 'This advertisement is appropriate as an intervention.'

Each participant was shown 4 advertisements - 1 emotional anti-drug abuse advertisement, 1 informational anti-smoking advertisement, 1 informational anti-drug abuse advertisements and 1 emotional anti-smoking advertisement. After each advertisement, the participants were asked to complete the Perceived Effectiveness Scale. This research was mainly concerned with informational anti-smoking message and emotional anti-smoking advertisement, and anti-drug advertisements were included only as fillers. Participants were desensitized regarding any ill effects of their participation. They were debriefed about the aim and procedure of the research. No participant was left with any misconception about the real aim of the activity. Analysis of data used the quantitative approach. For the statements assessed on the Likert scale, the data obtained was analyzed at the descriptive (Mean and standard deviation) and inferential level (t values to assess whether the groups differed significantly in the perceived effectiveness of the two kinds of advertisements, informational and emotional). In order to understand the impact of variables such as gender, smoking status and type of advertisement, certain statistical analysis on SPSS (Statistical Package for the Social Science) was done.

Results

The aforementioned hypotheses were tested using descriptive and inferential statistics.

Tables 1 and 2 depict the mean and standard deviation of the perceived scores for males and females and smokers and non-smokers respectively. These are further divided into the types of advertisements i.e. informational, emotional and informational+emotional (I+E) combined. The statistically significant difference is measured between the types of advertisements as well as between genders through t-test as can be seen in tables 3, 4, 5 and 6. The difference in means of smokers ($\overline{X}_S$= 37.87) and non-smokers ($\overline{X}_{NS}$ = 41.27) is greater than the difference between males ($\overline{X}_M$= 39.88) and females ($\overline{X}_F$= 39.25) on their perceived effectiveness scores. Further, within smokers and non-smokers the difference in the mean perceived effectiveness scores is higher for informational than for emotional.

Table 1

Mean and standard deviation for perceived effectiveness of informational and emotional advertisement messages viewed by male and female participants

	Mean			Standard Deviation		
	Informational	Emotional	I+E	Informational	Emotional	I+E
Male	39.18	40.33	39.88	5.67	6.53	6.42
Female	38.93	39.56	39.25	5.36	6.28	5.78

Table 2

Mean and standard deviation for perceived effectiveness of informational and emotional advertisement messages viewed by smoker and non-smoker participants

	Mean			Standard Deviation		
	Informational	Emotional	I+E	Informational	Emotional	I+E
Smokers	37.1	38.63	37.86	4.48	6.53	5.61
Non-Smokers	41.26	41.34	41.26	6.03	6.35	6.13

Table 3

t-test for difference between male and female participants' perceived effectiveness of informational advertisement messages

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2 - tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Perceived Effectiveness	Equal variances assumed	1.519	.223	.340	59	.735	.49785	1.46298	-2.42957	3.42527
	Equal variances not assumed			.340	57.660	.735	.49785	1.46590	-2.46383	3.43253

Table 4

t-test for difference between male and female participants' perceived effectiveness of emotional advertisement messages

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
| | | F | Sig. | t | df | Sig. (2 -tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
									Lower	Upper
Perceived Effectiveness	Equal variances assumed	1.505	.225	.455	58	.651	.76667	1.68565	-2.60753	4.14086
	Equal variances not assumed			.455	57.378	.651	.76667	1.68565	-2.60831	4.14164

Table 5

t-test for difference between smoker and non-smoker participants' perceived effectiveness of informational advertisement messages

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
| | | F | Sig. | t | df | Sig. (2 -tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
									Lower	Upper
Perceived Effectiveness	Equal variances assumed	2.420	.125	-3.009	58	.004	-4.16667	1.38488	-6.93881	-1.39453
	Equal variances not assumed			-3.009	53.165	.004	-4.16667	1.38488	-6.94418	-1.38915

Table 6

t-test for difference between smoker and non-smoker participants' perceived effectiveness of emotional advertisement messages

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Perceived Effectiveness	Equal variances assumed	.645	.425	-1.593	58	.117	-2.63333	1.65287	-5.94192	.67525
	Equal variances not assumed			-1.593	57.895	.117	-2.63333	1.65287	-5.94205	.67538

Discussion

The aim of the present research was to explore gender variation in the perceived effectiveness of anti-smoking mass media interventions among smokers and non-smokers. The research was done in a quasi-experimental setup, wherein the participants were shown two advertisements on anti-smoking campaigns, one of which was emotional and the other one was informational, these two advertisements were spaced with two filler advertisements on drug abuse (which also shared the informational and emotional classification). These advertisements were then shown to the 60 participants (30 males and 30 females, 30 smokers and 30 non-smokers), who were asked to fill a questionnaire with 11 items. The results obtained have been discussed below.

As can be seen in Table 1, males have a higher combined mean on the perceived effectiveness scale than females ($\overline{X}$ F = 39.25, $\overline{X}$ M = 39.88). When the mean is looked at individually on the basis of the type of advertisement, males have higher means for informational advertisements ($\overline{X}$I =39.18) as opposed to females ($\overline{X}$I =38.93) and females have a lower mean for emotional ($\overline{X}$ E = 39.56) than males again ($\overline{X}$ E = 40.33).

This could be because of the "selectivity model" that was the basis of the study done by Darley and Smith (1995) which had similar results on gender comparisons. According to the "selectivity model," females are comprehensive information processors and males are selective information processors who tend to use heuristics processing. This could be a reason as to why women have scored lower in the perceived effectiveness of both advertisements combined and individually as

well. Another study by Chang (2007) also showed that men tend to favour and change their decisions in a comparative manner that often leads to an inflation of the scores thus obtained, whereas women tend to be more aware of the manipulative intent behind advertisements and therefore thoroughly analyse the advertisement before forming a view or opinion about it.

The data depicted in Table 2 shows that within smokers and non-smokers the difference in the mean perceived effectiveness scores is higher for emotional advertisements ($\overline{X}$ S = 38.63, $\overline{X}$ NS = 41.34) than informational ($\overline{X}$ S =37.10, X$\overline{N}$ S = 41.26). The informational and emotional advertisements' data combined, for the difference between smokers (X^- = 37.86) and non-smokers ($\overline{X}$ = 41.26) also shows a difference between perceived effectiveness scores, which is in favour of the non-smokers, suggesting that they have a higher perceived effectiveness scores as opposed to smokers. This could be because most smokers tend to adopt a defensive stance when viewing anti-smoking advertisements as they can highly relate to this as opposed to non-smokers who have a relatively objective view of the same advertisements.

To examine whether the difference in the mean for perceived effectiveness of the various grouping variables were statistically significant, a series of t-tests compared participants on factors such as gender and smoking status. This analysis was further divided on the basis of the type of advertisements shown i.e. informational or emotional. This resulted in the interpretation and discussion of the four hypotheses as given below.

Hypothesis 1(a) did not show statistically significant difference between male and female participants in terms of their perceived effectiveness of informational advertisement in its t-value (t= 0.340, p= 0.735). A study by Smith and Stutts (2006) showed that the effectiveness of anti-smoking advertisement was influenced by three individual factors which are grade level, gender and ethnicity. This finding also has internal validation with the descriptive statistics stated in Table I, which showed a difference but not one that is significant to ensure any inferences to be potentially drawn from them.

Hypothesis 1(b) did not have a statistically significant difference between male and female participants in terms of their perceived effectiveness of emotional advertisement in its t-value (t= 0.455, p= 0.651). This finds support in a previous study done by Fisher and Dubé (2005), wherein they found no significant difference between males and females in their perceived effectiveness of the emotional advertising shown to them.

Hypothesis 2(a) showed a statistically significant difference between smoking and non-smoking participants in terms of the perceived effectiveness of the informational message. Here, t= -3.009 which is significant at p= 0.004 (df=58). This finding suggests that the smoking status of the individual plays a role in how they perceive the effectiveness of informational advertisements.

The t-value found (-3.009) tells us that non-smokers seem to have scored more in the perceived effectiveness scale as opposed to smokers.

Larsen and Cohen (2009) found that there was better perceived effectiveness of anti-smoking advertisements that were informational in nature. They suggested that smokers are already aware of the negative effects of smoking. From this perspective, attitudinal negativity need not influence smoking behaviour among smokers, however, non-smokers will get influenced relatively more as they share the global attitude regarding smoking as opposed to smokers. They also suggested that weakening positive reactions toward smoking may deter smoking more, than strengthening negative reactions does, which is what informational advertisements tend to do for smokers, thus explaining the low scores on the perceived effectiveness scale for smokers as opposed to non-smokers.

Another study by Hong and colleagues (2013) also provides precedence for the findings of these results. Their study too showed a statistically significant difference in the perceived effectiveness of anti-smoking advertisements among smokers and non-smokers. The non-smokers perceived the anti-smoking messages as more effective compared to smokers.

According to the Elaboration Likelihood Model, if an individual is not motivated (a smoker has opted for an unhealthy behaviour, hence her/his motivation will be lower as opposed to a non-smoker) to carefully process elaborate arguments and is exposed to similar messages, that person is likely to utilize a less effortful method of processing the information, such as heuristics or social cues, to assess message content as the smokers have done as can be seen in the mean of their scores. As a result of lower investment in processing arguments, any cognitive structure change experienced by them following exposure to the message is likely to be less stable than changes resulting from central processing, which is what non-smokers tend to adopt and thereby have higher perceived effectiveness scores.

Applying the Health Belief Model to the results obtained for this hypothesis, it would predict that tobacco use is determined by an individual's perceptions regarding: susceptibility to tobacco-related diseases; costs, benefits, and barriers to engaging in smoking or quitting behaviours; and triggers to change the behaviour. In this context, we can juxtapose HBM to be suggestive of the defensive approach of the smokers in their perception of the informational advertisement as opposed to non-smokers.

Leon Festinger's theory of Cognitive Dissonance (1962), in this case, suggests that when coming across information related to smoking, it is probable that the message will not be able to hold the attention of smokers for a detailed cognitive level of analysis. This could happen because the smoker might distort his/her beliefs in a manner such that the message informing about the

dangerous effects and consequences of smoking may be disregarded, called as altering one's beliefs. Apart from this, an individual's own behaviour and the information provided by the advertisement would create a more explicit dissonance since the two are contradictory. This might be one reason why smokers have not rated the informational advertisement as high on perceived effectiveness as non-smokers. It could be either due to the quick dismissal or due to a peripheral appraisal of said advertisement by smokers of the informational advertisement.

Hypothesis 2(b) showed no statistically significant difference between smokers and non-smokers in the perceived effectiveness of emotional advertisement (t= -1.593, p= 0.117). This t-value leads us to assume that the emotional advertisement shown was indeed too emotional (fearful) to have a significant difference in the perceived effectiveness by either smokers or non-smokers. This is suggestive in favour of theories that focus on the universal effect of messages or advertisements high on the emotional aspect, which when fear-arousing tend to not have an effect at all. Janis and Feshbach (1953), persuasion researchers, hypothesised that very high fear levels are counterproductive in their persuasive ability. This is because individuals might become so upset that they disregard the threatening message being conveyed by the advertisement. According to this, if the message is conveyed in a more positive manner and not a negative one or has moderate and not high fear appeal, the message being conveyed is more likely to be paid attention to.

Another explanation for this could be because of the repeated exposure to the same message that "smoking is injurious to health", which would cause habituation to take place, which would in turn, disregard the severity or the message itself. Moreover repetition could also become a source of annoyance or exhibit an increased tendency to tune out the message (Hastings, et al., 2004).

Leventhal (1970) proposed another reason, for the failure of high fear appeals in the perceived effectiveness of the message that the concentration on invoked fear shifts the attention and focus from the message causing the message to become secondary to the emotional aspect of the advertisement. Hence, the lack of a significant difference between smokers and non-smokers in the perceived effectiveness of the emotional advertisement can be associated to the universal effect of fear appeals being counterproductive to the effectiveness of the advertisement.

It becomes important here to view this result along with the result of Hypothesis 1(b) which was about the difference in the perceived effectiveness of the emotional advertisement among males and females, which too was not significant. This lends us internal validity to claim that the emotional anti-smoking advertisement was too fearsome to be significantly different in its perceived effectiveness among the sample, when categorised on the basis of gender or their smoking status.

Shen (2015) also found results in synchronisation with the present study that suggest that smokers resist anti-smoking advertisements, thereby reducing their perceived effectiveness automatically. Leventhal (1970) also gave a similar explanation in his study, which showed that fear appeals do not hold much ground when high, in influencing the message's effectiveness, regardless of the smoking status of the participant.

Implications of the study

Anti-smoking advertisements represent one of the most intensely funded health communication campaigns. In this light, it becomes important to not only make people aware of the movements against tobacco but also initiate active awareness programmes that can be of more use in a personal and ground level sense. This would be able to cater better to the differential needs of the audience as was discussed in the finding of this research, i.e. smokers and non-smokers have a significantly different perception of informational advertisements and that emotional campaigns should be of a moderate level of fear arousal or be humorous in order to be emotionally arousing to persuade a change in behaviour.

Implications for increasing the persuasive aspect of advertisement messages:

1. Overall appeal of emotionally arousing images need to be tapped for smoker and non-smoker population.
2. Advertisement messages would be effective if they focused more on a moderate level of fear arousal as opposed to a high level.
3. A mix of informational appeal and emotional appeal messages for smokers are preferred.
4. Behavioural change possibilities need to be incorporated so that even if dissonance is experienced, it is nullified using behavioural change strategies rather than trivialisation.
5. If the emphasis on the health costs along with the social norms and barriers to quitting smoking are put across, this too would improve the message's effectiveness.
6. Also, as per stage model, the media campaign must also keep the target population's positioning in mind.

Conclusion

The aim of the present research was to explore gender variation in the perceived effectiveness of anti-smoking mass media interventions among smokers and non-smokers. The results of the research were found to be statistically significant for smokers and non-smokers, hence establishing that non-smokers perceive anti-smoking campaigns to be more effective than smokers.

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