

The Influence of Persuasive Messages to Quit Smoking by Media Advertisements

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INTRODUCTION: The high rate of substance use highlights the need to intervene in the initial use prevention of smoking tobacco. The aim was to determine the efficacy of anti-smoking messages to motivate smoking cessation. **METHODS:** It was hypothesised that the messages would reduce the frequency of smoking. The influence of the messages on the intention to smoke, negative emotions, perceived self-efficacy, and health behaviour was also measured. Relevant reliable and valid questionnaires were used to collect data for this experimental study. **RESULTS:** In this study mean differences were calculated. The findings revealed differences between the response scores in the experimental and control groups for the study variables. **CONCLUSIONS:** These findings implied the necessity for the creation of new policies for advertising agencies. Further, it suggests the use of effective anti-smoking messages with patients who smoke to prevent the worsening and progression of substance use in the future. It is recommended for future researchers to replicate the study with a variety of populations and settings for the effect of substance use other than smoking.

Keywords | Substance use – Drug prevention – Treatment – Intervention – Advertisement

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1 INTRODUCTION

A growing body of literature has discussed the possibility of the effect of advertisements on human behaviour. It has been predicted that the messages used in media advertisements may bring about a significant change on the individual and societal levels. It is believed that public health messages encourage behaviour that prevents diseases before they happen. The effects that are caused by advertisements on various societies in the world have long been the subject of intense debate. People of low- and middle-income socio-economic status may experience difficulty in resisting advertisements promoting the smoking of tobacco. Experts have a wide range of contradictory opinions regarding the influence of persuasive statements used in the clinical setting (Zhu et al., 2019).

According to the results of a recent survey conducted in 2018 by the Centers for Disease and Prevention (CDC), approximately 1,005,419 people quit smoking as a result of the Tips from Former Smokers Campaign in the United States (Murphy-Hoefer et al., 2020). The death rate each year attributed to smoking tobacco products drew the attention of the media experts to rethinking and reorganising their advertising strategies to minimise the risks of smoking. Now anti-smoking advertisements have become very common as part of the efforts to lessen the prevalence of smoking in the US and other countries (Chow et al., 2020). People believe that smoking helps to calm their nerves and control anxiety but the truth is that nicotine causes anxiety and makes it worse. In research from developing countries, anti-smoking messages were used as a stimulus for fear to bring about a change in smoking behaviour. Persuasive messages against smoking provoke fear in individuals who smoke and motivate them to quit smoking (Anderson et al., 2019).

Self-efficacy is a feeling of self-control in which a person feels more confident. This confidence enables them to shape their environment. The theory of planned behaviour is one of the important theories of self-efficacy (Patanavanich & Glantz, 2020). This theory has three major components: intention, cognition, and perceived behavioural control. According to this theory, the intentions of a person strongly predict human behaviour but these intentions depend on the thinking processes of individuals. They also referred to social cognitive theory in which he described that self-efficacy is a sense of personal control. If a person feels that they have control over their behaviour, they can work more productively and effectively rather than being shaped by their environment without thinking about the consequences (Ding et al., 2019).

Self-efficacy works as a strong motive in human behaviour that directs the perception and intentions of people to become actively concerned about their health. Many researchers have evaluated self-efficacy as playing an important role in replacing a behaviour with the desired outcome (Campagna et al., 2019). However, self-efficacy can never be on the same level in all individuals. It varies from person to person and plays the role of a hidden power that silently helps people to develop positive changes in their behaviour (Allen et al., 2019). For a member of an Asian family, exposure to smoking starts in adolescence. Pakistani culture has commonly adopted regular

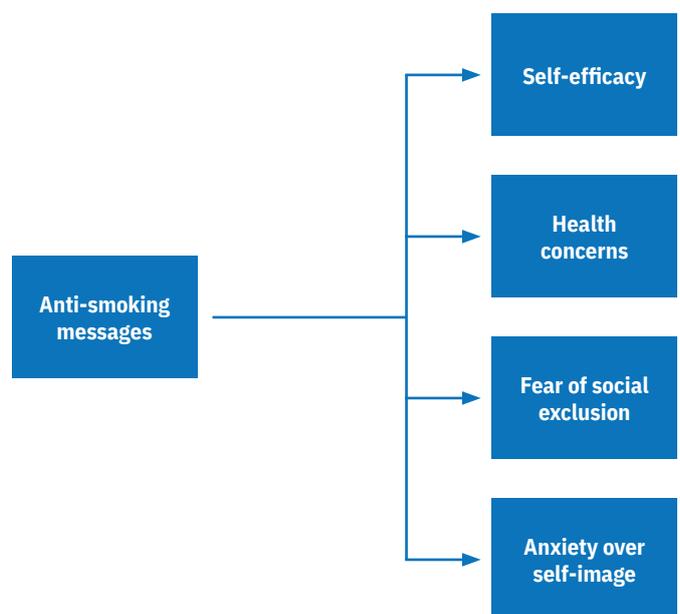
smoking habits that normalise one pack containing 20 cigarettes a day. Affordability is neglected in the case of one-time use, experimentation, and initiation that may lead further to becoming a habitual smoker under the influence of friendships and peer pressure. The social and environmental factors are much stronger than the educational content for seeking help for smoking habits that is experienced. Although the government uses higher prices and taxes to regulate smoking, this barrier has failed to stop or reduce the prevailing negative effects (Hameed & Malik, 2021).

Electronic and social media health campaigns are carefully designed and illustrated to have a positive impact on the high rate of smoking and drug addiction. As a result of the advances in the industry of electronic, social, and print media, the human thinking process has been completely transformed. Persuasive messages related to smoking behaviours have been broadcast for many years through print, electronic, and social media. The existing findings show gaps in demonstrating the influence the latest persuasive advertisements may have on the health of the population who lives in low to middle socioeconomic countries.

The hypothesis was as follows: there would be differences between the scores of the participants in the experimental and control groups.

Figure 1 shows the variables of the study and the influence of persuasive media messages as an anti-smoking campaign to demonstrate the conceptual framework of the study.

Figure 1 | The conceptual framework of the study showing the influence of persuasive messages on the variables of the study



2 METHODS

This study was a quasi-experimental research study with pre- and post-testing and a control group design. It was intended to explore the impact of persuasive anti-smoking messages on smoking behaviour, including the intention to quit smoking, health concerns, anxiety over self-image, the fear of social exclusion, and self-efficacy. Gender differences were also analysed.

The participants ($N = 200$), university students both male and female and aged 18–32 years old, were divided into two groups, experimental and control groups, using the non-probability “convenience sampling” method. The participants were approached to participate in the study in a university setting with the help of an announcement via the institutional online portal. The students voluntarily contacted the office of student affairs and they chose to become a part of the experimental or control group. Participants who are given the choice of joining their preferred group are less likely to drop out and more likely to take an interest in the process of the study. They were briefed and informed on their rights as a research participant to withdraw, and respect, privacy, and confidentiality were discussed. The age range was selected on the basis of a literature review that indicates that university students tend to smoke regularly when they reach their later years of study and career training. Within Asian cultures, they gradually start to accept smoking as a habit in their late 20s.

A demographic information sheet was used to ascertain their age, gender, and the number of cigarettes they smoke per day. A four-item screening questionnaire was used to measure the intentions to quit to measure the intentions of individuals regarding smoking. Anxiety over loss of social image was used to assess the level of anxiety by asking participants to rate it on a five-point Likert scale. Fear of social exclusion was measured on a five-point Likert scale adapted from the Loneliness scale developed by Russell (1996).

Individual differences in perception were noted by self-efficacy in quitting smoking. This was examined by asking participants to rate it on a four-point scale. The measure of self-efficacy was adopted from a study in which Kim et al. (2017) created these items about the General Self-Efficacy Scale (GSES) by Schwarzer and Jerusalem (1995). The original GSES assesses a general sense of perceived self-efficacy to overcome difficult and stressful events in life. Lastly, a five-point Likert scale, the health consciousness scale (Hong, 2009), was administered to measure health consciousness.

The experimental group was exposed to eight colourful pictures and graphic representations showing persuasive messages and warnings on cigarette packs. They marked the questionnaires before and after exposure to the messages. The control group was asked to fill in the questionnaire without any intervention with a wait of one hour in between the two ratings of the scores. The participants were asked a screening question in order to record their current smoking status; How many cigarettes do you smoke daily? The criteria were as follows:

- only individuals who smoked less than one pack/12 cigarettes in 24 hours were included
- individuals who smoke only tobacco cigarettes
- individuals without any diagnosed disease
- age range 18–32 years old

All the members of the experimental group were assembled in a room. A peaceful atmosphere was created in the room to seek full concentration. A five-minutes announcement was made to grab their attention and to remind them of the importance of their honest participation. At the end, they were told again that their confidentiality would never be exploited and the questionnaire was distributed. No anti-smoking visual and text warnings were shown to the control group with 100 participants based on their preference and only messages from popular brands of cigarettes in Pakistan that are available and chosen by all social classes were selected. They were also kept in a big room in a peaceful atmosphere, and they were also given the same information.

3 RESULTS

The present research was conducted to evaluate the impact of persuasive messages on the intention to quit smoking, health concerns, fear of social exclusion, anxiety over self-image, and the self-efficacy of individuals. Descriptive analysis was conducted to find the frequencies, mean, and standard deviation of the demographic variables (see *Table 1*). To find out the group differences for the study variables the mean differences were calculated (see *Table 2*). Lastly, mean differences showed the gender differences (see *Table 3*).

Table 1 | Demographic characteristics of sample ($N = 200$)

Variables	<i>N</i> (%)
Age	
18–22	144 (72.0)
23–27	45 (22.5)
28–32	5 (3.5)
Gender	
Male	159 (79.5)
Female	41 (20.5)
Education	
Undergraduate	140 (70.0)
Graduate	39 (19.5)
Postgraduate	17 (8.5)
Professional	4 (2.0)
Family system	
Joint	100 (50.0)
Nuclear	55 (27.5)
Independent	45 (22.5)

Table 2 | Differences in scores for study variables in the experimental and control groups among individuals who smoke (N = 200)

Source	Groups	N	Mean	SD
Intention to quit	Experimental	100	14.8	3.1
	Control	100	12	3.25
Health concerns	Experimental	100	19.2	3.43
	Control	100	17.2	4.13
Fear of social exclusion	Experimental	100	22.3	4.05
	Control	100	18.2	4.65
Anxiety over self-image	Experimental	100	26.5	6.55
	Control	100	21.5	5.66
Self-efficacy	Experimental	100	22	5.8
	Control	100	26.2	5.88

Table 3 | Descriptive statistics of gender differences in terms of intention to quit, health concerns, fear of social exclusion, anxiety, and self-efficacy of individuals who smoke (N = 200)

Source	Groups	N	Mean	SD
Intention to quit	Male	159	13.8	3.5
	Female	41	12.0	3.1
Health concerns	Male	159	18.5	3.9
	Female	41	17.2	4.1
Fear of social exclusion	Male	159	20.4	4.8
	Female	41	19.6	4.8
Anxiety	Male	159	24.1	6.4
	Female	41	23.4	7.3
Self-efficacy	Male	159	23.5	6.3
	Female	41	26.3	5.3

The results indicate that the individuals who smoke in the experimental group (M = 14.81, SD = 3.10) have a stronger intention to quit in comparison to the control group (M = 12.01, SD = 3.25). The results revealed that the individuals who smoke in the experimental group (M = 19.20, SD = 3.43) have more health concerns in comparison to the control group (M = 17.18, SD = 4.13). They also show that the individuals who smoke in the experimental group (M = 22.34, SD = 4.05) have greater fear of social exclusion in comparison to the control group (M = 18.16, SD = 4.65). Further, it was revealed that the individuals who smoke in the experimental group (M = 26.47, SD = 6.55) have greater anxiety in comparison to the control group (M = 21.52, SD = 5.66). Finally, the results showed that the individuals who smoke in the experimental group (M = 21.97, SD = 5.80) have less self-efficacy in comparison to the control group (M = 26.22, SD = 5.87). The results indicate that the male individuals who smoke (M = 13.76, SD = 3.47) have a greater intention to quit in comparison to the female individuals who smoke (M = 12.02, SD = 3.09). The results revealed that the

male individuals who smoke (M = 18.45, SD = 3.86) have more health concerns in comparison to the female individuals who smoke (M = 17.17, SD = 4.06). They also show that the male individuals who smoke (M = 22.42, SD = 4.84) have greater fear of social exclusion in comparison to the female individuals who smoke (M = 19.58, SD = 4.79). Further, they revealed that the male individuals who smoke (M = 24.14, SD = 6.42) have greater anxiety in comparison to the female individuals who smoke (M = 23.41, SD = 7.28). Finally, the results showed that the female individuals who smoke (M = 26.26, SD = 5.28) have more self-efficacy in comparison to the male individuals who smoke (M = 23.53, SD = 6.311).

Summary of Results

The findings revealed that the participants in the experimental group showed high scores regarding the intention to quit, health concerns, fear of social exclusion, and anxiety, while the control group showed high scores for self-efficacy regarding quitting smoking. The results also revealed that the males showed higher scores on the intention to quit, health concerns, fear of social exclusion, and anxiety, while the females reported high scores for self-efficacy in quitting smoking.

4 DISCUSSION

It was hypothesised that there would be a mean difference between the control and experimental groups regarding individuals with the intention to quit smoking. Inferential analysis revealed that people who are exposed to persuasive messages show strong intentions to quit. The feelings of fear generated by these messages forces individuals who smoke to realise the dangers of smoking. They become more conscious regarding health and do not feel protected until they quit smoking. Hence, anti-smoking messages produce health concerns that guide them to think and decide what is good and bad for their health (Schreuders et al., 2019). The results of this study proved that individuals who smoke show more concern for their health after watching anti-smoking warnings.

It was also hypothesised that there would be a mean difference between the control and experimental groups regarding fear of social exclusion. Similarly, in this study, findings unveiled the same fact regarding the effectiveness of anti-smoking messages. People are scared of being excluded socially. That is why they would rather change their behaviour. An appeal to fear affects the behavioural intentions of individuals who smoke and it compels them to avoid or quit smoking. Van Meurs et al. (2022) recently presented a review and agreed on the reasons behind the failure of persuasive interventions related to smoking behaviours. Their results declared that anti-smoking messages create fear in individuals regarding their smoking behaviour. This fear helps them quit smoking as soon as possible. Similarly, in this study, the findings unveiled the same fact regarding the effectiveness of anti-smoking messages. People are scared of being excluded socially. That is why they would rather change their behaviour.

Another hypothesis that there would be a mean difference between the control and experimental groups regarding anxiety over their social image. The results are supported by previous research (Schreuders et al., 2019) that suggests that the graphic warning labels (experimental group) were positively associated with perceived affective reactions compared to no graphic warnings (control group), suggesting that graphic warning labels operate to provoke anxiety about their social image in individuals who smoke.

It was also hypothesised that there would be a mean difference between the control and experimental groups regarding the self-efficacy of individuals who smoke. Self-efficacy has been strongly associated with behavioural change. It is the degree of belief that one has about being capable of doing something (Schoenaker et al., 2018). Therefore, several scientific studies have included the study of self-efficacy while exploring stages of behavioural change (Ratih & Susanna, 2018). Researchers have concluded that people who have high self-efficacy can quit their bad habit of smoking more easily in comparison to those who have low self-efficacy (Dono et al., 2020). The results of this study contradict this as the experimental group demonstrates low self-efficacy but a strong intention to quit smoking in comparison to the control group, which has high self-efficacy but a weak intention to quit smoking.

There was a gender difference in terms of the intention to quit, health concerns, fear of social exclusion, anxiety over self-image, and perceived self-efficacy of individuals who smoke. The result regarding this hypothesis was affected by the unequal distribution of male ($n = 159$) and female ($n = 41$) participants. The results revealed that the males have a stronger intention to quit smoking and greater health concerns, fear of social exclusion, and anxiety over their social image than the females. The results further explained that, comparatively, females only showed a higher level of self-efficacy than males. These findings are not congruent with the Pakistani culture as the percentage of female individuals who smoke is way less than that of males. A study conducted by Paulien et al. (2018) explains that the smoking habit was predominantly more prevalent among Pakistani males; however, a significant number of Pakistani females also reported being active smokers. The overall prevalence of smoking that was reported ranged from 36% in males to 9% in females (Kapoor & Singhal, 2021).

5 CONCLUSION

The study aimed to discover the impact of persuasive messages on the intention to quit, health concerns, fear of social exclusion, anxiety, and self-efficacy of individuals who smoke. It is an experimental study in which anti-smoking messages are used to evaluate individuals with intentions to quit smoking. Thus, this study suggested that the idea of persuasive messages

regarding smoking behaviour broadcast by electronic, social, and print media has a powerful impact on the behavioural intentions of individuals who smoke. It pushes them to change their attitudes towards smoking. It generates fear and this fear helps them to take steps towards intentions to quit. Hence, well-designed anti-smoking warnings can help the world to minimise smoking. The limitations of the study were the gap in determining the differences among the scores for participants from the low, middle, and high socio-economic classes. The target group of smokers must be evaluated further in future studies on the specific impact of the study's five dependent variables with relation to the media advertising tools used for the research (visual images, stickers on packs) to find out those with the maximum effect and outcome. The respondents might have been recruited in such a way as to have equal numbers of males and females but because of the cultural stigma and the context of availability of female smokers the male respondents were more numerous.

In the light of these limitations, the following implications are drawn and recommendations made: the combined effect of persuasive messages and other educational messages interventions may be seen. This study is quantitative. A qualitative study should also be conducted to get a detailed explanation of individual differences regarding this topic. This study assesses young adults in the context of the sample. People in older age groups should also be studied. Samples obtained from among various populations must be compared. Different study designs can be used. The measures that the Pakistani government takes to regulate smoking must be evaluated and compared in terms of their effectiveness, with interventions such as persuasive messages in the media.

The research offers several implications for clinical professionals and the tobacco industry, and at governmental and community levels. Non-clinical staff might also be targeted to strengthen their willpower and intention to stay smoke-free. The at-risk smokers are well informed using this indirect method for changing beliefs and intentions. The tobacco industry may work with the help of clinicians and designers for tobacco products and taglines in social media for advertising less harmful and addictive options that may promote health.

There is a scarcity of smoking and drug use prevention in Pakistan and other underdeveloped countries. The findings of this research study will contribute to future guidance for the awareness of managing psychological factors rather than accepting stigmatisation as a barrier. The cultural acceptance of smoking and drug use must be publicly promoted as a disease in itself. This study concluded that the use of anti-smoking messages which are broadcast by the media has a strong impact on the smoking behaviour of individuals. These messages are the initiatives that may lead them to quit smoking.

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