

# **Public health advertisements in times of crisis: which factors influence their effectiveness?**

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### **Abstract:**

During pandemics, one of the main challenges for health professionals, public administrators and advertisers is to generate the desired public awareness on health issues and motivate towards the requisite preventive behaviors. Although a substantial body of relevant research exists, we have limited knowledge on the factors that impact the effectiveness of the health advertising message and its power to raise awareness and help change public health habits. Testing different health message appeals in social media, the present study empirically demonstrates that fear, animation, patients' testimonials, and celebrity endorsements have a strong positive influence on public health awareness, whereas the use of humor does not seem to have a significant impact in times of crisis. Findings can help both marketers and health organizations design effective advertising campaigns with a direct positive impact on public health.

**Keywords:** *social marketing; health advertisements; health awareness*

**Track:** *Advertising & Marketing Communications*

## **1. Introduction**

Social marketing and specifically social media advertisements are planned to raise awareness, motivate towards appropriate social behaviors (e.g., avoidance of socializing during pandemics) and generate positive voluntary actions (e.g., protection through face masks) to help individuals, groups, and society (e.g., Rothschild 1999; Rothschild et al. 2006). However, not all public health advertisements help individuals; without the correct message frameworks, health advertisements may fail to provide individuals with the requisite information to make the necessary decisions for themselves and for others' well-being (e.g., Grier and Bryant, 2005; Kotler and Zaltman, 1971). Most importantly, the advertisement message may fail to generate the desired awareness regarding the health problem and motivate towards appropriate protective and healing behaviors.

In this context, advertisers and health professionals have a responsibility to communicate the “right” messages in the “right” way to persuade individuals protect themselves and their community (e.g., Grier and Bryant, 2005; Kotler and Zaltman, 1971). The present research tries to find the most relevant and appropriate context of advertising messages that could help raise awareness regarding urgent issues such as a global health pandemic, a climate change, or a disaster that calls for immediate actions from people to protect themselves. The COVID-19 pandemic paradigm can be considered an appropriate case to test how different messages affected awareness regarding the problem needing specific reactions. Findings can be helpful for future advertising campaigns trying to address an social emergency.

## **2. Theoretical Background and Research Hypotheses**

Context, appeals, narratives, or storytelling is the framing of a social message aiming at attracting attention and raising awareness for the social emergency. Among other, such messages could focus on the positive or negative consequences of a certain behavior, present the experience of other people to generate emotional reactions, or use certain appeals to better convince towards appropriate behaviors (e.g., Courtright and Smudde 2010). Attention to health ads depends on a variety of factors, including ad messages and ad appeals (concept stimuli) (e.g., Louise et al., 2007; Jarmo, 2010; Shen et al., 2015; Yang, 2018).

According to Akbar et al. (2022), the use of humor appeals in advertising is a positive emotional aspect of the tone of the message, which is widely used in commercial advertisements. Nowadays, with the development of social media, humor advertisements are included in health campaigns, although they deal with sensitive issues. Delivering shorter and

more humorous texts draws attention to issues in commercials (Madden and Weinberger 1984). The amusing tone may enable not only the occurrence of a memory benefit for unique hilarious health messages but also a more favorable attitude toward those messages by lessening the protective response (Blanc and Brigaud, 2014). In the last ten years, humor in scientific research has grown in popularity, generating more information about the situations in which comedy is a useful communication tool for preventative public health messages (Brigaud et al., 2021). Based on the above, we posit that:

**Hypothesis 1 (H1):** COVID-19 advertisements with humor appeals positively influence people's awareness of the health issue.

Bagozzi and Moore (1994) found that the use of fear, shock, sadness, and threat appeals in social advertisements and health campaigns increases the likelihood of helping people to take things seriously and change their behavior. Many researchers (Brennan and Binney 2010; Krishen and Bui 2015; Montazeri et al. 1998) disclose that social advertisements are often designed using a fear tactic to evoke negative emotions to raise awareness and interest toward social issues, be it smoking, alcohol, or violence against women. Based on the above overview, we predict that:

**Hypothesis 2 (H2):** COVID-19 advertisements with fear appeals positively influence people's awareness of the health issue.

Moreno and Mayer (1999) discovered that embedding a text in a picture can result in a higher level of understanding than presenting either the text or the image alone. According to Leiner et al. (2004), animated cartoons are essential for health communication since they increase message memory. Illustration of patient resources with visuals, including cartoons, animations, and comic appeals, has been demonstrated to improve patient understanding in the field of healthcare, particularly for those encountering communication obstacles related to education, literacy, health literacy, language, and culture (Jee and Anggoro, 2012). Therefore, we maintain that:

**Hypothesis 3 (H3):** COVID-19 advertisements with cartoon appeals positively influence people's awareness of the health issue.

According to Brett et al. (2008), testimonials are a very important advertising strategy after emotional appeals and other creative ideas for the promotion of social issues. There are testimonials from ordinary people, like patients, and from celebrities, both endorsing the problem. Research from Brett et al. (2008) suggests that either ordinary people or celebrity endorsers' credibility influences social message persuasion. Essential to the success of these

social advertisements are the perceived attractiveness of the celebrity, related expertise, and trustworthiness (Kerr and Richards, 2021). Celebrity-based advertising seems to be effective as far as trustworthiness, persuasiveness, and likeability is concerned, and health-related celebrity endorsements seem to influence the effectiveness of health messages (e.g., Holden, 2018, Shaffer et al., 2018). Therefore, we posit that:

**Hypothesis 4a (H4a):** COVID-19 advertisements with testimonials from patients positively influence people's awareness of the health issue.

**Hypothesis 4b (H4b):** COVID-19 advertisements with celebrity endorsements positively influence people's awareness of the health issue.

Figure 1 contains all the research hypotheses in the Conceptual model (see Appendix).

### 3. Methodology

Phase one of the study was a qualitative analysis conducted through content analysis of all advertisements during the covid-19 pandemic from 2021 to 2022 to find all types of appeals. Coded passages from content analysis were aggregated into themes, which later defined five health action advertising measures. The second phase of the study was a quantitative study that tested individual involvement with the social action advertisement. This research was undertaken through a questionnaire-based, quantitative, empirical study. The questionnaire addressed the research model's variables and requested basic socio-demographic information. The data were collected from a nationwide sample of respondents (N = 302) in Greece between November 2022 and January 2023, using convenience sampling through social network sites such as Facebook, Instagram, and Twitter, as well as through email addresses.

The questionnaire comprises of seven major sections: patient endorsement (four items based on Brett et al. 2008), celebrity endorsement (four items based on Brett et al. 2008), fear (five items based on Zunckel et al. 2023), humor (three items based on Akbar et al. 2022), animation appeal (four items based on Wymer 2011), recall health campaign message (five items based on Courtright and Smudde 2010), recognition of the health problem (five items based on Courtright and Smudde 2010), and demographic variables. A five-point scale was used for all Likert questions (1-total disagreement/5-total agreement).

#### 4. Results

Regarding the measurement model assessment, confirmatory factor analysis (CFA) using Amos 28 and including all multi-item scales demonstrated satisfactory fit of the measurement model to the data ( $\chi^2 = 642.244$ ,  $df = 307$ , CFI 0.902, RMSEA 0.060, SRMR 0.061). All standardized loadings exceed the value of .70, ranging from 0.702 to 0.915. Average Variances Extracted (AVE) and Cronbach alpha values ( $\alpha$ ) for all scales exceeded conventional thresholds ( $AVEs \geq .590$ ,  $\alpha \geq .712$ ). Also, for each construct pair, the minimum AVE exceeds the corresponding squared inter-construct correlation, providing evidence of discriminant validity.

We estimated our structural model through path analysis in AMOS 28. The results reveal again satisfactory model fit ( $\chi^2 = 642.244$ ,  $df = 307$ , CFI 0.902, RMSEA 0.060, SRMR 0.061). As shown in Table 1 (see appendix), the use of humor in social media health advertisements does not seem to have a significant effect on raising awareness on the health issue. Therefore, H1 is not supported. Although the majority of the relevant literature maintains that humor is generally helpful in creating awareness, we should probably agree with some researchers that support the view that positive emotions, like humor, can impede health message recall (e.g., Skalski et al. 2009). Both the use of fear ( $\beta = .118$ ,  $p = .002$ ) and animation ( $\beta = .27$ ,  $p = .000$ ) seems to significantly affect people's recall and recognition of the health issue, thus supporting H2 and H3 respectively. Finally, H4 is also supported, since the use of both patient testimonials ( $\beta = .25$ ,  $p = .001$ ) as well as of celebrity endorsements ( $\beta = .43$ ,  $p = .000$ ) have a strong effect on awareness.

#### 5. Discussion

Contrary to previous research from Brennan and Wayne (2010) and Soames (1988), who found that fear is a function as punishment or guilt that does not work effectively, our study shows that campaigns based on fear context are often effective in achieving the desired awareness on health issues. Similarly, animation appeals seem to be very helpful in attracting attention and generating awareness of health issues during pandemics. It might be a way for people to overcome the sadness of a crisis through an animation that creates positive feelings against a negative circumstance. What is also valuable as a conclusion relates to the use of patient testimonials that seem to be trustworthy by audiences. Getting in direct touch with a real patient experience generates awareness and possibly motivates towards the requisite behaviors for health protection. Most importantly, based on our research results, it is shown

that the use of celebrity endorsements is the strongest possible appeal that social media advertising can use to create awareness for a health crisis. Celebrities that are considered credible can have a very important impact.

Humor-based framing of health messages is maintained by several authors (e.g., Weinberger and Gulas, 1992, Weinberger et al. 1995) that can lead to positive health-related choices. Similarly, amusing communications is found to not hinder understanding and attract attention (Zhang and Zinkhan, 1991). Hence, it is claimed by some researchers that humor can improve message comprehension and stimulate the desire to learn, and overall, comedy improves audience comprehension. Our study, on the contrary, revealed a non-significant link between humor and awareness. This finding agrees with several studies on the topic. Humor can reduce audience attention and comprehension when it contains complicated incongruity or depicts events and things that are incongruous with the audience's experiences (Lammers et al. 1983). In addition, McGraw et al. (2015) support that humor inhibits problem recognition and problem solving in public service announcements. Similar views from Kellaris and Cline (2007) demonstrate that when humor is expected, recall suffers, especially when the expected humor is conceptually tied to the message. In our case, we verify that humor is a negative predictor of public health advertisement awareness. Based on the above, against the controversial results of the relevant literature, our study can shed some light on the impact of several factors in health advertisement effectiveness and awareness creation.

Concerning our practical implications, it can be recommended to health care professionals that the use of fear, animations, patients' testimonials and celebrity endorsements could help people recall the health campaign message and recognize the health campaign problem. As in previous health crises, in the future, governments and organizations should implement health campaigns based on the aforementioned appeals to raise and increase citizens' awareness about public health problems. The specific fear, style of cartoons, patent and celebrity choice is dependent on the local and national cultural environment.

As public health messaging is an indispensable component of a robust pandemic response system, the communication process should focus on decisions about what to say in messages and how to say them. The results confirm the impact of fear on recall and recognition; advertisements should be afraid scenarios with a simple way to increase awareness among individuals. People who are afraid have emotions and understand better information messages. The stories that elicited fear produced greater message elaboration and empathy for or involvement with narrative messages through absorption into the messages than the stories that did not elicit emotional responses or elicit threats.

The findings of our study are also helpful for public health professionals, policymakers, non-governmental organizations, and international organizations as they provide valuable recommendations for the animation design of a memorable health campaign message and for increasing knowledge of the health problem in a simple way for all citizens. According to the present study, animation with cartoon appeal has a significant impact on the recall of the health message and on the recognition of the health problem.

Finally, the use of patients' testimonials and especially celebrity endorsements in advertisements aiming in mobilizing people to specific protective behaviors is highly recommended. People seem to be emotionally affected and convinced by both patients and celebrities regarding the pandemic dimensions and, therefore, their use should be strongly promoted.

The present research provides a better understanding and a good starting point for further research on how social marketing can build good health communication messages for effective health campaigns. There are some limitations to the research that need to be considered. The current study was conducted in Greece. As such, empirical studies in other countries are necessary to reach more generalizable results. Though fear may generally have a weak impact at an individual level, we know far less about the influence of exposure to multiple fear appeals over time. Repeated exposure could possibly promote complacency among those who see frightening messages but are not directly targeted or do not perceive themselves to be in the target audience. Conversely, the frequent use of fear appeals across a range of issues could possibly result in a chronic sense of heightened anxiety. Longitudinal work on fear appeal exposure and responses, as well as research on the influence of the more prevalent use of fear appeals versus other message strategies, could help confirm or dismiss these possibilities.

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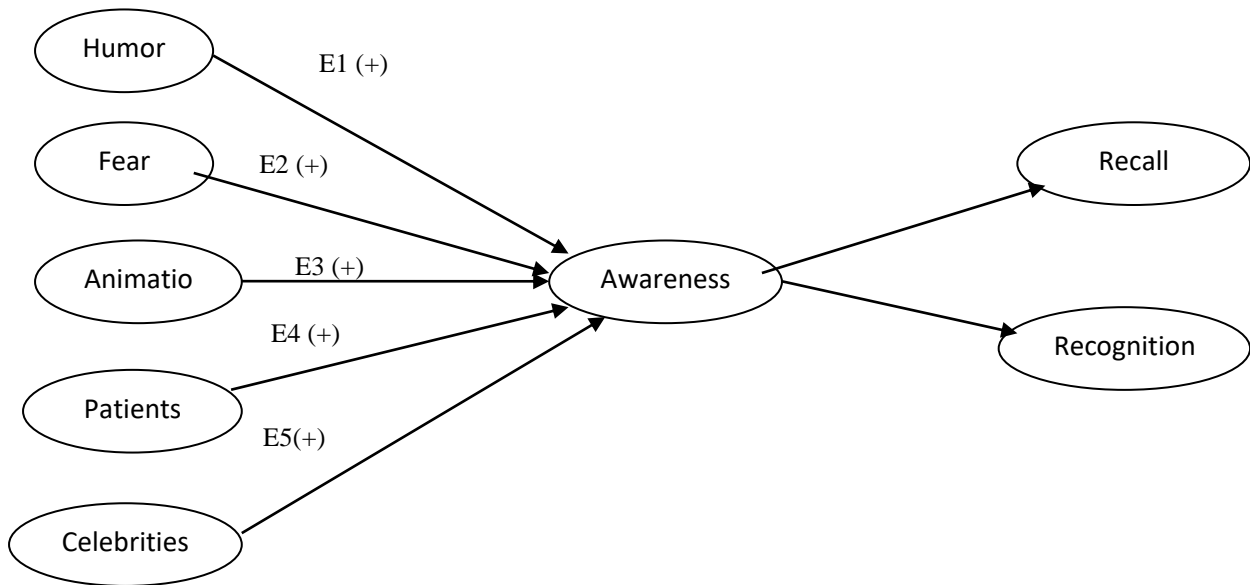
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## 7. Appendix

**Figure 1.** Conceptual Model.



**Table 1.** Path coefficients of the structural equation model.

Paths	St. Coef.	p-value	T-value	Hypotheses
Patient endorsement → awareness	0.25	0.001**	3.232	H4a Supported
Celebrity endorsement → awareness	0.43	0.00**	5.272	H4b Supported
Fear → awareness	0.18	0.02*	3.066	H2 Supported
Animation → awareness	0.27	0.00**	4.165	H3 Supported
Humor → awareness	-0.08	0.206	-1.264	H1 Not Supported

Note: \*  $p < 0.05$ , \*\*  $p < 0.001$