

THE EFFECTS OF EMOTIONAL VS. LOGICAL ANTI-SMOKING ADVERTISEMENTS ON SMOKING DISCOURAGEMENT, DEPRESSION AND SELF-ESTEEM

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ABSTRACT

The purpose of the study is to investigate if the effects of emotional anti-smoking advertisements can help discourage smoking over logical anti-smoking advertisements. Although research has proven that logical advertisements can be useful, the authors predict that emotional advertisements will be more effective because people are highly driven by emotional responses. However, if students feel depressed or have low self-esteem after watching either of the two advertisements, then there could be a chance that they may not benefit from the full effects. The study employed a randomized controlled pretest-posttest group of 2nd year undergraduate students ($n=58$) at Kookje College in South Korea. All students were hotel management majors seeking to earn a bachelor of art degree. The experimental group ($n=29$) was required to watch two emotional anti-smoking advertisements while the control group ($n=29$) watched two logical anti-smoking advertisements. All students were required to fill out questionnaires related to process of change, depression and self-esteem. According to the ANOVA results, smoking process of change had no significant effect between the two groups on the questions pre to post. In addition, the effects of whether participants who have high self-esteem or show signs of low depression levels did not decrease smoking discouragement pre/post. Between groups ANOVAs results indicated that for depression, no significant effect was found between the two groups on the questions from pre to post. Lastly, for self-esteem, no significant effects were found between the groups on the questions from pre to post. In conclusion, emotional anti-smoking advertisements may not have a significant effect is because our participants had low self-esteem and depression levels which may have hampered positive outcomes (Seligman, 1975). Anti-smoking advertisements could psychologically trigger a panic response within the cortex of the brain which may have resulted in cognitive impairment. Participant in turn may have wanted to smoke more (Kassel, Stroud & Paronis, 2003). Lastly, as a result of smokers potentially feeling depressed over the advertisement videos presented, participants may have wanted to smoke to inhale nicotine which can help stimulate dopamine levels and artificially trigger positive mood and feeling (Fu, Matta, Gao, Brower & Sharp, 2000).

Keywords: Emotional advertisement, logical advertisement, smoking discouragement, depression and self-esteem.

INTRODUCTION

Purpose of Study

The purpose of the study is to investigate if the effects of emotional anti-smoking advertisements can help discourage smoking over logical anti-smoking advertisements. Students that have already begun smoking or may be contemplating starting smoking are more at risk of lung cancer, high cholesterol, blood cancer, bronchitis, coughing, pregnancy problems, cervical cancer and more (Grossarth-Maticcek, Bastiaans & Kanazir, 1985). It is important to find new ways to help discourage college students from smoking by informing them of the consequences that smoking may have on their lives so that they can become more discouraged from smoking or not starting at all. There is limited research as to how the effects of emotional smoking advertisements can promote and discourage smoking more effectively than logical advertisements. However, if students feel depressed or have low self-esteem after watching either of the two advertisements, then they may not benefit from the full effects. This study attempts to address these shortcomings.

LITERATURE REVIEW

Background of Study

Educational psychologists have agreed that smoking is a major problem in our school system. To encourage young students to make an informed decision about the effects of smoking, it is important that we reach them through a means of effective advertisement that will discourage them from starting or continuing smoking. Smoking Discouragement is defined as a way to discourage people from smoking through a variety of means such as disapproval, disappointment or distress (Dawley, Fleischer & Dawley, 1985). According to Biener, McCallum, Keeler and Nyman (2001) anti-drug advertisements that are emotionally based were perceived as more effective in a survey given to respondents that were panel of judges. Emotional advertisement is defined as ones overall attitude and emotional feelings projected during advertisement exposure (Machleit & Wilson, 1988). This is significant because emotional anti-smoking advertisements gave smokers a purpose and a compelling reason why they should quit after a four week study. However, logical advertisements had a weaker effect (Duke et al., 2014). Logical Advertisement is defined as an advertisement response conducted to validate information that triggers informal or deductive reasoning (Kassel, Stround & Paronis, 2003). This study is strengthened because “the content of most of the emotional ads dealt with serious health consequences of tobacco use, but one emotional ad featured a male smoker placing a picture of his daughter on his cigarette pack to remind him why he wanted to stop smoking” (Biener et al., 2004, p.261). Farrelly, Niederdpe and Yarsevich (2003) concluded that anti-smoking advertisements through negative visceral imagery or sad stories about the effects of smoking can generate strong emotional responses that will increase attention, discourage smoking and influence discision making. Lastly, Durkin Biener and Wakefield (2009) encourages the idea that emotional messages and personal stories may be the most influential way to help people from smoking by conveying health information. If these individuals are presented with anti-smoking stories through emotional or personal testimonial advertisements, then it could lead to an increase of awareness, resilliane and motivation to quit. Because of these findings, it was we hypothesized that if students watch an emotional anti-smoking advertisement then they will be more discouraged from smoking.

Although there is significant evidence that emotional anti-smoking advertisements are highly effective, it is further hypothesized that if participants have high levels of depression or low

self-esteem then it could hamper smoking discouragement. Depression is defined as a feeling of severe sadness and despondency. This is usually the case when an individual feels helpless, hopeless and worthless especially when exposed to a situation that doesn't project positive encouragement (Seligman, 1975). On the other hand, Self-Esteem is defined as one's own worth or abilities in regards to a favorable impression. Individuals with higher self-esteem will usually feel good about their abilities and previous achievements. In addition, they will also be aware of their limitations (Pullmann & Allik, 2008). The reason for this is because anti-smoking advertisements could psychologically trigger a panic response within the cortex of the brain resulting in cognitive impairment. This in turn could cause participants to want to smoke more so that they can temporarily lower their current levels of distress (Kassel, Stroud & Paronis, 2003). When smokers feel depressed they rely on smoking because nicotine can help stimulate dopamine that may artificially trigger positive mood and feeling (Fu, Matta, Gao, Brower & Sharp, 2000). In addition, nicotine may also temporarily reduce stress and anxiety because it immediately creates a sense of relaxation for the user. However, the side effect is that when smokers over engage in nicotine then the brain will gradually stop using its own natural mechanism for making dopamine and cravings will happen because of their withdrawal from nicotine (Naqvi, Raudrauf, Damasio & Bechara, 2007). As a result, the full effects of anti-smoking advertisements may not come to fruition due to these variables. Within the present study, we explored ways to better understand how depression or low self-esteem may have effects on smoking discouragement through emotional anti-smoking advertisements.

Research Questions & Hypotheses

Based on the theoretical literature review, students watching emotional anti-smoking advertisements will benefit more compared to those that watch logical anti-smoking advertisements. However, if students do not have positive self-esteem or if they are severely depressed, then there is a possibility that the effects of anti-smoking advertisements may be diminished.

- 1) Does watching emotional anti-smoking advertisements over logical anti-smoking advertisements help participants respond better to smoking discouragement? We hypothesize that participants that watch emotional anti-smoking advertisements will increase smoking discouragement.
- 2) Does having high self-esteem or low depression levels help increase smoking discouragement? We hypothesize that participants that have high self-esteem or low depression levels will help increase smoking discouragement.

Participants

A total of 58 2nd year undergraduate students participated in the study. All participants were from Kookje College in South Korea majoring in hotel management and enrolled in TOEIC class. Participants were recruited by an instructor teaching TOEIC class. Flyers were produced to promote the study and distributed to all 2nd year undergraduate students. To ensure that CITI policy was in effect, approval was granted from the chairman and president of the college and students were required to consent with the terms of the study. Those students that did not consent were dismissed and did not participate.

Procedures

Participants were randomly assigned to one of two groups. The experimental group (n=29) was required to watch 2 anti-smoking emotional advertisements and the control group (n=29) was required watch 2 anti-smoking logical advertisements. Before the study began, all students were given 5 minutes to fill out pre-questionnaires with questions based on smoking: process of change (Prochaska et al., 1988), depression (Sheikh & Yesavage, 1986) and self-esteem (Rosenberg, 1965). All questionnaires were based on a five-point Likert scale such that 1= Strongly Disagree, 2= Disagree, 3= Neither Agree nor Disagree, 4= Agree and 5= Strongly Agree. Afterwards, all students were required to watch 2 anti-smoking advertisements, which took up to 5 minutes. Lastly, students were required to answer post-questionnaires on smoking: process of change, depression and self-esteem which took 5 minutes.

Materials

For the emotional anti-smoking advertisement, the first shown was the Scared Little Boy (Anti-Smoking ad) 2009 made by the anti-smoking group quit victoria under the Australia's cancer institute NSW. This ad featured a sad crying boy who lost his mother due to smoking. The second shown was an Anti Smoking Commercial made by © Shooter Productions 2013 under the American Legacy Foundation. This ad featured a young 11 year old elementary school girl holding an inhaler due to the fact that her mom smoked while she was pregnant with her.

For the logical anti-smoking advertisement, the first shown was an Australian Government Quit Smoking 2010 ad sponsored by the Australian Government. This ad shows a girl smoking and described that when you smoke you inhale over 4000 chemicals that are poisonous mixes of substances and how it can cause serious damage to your body. The second shown was The Effects of Smoking on Your Heart ad sponsored by the Heart Research Institute. This ad featured a black heart and how it was destroyed by the various amounts of chemicals inhaled while smoking.

Measures

Students responded to items on a 5-point Likert scale with 1 representing strongly disagree to 5 representing strongly agree. All questionnaires were translated into Korean and distributed to all participants.

Smoking: Process of Change was used to assess participant's perception of smoking and how they feel about it before and after the experiment. The scale was created and validated by Prochaska et al., 1988. Sample items include "When I am tempted to smoke I think about something else?" and "I tell myself I can quit if I want to?" Convert validity coefficients ranged from .34 to .72, with most values around .60. Coefficient alpha ranged from .69 to .92. **Depression** was used to assess participant's current level of despondency and dejection before and after the experiment. The scale was modified into a Likert scale for this particular study. The depression scale was created and validated by Sheikh and Yesavage, 1986. Sample items include "I am satisfied with my life?" and "I have dropped many activities and interests?" The inventory was found to have 92% sensitivity and 89% specificity when evaluated against diagnostic criteria. The instrument has high internal consistency with Cronhach's alpha=.94.

Self-Esteem was used to assess participant's abilities in regards to a favorable impression and worthiness before and after the experiment. Sample items include "On the whole, I am satisfied with myself?" and "At times, I think I am no good at all?" with internal consistency of .77 and minimum coefficient of reproducibility of .90. Test-retest reliability was .85 for two-weeks and .63 for seven-weeks (Shorkey & Whiteman, 1977; Silber & Tippet, 1965).

Data Analysis

SPSS 23 (IBM, Somer, NY, USA) and Microsoft EXCEL 2010 (Microsoft, Washington, USA) were used to input data. ANOVAs were used to determine if watching emotional anti-smoking advertisements over logical anti-smoking advertisements help participants respond better to smoking discouragement. Test-retest correlations are typically in the range of .82 to .88, and Cronbach's alpha for various samples are in the range of .77 to .88.

RESULTS

Demographic Characteristics

The sample consisted of 58 2nd year undergraduate students at Kookje College in South Korea. All students were native Korean speakers with English being their second language. The **control group** ($n=29$) had a mean age of 22.10 years ($SD=1.39$). Males (55.17%, $n=16$) were more represented in the sample than were females (44.83%, $n=10$). Students total years of smoking are ($n=14$) never smoked, ($n=5$) of 1-3 years of smoking, ($n=5$) of 4-7 years of smoking and ($n=5$) of 8-10+ years of smoking. Average amount of cigarettes smoked per are ($n=14$) never smoked, ($n=5$) 1-3 cigarettes a day, ($n=2$) 4-7 cigarettes a day, and ($n=8$) of 8-10+ cigarettes a day. Students yearly incomes levels are ($n=16$) under \$15,000, ($n=1$) \$15,000-\$25,000 and ($n=12$) \$25,000-\$50,000. Students average grade point averages are ($n=5$) of 1.0-1.5 GPA, ($n=1$) 1.5-2.0 GPA, ($n=2$) 2.0-2.5 GPA, ($n=17$) 3.0-3.5 GPA and ($n=4$) 3.5-4.0.

The **experimental group** ($n=29$) had a mean age of 21.79 years ($SD=1.26$). Males (48.27%, $n=14$) were less represented in the sample than were females (51.72%, $n=15$). Students total years of smoking are ($n=14$) never smoked, ($n=9$) of 1-3 years of smoking, ($n=5$) of 4-7 years of smoking and ($n=1$) of 8-10+ years of smoking. Average amount of cigarettes smoked per are ($n=14$) never smoked, ($n=2$) 1-3 cigarettes a day, ($n=5$) 4-7 cigarettes a day, and ($n=8$) of 8-10+ cigarettes a day. Students yearly incomes levels are ($n=19$) under \$15,000, ($n=3$) \$15,000-\$25,000 and ($n=7$) \$25,000-\$50,000. Students average grade point averages are ($n=0$) of 1.0-1.5 GPA, ($n=2$) 1.5-2.0 GPA, ($n=6$) 2.0-2.5 GPA, ($n=19$) 3.0-3.5 GPA and ($n=2$) 3.5-4.0. The average study time for all participants in this group was 5.13 years.

Results (Research Question 1)

To examine the effects of whether participants who watch emotional anti-smoking advertisements over logical anti-smoking advertisements will respond better to smoking discouragement (pre/post test) between groups ANOVAs was performed. For Smoking Process of Change, no significant effect was found between the two groups on the questions pre to post, $F(1,56)=.293$, $p=.59$, *Partial Eta Square* = .005.

Results (Research Question 2)

To examine the effects of whether participants who have high self-esteem or show signs of low depression levels will increase smoking discouragement pre/post between groups ANOVAs was performed. The results indicated that for depression, no significant effect was

found between the two groups on the questions from pre to post, $F(1,56)=.42$, $p=.52$, *Partial Eta Square* = .005. In addition, for self-esteem, no significant effects was found between the groups on the questions from pre to post, $F(1,56)=.00$, $p=.97$, *Partial Eta Square* = .007.

DISCUSSION

This study investigates if the effects of emotional anti-smoking advertisements can help discourage smoking over logical anti-smoking advertisements. In addition, we also examined if the effects of whether participants who have high self-esteem or show signs of low depression levels will increase smoking discouragement. Our results contradicted our hypothesis. First, the reason why emotional anti-smoking advertisements did not have a significant effect is because our participants had low self-esteem and depression levels which may have hampered positive outcomes (Seligman, 1975). Next, anti-smoking advertisements could psychologically trigger a panic response within the cortex of the brain which may have resulted in cognitive impairment. Participant in turn may have wanted to smoke more (Kassel, Stroud & Paronis, 2003). Lastly, as a result of smokers potentially feeling depressed over the advertisement videos presented, participants may have wanted to smoke to inhale nicotine which can help stimulate dopamine levels and artificially trigger positive mood and feeling (Fu, Matta, Gao, Brower & Sharp, 2000).

There were several limitations pertaining to this study. First, only one school was used throughout the entire experiment. Researchers should not generalize that all Korean students are unable to benefit from emotional vs. logical advertisements. Also this study used a relatively small sample size. If this experiment was expanded with more participants then maybe the results would have been more significant. Lastly, it may also be beneficial to address the need to incorporate students from different universities that are higher in tier rating. Since Kookje College is a lower tier school, the difference between academic aptitudes among colleges may impact smoking discouragement when watching emotional advertisement videos.

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Appendix A

1) Smoking: Process of Change (Prochaska et al., 1988)

- 1) When I am tempted to smoke I think about something else.
- 2) I tell myself I can quit if I want to.
- 3) I notice that nonsmokers are asserting their rights.
- 4) I recall information people have given me on the benefits of quitting smoking.
- 5) I can expect to be rewarded by others if I don't smoke.
- 6) I stop to think that smoking is polluting the environment.
- 7) Warnings about the health hazard of smoking moves me emotionally.
- 8) I get upset when I think about my smoking.
- 9) I remove things from my home or place of work that remind me of smoking.
- 10) I have someone who listens when I need to talk about my smoking.
- 11) I think about information from articles and ads about how to stop smoking.
- 12) I consider the view that smoking can be harmful to the environment.
- 13) I tell myself that if I try hard enough I can keep from smoking.
- 14) I find society changing in ways that makes it easier for nonsmokers.
- 15) My need for cigarettes makes me feel disappointed in myself.

- 16) I have someone I can count on when I'm having problems with smoking.
- 17) I do something else instead of smoking when I need to relax.
- 18) I react emotionally to warnings about smoking cigarettes.
- 19) I keep things around my home or place of work that remind me not to smoke.
- 20) I am rewarded by others if I don't smoke.

2) Depression (Sheikh & Yesavage, 1986)

- 1) I am satisfied with my life
- 2) I have dropped many activities and interests
- 3) I feel like my life is empty
- 4) I often get bored
- 5) I'm not in good spirits most of the time
- 6) I am afraid that something bad is going to happen to me
- 7) I feel sad most of the time
- 8) Oftentimes I feel helpless
- 9) I prefer to stay at home, rather than going out and doing new things
- 10) I feel like I have more problems with memory than most people
- 11) I think it's terrible to be alive
- 12) I feel pretty worthless the way I am now
- 13) I do not feel full of energy
- 14) I feel like my situation is hopeless
- 15) I feel that most people are better off than me

3) Self-Esteem (Rosenberg, 1965)

- 1) I feel that I am a person of worth at least on an equal plane with others
- 2) I feel that I have a number of good qualities
- 3) All in all, I am inclined to feel that I am successful
- 4) I am able to do things as well as most other people
- 5) I feel I do have much to be proud of
- 6) I take a positive attitude toward myself
- 7) On the whole, I am satisfied with myself
- 8) I feel much respected for myself
- 9) I certainly feel helpful at times.
- 10) At times, I think I am exceptional