Natividad Crespo-Tejero, PhD.
Faculty of Social Sciences
ESIC University / ESIC Business & Marketing School
28223 Pozuelo de Alarcón
Madrid, Spain
natividad.crespo@esic.university

Natividad Crespo-Tejero is a Professor in the Department of Communication and Marketing at ESIC University. She is also the Director of the academic degree in Marketing and the responsible for the neuromarketing laboratory. She holds a PhD in Psychology (Universidad Autónoma de Madrid, UAM) and Master's degree earned at the Universidad Complutense de Madrid (UCM). In recent years she has published several academic articles in high impact journals and book chapters focused on the study of consumer behaviour. Her research has been presented at more than 30 national and international conferences and she is the author of several book chapters focused on the study of neuroscience. Her research interests are focused on consumer behaviour, neuromarketing and new technologies.

Susana Fernandez-Lores, PhD., FHEA
Faculty of Social Sciences
ESIC University / ESIC Business & Marketing School
28223 Pozuelo de Alarcón
Madrid, Spain
susana.fernandez@esic.university

Susana Fernandez-Lores earned a PhD in Marketing (Complutense University Madrid, UCM), a Master's degree in Marketing (IE Business School) and a Bachelor's degree in Advertising and PR. She is an Associate Professor at ESIC University in the undergraduate and postgraduate areas. She also serves as the Editor-in-Chief of the *International Academic Journal of Communication Research aDResearch ESIC*. She has authored several book chapters and academic papers and has given speeches at academic and professional conferences. She is the co-author of the Work Experiential Engagement Model. Her research interest is focused on branding, communication and new technologies.

Ruth Fernández-Hernández, PhD.
Faculty of Social Sciences
ESIC University / ESIC Business & Marketing School
28223 Pozuelo de Alarcón
Madrid, Spain
ruth.fernandez@esic.university

Ruth Fernández-Hernández has a PhD in Tourism from the Universidad Rey Juan Carlos (URJC), a Master's degree in Communication and New Technologies Management (URJC-ESIC), a Master's degree in Communication and Advertising Management (ESIC), a degree in Communication from the Open University of Catalonia (UOC) and a higher degree in Commercial Management and Marketing (ESIC). She has worked for 11 years as sales and marketing manager in different companies in the footwear and accessories sector. She has also worked as a consultant in the same sector. She is currently the Director of the Academic Department of Communication and Advertising and lecturer at ESIC University in communication and marketing subjects at undergraduate and postgraduate level. She also combines her teaching activity with research, focusing her studies on new technologies and tourism. Her scientific production includes conferences and numerous articles in national and international journals, as well as book chapters from leading international publishers.

Communication Today, 2022, Vol. 13, No. 2

ATTITUDES OF YOUNG PEOPLE TOWARDS COVID-19 RISK REDUCTION MEASURES. AN ANALYSIS OF THE IMPACT OF DIFFERENT HEALTH CAMPAIGN STRATEGIES

Natividad CRESPO-TEJERO – Susana FERNANDEZ-LORES – Ruth FERNÁNDEZ-HERNÁNDEZ

ABSTRACT:
Health campaigns have been commonly used to improve the attitudes and healthy behaviours of the population. With the COVID-19 pandemic, they have become an essential tool to increase compliance with health measures, mainly amongst the young population, a group especially reluctant. The aim of the study is to analyse the effectiveness of different campaigns to improve the attitudes of young people toward compliance with health measures. For this purpose, an experimental study was carried out with 245 subjects using three health campaigns with different frames and emotions in the messages. The results show different degrees of efficacy according to the framing and emotions used. The role of self-efficacy as a moderating factor is also analysed. Implications for campaign design are derived and limitations and directions for future research are addressed.

KEY WORDS:
emotions, framing, health campaigns, self-efficacy, social marketing

1 Introduction

The COVID-19 pandemic has highlighted the need for behavioural change among people in order to increase compliance with public health preventive measures.[1] It has been observed that compliance with these measures by citizens, especially adolescents and young adults, has been generally insufficient,[2] which is a concern for health authorities. To improve compliance with these measures, several persuasive health

1 See: GRAFFIGNA, G. et al.: "#I-Am-Engaged": Conceptualization and First Implementation of a Multi-Actor Participatory, Co-Designed Social Media Campaign to Raise Italians Citizens' Engagement in Preventing the Spread of COVID-19 Virus. In *Frontiers in Psychology*, 2020, Vol. 11, Article No. 567101, p. 1-12.
2 See: NIVETTE, A. et al.: Non-Compliance with COVID-19-Related Public Health Measures among Young Adults in Switzerland: Insights from a Longitudinal Cohort Study. In *Social Science & Medicine*, 2021, Vol. 268, Article No. 113370, p. 1-9.

campaigns have been carried out, mostly aimed at young people, with the objective of modifying their risk behaviour in the face of the pandemic.[3]

Wright et al. define a health campaign as *"a systematic effort to change health behaviours (or attitudes and beliefs about health and/or the social and environmental conditions that mediate health behaviours) within a target population of individuals who are at risk for a health problem or problems"*.[4] From this definition it can be concluded that the effectiveness of health communications is assessed in terms of the changes that occur in attitudes and behaviours in the individuals targeted by the campaign.[5]

The literature review provides conflicting results regarding the factors that influence the persuasiveness of campaigns to change health behaviours. Some authors concluded that messages focusing on the negative consequences of not engaging in healthy behaviour (framed loss), through the use of fear, have a positive persuasive effect and generate greater behaviour change.[6] Other studies[7] concluded that a "boomerang effect"[8] occurs, leading recipients to adopt behaviours contradictory to the health recommendation when recipients perceive health messages as too scary or threatening.[9] However, different authors have explored how persuasive health messages can be framed around the benefits of engaging in gain framed behaviour, using humour as a persuasive strategy.[10] The emotional reaction that advertisements elicit in individuals is a key variable in the success of advertising campaigns.[11] The use of negative emotions is very common in social advertising; however, the literature review does not support a consensus on the effectiveness of these campaigns.[12] A long tradition of communication research has shown that the individual characteristics of the recipients influence the persuasive effectiveness of the message.[13] In the field of health promotion, different authors have shown that self-efficacy is a relevant determinant of the motivation to adopt a healthy behaviour,[14] and it can moderate the effects of message framing on persuasion.[15]

The emotional impact generated by each health campaign on individuals is examined, and finally, we examine whether the differences between individuals with high and low self-efficacy are related to the success of these campaigns. The study is justified for two important reasons. The first one relates to the reduction in the rate of adherence to health measures among young people.[16] Studies analysing this issue are limited,[17] which highlights the need to evaluate the effectiveness of health campaigns in this particular sector of the population. The second one relates to unexpected global public health crisis situations, such as the COVID-19 pandemic, where it is essential to identify what type of messages are most effective in increasing compliance with preventive health behaviours. This will help health managers to develop health campaigns capable of raising public awareness of the threat in the context of pandemics.[18] The rest of the article is organised as follows: after this introductory section, there is the explanation of the conceptual framework and the research questions. Then, methodology and an analysis of the results are presented. The final section concludes with a discussion of the results.

2 Theoretical Framework

Role of Health Campaigns in Changing Attitude and Behaviour

A health campaign is a persuasive communication tool that aims to change attitudes and behaviours to improve the well-being of individuals and society through the media and social networking sites. They concern various issues related to human life, such as healthy lifestyles, financial support for various charities, care for the environment or safe driving.[19] An attitude represents a tendency to respond favourably or unfavourably toward an object, person, institution, event or concept. Attitudes are composed of a cognitive (i.e., beliefs about an object), affective (i.e., feelings about an object), and conative (i.e., behavioural intentions toward an object) component.[20]

From psychological research, the theory of planned behaviour (TPB) aims to explain the behaviour of individuals. The model suggests that behavioural intention is a key factor in explaining subjects' behaviour. In this sense, factors such as attitudes, subjective norm and the concept of perceived behavioural control have a high weight in the prediction of behavioural intention.[21] Furthermore, based on the TPB, different authors have included the variable self-efficacy, defined as an individual's confidence in their ability to implement specific actions in specific situations,[22] as a strong predictor of behavioural intention during past and current pandemics.[23]

Theoretical Models of Persuasion

Different theoretical models have been proposed in the field of communication to explain the effectiveness of advertising campaigns according to the type of message used. On the one hand, the narrative transport theory[24] uses elaborate stories that immerse the receiver of the message in the world of the story with the aim of 'hooking' individuals emotionally and, at the same time, reducing their motivation to counter-argue. This model has been proposed as the main mechanism to explain the persuasive impact on consumers and serves as a theoretical framework to identify the effectiveness of different persuasive messaging strategies in social campaigns.[25] In this line, a meta-analysis found that narrative is an effective persuasive strategy to generate

3 See also: HEFFNER, J., VIVES, M., FELDMANHALL, O.: Emotional Responses to Prosocial Messages Increase Willingness to Self-Isolate during the COVID-19 Pandemic. In *Personality and Individual Differences*, 2021, Vol. 170, Article No. 110420, p. 1-8.

4 WRIGHT, K. B., SPARKS, L., O'HAIR, H. D.: *Health communication in the 21st century*. Malden, MA : Blackwell Publishing, 2008, p. 259.

5 LIM, M. S. C. et al.: Reach, Engagement, and Effectiveness: A Systematic Review of Evaluation Methodologies Used in Health Promotion via Social Networking Sites. In *Health Promotion Journal of Australia*, 2016, Vol. 27, No. 3, p. 187-197.

6 See: WITTE, K., ALLEN, M.: A Meta-Analysis of Fear Appeals: Implications for Effective Public Health Campaigns. In *Health Education and Behavior*, 2000, Vol. 27, No. 5, p. 591-615.

7 See: ROSKOS-EWOLDSEN, D. R., YU, H. J., RHODES, N.: Fear Appeal Messages Affect Accessibility of Attitudes toward the Threat and Adaptive Behaviors. In *Communication Monographs*, 2004, Vol. 71, No. 1, p. 49-69.

8 See: BREHM, S. S., BREHM, J. W.: *Psychological Reactance: A Theory of Freedom and Control*. New York : Academic Press, 1981.

9 CARFORA, V., CATELLANI, P.: The Effect of Persuasive Messages in Promoting Home-Based Physical Activity during COVID-19 Pandemic. In *Frontiers in Psychology*, 2021, Vol. 12, Article No. 644050, p. 8.

10 YOON, H. J., TINKHAM, S. F.: Humorous Threat Persuasion in Advertising: The Effects of Humor, Threat Intensity, and Issue Involvement. In *Journal of Advertising*, 2013, Vol. 42, No. 1, p. 37.

11 See: POELS, K., DEWITTE, S.: The Role of Emotions in Advertising: A Call to Action. In *Journal of Advertising*, 2019, Vol. 48, No. 1, p. 81-90.

12 See: BORAWSKA, A., OLEKSY, T., MAISON, D.: Do Negative Emotions in Social Advertising Really Work? Confrontation of Classic vs. EEG Reaction toward Advertising That Promotes Safe Driving. In *PLoS ONE*, 2020, Vol. 15, No. 5, p. 1-20.

13 CESARIO, J., HIGGINS, E. T., SCHOLER, A. A.: Regulatory Fit and Persuasion: Basic Principles and Remaining Questions. In *Social and Personality Psychology Compass*, 2008, Vol. 2, No. 1, p. 444-463.

14 AVERY, E. J., KIM, M., PARK, S.: Self-Efficacy and Other Considerations in Performance of Risk-Reducing Behaviors during a Major Disease Outbreak. In *Journal of Health Communication*, 2020, Vol. 26, No. 2, p. 112-120.

15 VAN'T RIET, J. et al.: The Influence of Self-Efficacy on the Effects of Framed Health Messages. In *European Journal of Social Psychology*, 2008, Vol. 38, No. 5, p. 800-809.

16 See: NIVETTE, A. et al.: Non-Compliance with COVID-19-Related Public Health Measures among Young Adults in Switzerland: Insights from a Longitudinal Cohort Study. In *Social Science & Medicine*, 2021, Vol. 268, Article No. 113370, p. 1-9.

17 FUADY, A. et al.: Good Knowledge but Poor Practice toward COVID-19 among Indonesian Youth. In *Asia Pacific Journal of Public Health*, 2021, Vol. 33, No. 5, p. 605-607.

18 See: CARFORA, V., CATELLANI, P.: The Effect of Persuasive Messages in Promoting Home-Based Physical Activity during COVID-19 Pandemic. In *Frontiers in Psychology*, 2021, Vol. 12, Article No. 644050, p. 1-14.

19 See: GRIGORYAN, N.: Ethics of a Social Marketing Campaign: An Integrative Assessment Model. In *Journal of Media Ethics: Exploring Questions of Media Morality*, 2019, Vol. 34, No. 2, p. 114-127; MISSAGLIA, A. L. et al.: The Impact of Emotions on Recall: An Empirical Study on Social Ads. In *Journal of Consumer Behaviour*, 2017, Vol. 16, No. 5, p. 424-433.

20 ROSENBERG, M. J., HOVLAND, C.: Cognitive, Affective, and Behavioral Components of Attitudes. In ROSENBERG, M. J. (ed.) et al.: *Attitude Organization and Change*. New Haven : Yale University Press, 1960, p. 233-239.

21 AZJEN, I.: The Theory of Planned Behavior. In *Organizational Behavior and Human Decision Processes*, 1991, Vol. 50, No. 2, p. 179-211.

22 BANDURA, A.: Perceived Self-Efficacy in Cognitive Development and Functioning. In *Educational Psychologist*, 1993, Vol. 28, No. 2, p. 117-148.

23 See: LIAO, Q. et al.: Factors Affecting Intention to Receive and Self-Reported Receipt of 2009 Pandemic (H1N1) Vaccine in Hong Kong: A Longitudinal Study. In *PLoS ONE*, 2011, Vol. 6, No. 3, Article No. 17713, p. 1-13.

24 GREEN, M. C., BROCK, T. C.: The Role of Transportation in the Persuasiveness of Public Narratives. In *Journal of Personality and Social Psychology*, 2000, Vol. 79, No. 5, p. 701-721.

25 DENG, T., EKACHAI, D., POKRYWCZYNSKI, J.: Global COVID-19 Advertisements: Use of Informational, Transformational and Narrative Advertising Strategies. In *Health Communication*, 2022, Vol. 37, No. 5, p. 628-636.

changes in the attitudes, intentions and actions of individuals in the healthcare environment.[26]

On the other hand, framing theory has emerged as an important position in communication studies and is a methodological framework used by different authors in their research. Framing describes how information is presented in the mass media and how different presentations affect the audience.[27] For example, messages may differ in terms of their valence frame. In this sense, *"a gain-framed persuasive appeal emphasises the advantages of compliance with the communicator's recommendation or viewpoint, as contrasted with loss-framed appeals, which emphasise the disadvantages of non-compliance"*.[28] In general, it appears that gain-framed and loss-framed messages are persuasive differently depending on the health behaviour in question. The literature review suggests that positively framed gain-framed messages were more persuasive than loss-framed messages for promoting preventive behaviours,[29] while loss-framed messages should be more persuasive for disease detection behaviours.[30] However, other authors do not confirm the results found for persuasive messages between gain- and loss-framed messages in relation to preventive actions.[31]

Role of Emotions in Persuasive Communication

Health behaviour models, such as the health belief model[32] and the protection motivation theory,[33] defend that the perceived threat of a specific health threat leads people to develop preventive behaviours with the aim of reducing the risk. In this line, persuasive messages that communicate negative consequences related to risky behaviours lead to an increase in the perceived threat for the subjects.[34]

The literature review suggests that the use of negative emotional appeals as a strategy to change attitudes and intentions for health-related behaviours is effective;[35] however, there are no conclusive results on the effectiveness of campaigns based on the level of intensity of emotional reactions.[36] In a related line of research, different authors have examined how messages can be framed in terms of benefits and use humour as a persuasive strategy. Existing evidence suggests that humorous appeals in social campaigns show a different level of effectiveness depending on the intensity of the threat and the involvement of the issue.[37] Humour can increase the audience's attention and reduce counter-arguments, which favours persuasion, but it can also minimise the perceived threat to receptors.[38]

26 SHEN, F., SHEER, V. C., LI, R.: Impact of Narratives on Persuasion in Health Communication: A Meta-Analysis. In *Journal of Advertising*, 2015, Vol. 44, No. 2, p. 105-113.
27 See: CARFORA, V., CATELLANI, P.: The Effect of Persuasive Messages in Promoting Home-Based Physical Activity during COVID-19 Pandemic. In *Frontiers in Psychology*, 2021, Vol. 12, Article No. 644050, p. 1-14.
28 O'KEEFE, D. J., JENSEN, J. D.: The Relative Persuasiveness of Gain-framed and Loss-Framed Messages for Encouraging Disease Prevention Behaviors: A Meta-Analytic Review. In *Journal of Health Communication*, 2007, Vol. 12, No. 7, p. 623.
29 GALLAGHER, K. M., UPDEGRAFF, J. A.: Health Message Framing Effects on Attitudes, Intentions, and Behavior: A Meta-Analytic Review. In *Annals of Behavioral Medicine*, 2012, Vol. 43, No. 1, p. 101-116.
30 BRUSSE, E. D. A., FRANSEN, M. L., SMIT, E. G.: Framing in Entertainment-Education: Effects on Processes of Narrative Persuasion. In *Health Communication*, 2017, Vol. 32, No. 12, p. 1501-1509.
31 See: O'KEEFE, D. J., JENSEN, J. D.: The Relative Persuasiveness of Gain-framed and Loss-Framed Messages for Encouraging Disease Prevention Behaviors: A Meta-Analytic Review. In *Journal of Health Communication*, 2007, Vol. 12, No. 7, p. 623-644; STRACHAN, S. M. et al.: Self-Affirmation and Physical Activity Messages. In *Psychology of Sport and Exercise*, 2020, Vol. 47, Article No. 101613, p. 1-9.
32 ROSENSTOCK, I. M.: The Health Belief Model and Preventive Health Behavior. In *Health Education & Behavior*, 1974, Vol. 2, No. 4, p. 354-386.
33 ROGERS, R. W.: A Protection Motivation Theory of Fear Appeals and Attitude Change. In *The Journal of Psychology*, 1975, Vol. 91, No. 1, p. 93-114.
34 YOON, H. J., TINKHAM, S. F.: Humorous Threat Persuasion in Advertising: The Effects of Humor, Threat Intensity, and Issue Involvement. In *Journal of Advertising*, 2013, Vol. 42, No. 1, p. 30-41.
35 TANNENBAUM, M. B. et al.: Supplemental Material for Appealing to Fear: A Meta-Analysis of Fear Appeal Effectiveness and Theories. In *Psychological Bulletin*, 2015, Vol. 141, No. 6, p. 1178-1204.
36 See: BORAWSKA, A., OLEKSY, T., MAISON, D.: Do Negative Emotions in Social Advertising Really Work? Confrontation of Classic vs. EEG Reaction Toward Advertising that Promotes Safe Driving. In *PLoS ONE*, 2020, Vol. 15, No. 5, p. 1-20.
37 YOON, H. J., TINKHAM, S. F.: Humorous Threat Persuasion in Advertising: The Effects of Humor, Threat Intensity, and Issue Involvement. In *Journal of Advertising*, 2013, Vol. 42, No. 1, p. 30-41.
38 See: FRAUSTINO, J. D., MA, L.: CDC's Use of Social Media and Humor in a Risk Campaign "Preparedness 101: Zombie Apocalypse." In *Journal of Applied Communication Research*, 2015, Vol. 43, No. 2, p. 222-241; MOYER-GUSÉ, E., MAHOOD, C., BROOKES, S.: Entertainment-Education in the Context of Humor: Effects on Safer Sex Intentions and Risk Perceptions. In *Health Communication*, 2011, Vol. 26, No. 8, p. 765-774.

Based on the literature review, the present study poses the following research questions:

RQ1: What strategy, gain-framed positive message versus loss-framed negative message, generates a greater emotional response in youth?
RQ2: Which of these strategies is most effective in favourably modifying the preventive attitudes of youth set by the COVID-19 pandemic?
RQ3: What role does youth's perceived self-efficacy play in the impact of the different health campaigns analysed?

3 Methodology

To answer the proposed research questions, an empirical approach was adopted through an experimental design. This type of design will allow us to compare the effects of different communication strategies and their outcomes. According to the literature reviewed on framing and emotions, nine COVID-19 campaigns were selected and evaluated by a panel of communication experts (3 practitioners and 4 academics). All campaigns were targeted at young people and had been broadcast on social media in November and December 2020. Finally, based on the evaluations received, three of them were selected as the most suitable. We conducted an experiment of three between-groups conditions, one for each campaign (loss-framed moderate narrative, loss-framed explicit narrative and gain-framed humorous narrative).

Campaign 1 (C1): *"Your grandmother has COVID. She's not going to make it thru the night."*[39] Loss-framed message with moderate narrative, using everyday images easily recognisable to the target.

Campaign 2 (C2): *"Don't be a jerk."*[40] Loss-framed message with explicit narrative, including dramatic images of hospitals, tombstones and cemeteries.

Campaign 3 (C3): *"Become a hero too and stay at home."*[41] Gain-framed message with humorous narration, showing how laziness could save lives and turn you into a hero.

Questionnaire Design and Data Collection

The questionnaire was organised in three parts: contextualisation and assessment of attitudes, behaviours and perceptions of the pandemic (pre); watching the campaign as well as evaluating its emotional response and impact on attitudes (post); and general data collection on the participants.

At the beginning of the questionnaire, the participant had to provide information about their health and their relatives' health, whether they had suffered from COVID-19, as well as their attitudes to and perceptions about the disease and the health measures prescribed by the government. The second part of the questionnaire began with the viewing of one of the three campaigns. Participants were allowed to view the video for as long as they wanted. Then, each participant was asked to evaluate the emotions aroused by the campaign as well as the impact of the story on their attitude and their intention to respect the health measures. Finally, participants answered questions related to psycho-sociodemographic data.

39 *Campaña Covid B.* Released on 13th February 2021. [online]. [2022-10-08]. Available at: <https://www.youtube.com/watch?v=xBJGzaDGsXM>.
40 *Campaña Covid C.* Released on 13th February 2021. [online]. [2022-10-08]. Available at: <https://www.youtube.com/watch?v=3YFgKNq3cxM>.
41 *Campaña Alemana.* Released on 13th February 2021. [online]. [2022-10-08]. Available at: <https://www.youtube.com/watch?v=JNxz9xR1Aks>.

The questionnaire was examined by a panel of experts to ensure content validity. To verify the clarity of the questions and gain feedback on the length of the questionnaire, it was further tested in a group of 20 target participants. Data collection took place from the 15th to the 25th of February 2021. Filling in the questionnaire required between 5 and 8 minutes. The task was self-paced.

Measurement Scales

The variables included in the study and the measurement scales are shown in Table 1. The measurement scales were selected and adapted after a thorough review of the literature. All responses were measured using a 7-point Likert scale, ranging from "strongly disagree = 1" to "strongly agree = 7".

Table 1: Variables and measurements scales

VARIABLES	ITEMS	AUTHORS
Attitude toward COVID-19 (PRE)	- Likely to become infected with the new coronavirus. - Willingness to comply with the COVID-19 prevention measures dictated by the health authorities. - Concerned about my health or that of my relatives.	Adapted from Prasad Singh et al.[42]
Effectiveness of Preventive Health Measures	- Effectiveness of the use of masks, social distance, and other prevention measures prescribed by the health authorities	Adapted from Sobkow et al.[43]
Self-Efficacy	- I am confident in my ability to protect myself from COVID-19. - I have the willpower to engage in these precautionary actions. - I am certain that I will take these actions even if they are difficult or inconvenient.	Adapted from Cho and Lee[44]
Emotional Response	5 negatives: anger, dislike, disgust, sadness and fear. 5 positives: joy, surprise, fun, tenderness and pride. - After viewing this ad, please indicate your willingness to comply with the prevention measures. - Do you think this ad will make you more careful/respect the rules in the face of COVID-19?	Adapted from Bagozzi et al.[45]
Attitude toward COVID-19 (POST)	- After viewing this ad, please indicate your willingness to comply with the prevention measures. - Do you think this ad will make you more careful/respect the rules in the face of COVID-19?	Adapted from Borawska et al.[46]

Source: Own processing

Participants/Sample

The sample was composed of 245 young university students (106 men and 139 women) from Madrid, Spain, aged between 19 and 26 years old. They were recruited from social media sites and randomly assigned to one of the three experimental groups. The study was conducted through a web survey. Of the respondents, 77.6% had not suffered from COVID-19 and 46.9% had had a direct family member with COVID-19.

42 PRASAD SINGH, J., SEWDA, A., SHIV, D. G.: Assessing the Knowledge, Attitude and Practices of Students Regarding the COVID-19 Pandemic. In *Journal of Health Management*, 2020, Vol. 22, No. 2, p. 281-290.
43 See: SOBKOW, A. et al.: Worry, Risk Perception, and Controllability Predict Intentions toward COVID-19 Preventive Behaviors. In *Frontiers in Psychology*, 2020, Vol. 11, Article No. 582720, p. 1-15.
44 CHO, H., LEE, J. S.: The Influence of Self-Efficacy, Subjective Norms, and Risk Perception on Behavioral Intentions Related to the H1N1 Flu Pandemic: A Comparison between Korea and the US. In *Asian Journal of Social Psychology*, 2015, Vol. 18, No. 4, p. 311-324.
45 BAGOZZI, R. P., GOPINATH, M., NYER, P. U.: The Role of Emotions in Marketing. In *Journal of the Academy of Marketing Science*, 1999, Vol. 27, No. 2, p. 184-206.
46 BORAWSKA, A., OLEKSY, T., MAISON, D.: Do Negative Emotions in Social Advertising Really Work? Confrontation of Classic vs. EEG Reaction Toward Advertising That Promotes Safe Driving. In *PLoS ONE*, 2020, Vol. 15, No. 5, p. 1-20.

4 Results

Firstly, a global analysis of all responses was carried out, which revealed high scores on both self-efficacy and perceived effectiveness of the health measures variables. Similarly, when comparing pre and post attitude, the latter increased significantly after viewing. The strongest negative emotions were sadness and fear; in the case of positive emotions, surprise and tenderness were the highest. All differences in the scores of the pre-experiment variables for the three groups were also found to be non-significant. However, they were significant in the case of emotional responses and attitude after the experiment. This leads to the conclusion that there is some effect of the campaigns as a whole.

When comparing the differences by experimental group after viewing the campaign, C1 scored the highest on both post-experiment attitude and negative emotions. These differences are significant compared to the other two experimental groups. Regarding positive emotions, C3 obtained significantly higher values (Table 2). These results allow us to answer the first research question RQ1, as it shows that C1, the loss-framing strategy with a moderate narrative, is the one with the highest scores.

Table 2: Total sample results by experimental groups

VARIABLES INCLUDED	N= 245		C1; N=80		C2; N=80		C3; N=85	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
PERCEIVED EFFECTIVENESS PREVENTIVE HEALTH MEASURES	**4.64**	1.47	**4.71**	1.42	4.61	1.52	4.61	1.50
SELF-EFFICACY	**5.33**	1.11	5.30	1.14	5.28	1.14	**5.40**	1.06
ATTITUDE_PRE	**3.86***	1.28	**4.03**	1.28	3.81	1.29	3.74	1.28
ATTITUDE_POST	**4.17***	2.04	**4.73****	1.95	4.34	1.97	3.48	2.00
EMO_1_ANGER	3.43	2.16	4.43	2.02	3.84	2.06	2.12	1.69
EMO_2_DISLIKE	3.73	2.17	4.73	2.02	4.34	1.87	2.21	1.72
EMO_3_DISGUST	3.28	2.20	4.15	2.33	3.43	2.06	2.32	1.79
EMO_4_SADNESS	**5.07**	2.15	**5.90****	1.79	5.34	2.06	4.05	2.17
EMO_5_FEAR	**4.05**	2.17	**5.15****	1.85	4.50	2.06	2.59	1.73
EMO_6_JOY	1.84	1.51	1.25	0.68	1.35	0.96	2.87	1.94
EMO_7_SURPRISE	**2.56**	1.85	2.58	1.76	1.95	1.51	**3.11****	2.05
EMO_8_FUN	1.72	1.40	1.28	0.86	1.39	1.06	2.45	1.76
EMO_9_TENDERNESS	**2.27**	1.82	1.96	1.69	1.75	1.51	**3.06****	1.95
EMO_10_PRIDE	2.21	1.84	1.83	1.73	1.61	1.34	3.13	1.99

* Significant differences for the total sample, $p < .000$.
** Significant differences between the experimental groups, $p < .000$.
Source: Own processing

To answer RQ2, an analysis of the ATTITUDE_PRE and ATTITUDE_POST scores was conducted for each of the three experimental groups. In this case, the results reveal significant differences for the loss framing in C1 and C2, but not for the gain framing in C3 (Table 3).

Table 3: Attitude analysis by experimental groups

		Mean	N	Std. Dev.	*t*	df	Sig. (2-tailed)
Total participants	ATTITUDE_PRE	**3.86**	**245**	**1.28**	*-2.610*	**244**	**.010**
	ATTITUDE_POST	**4.17**	**245**	**2.04**			
C1	ATTITUDE_PRE	**4.03**	80	1.28	-3.331	79	**.001**
	ATTITUDE_POST	**4.73**	80	1.95			
C2	ATTITUDE_PRE	**3.81**	80	1.29	-2.605	79	**.011**
	ATTITUDE_POST	**4.34**	80	1.97			
C3	ATTITUDE_PRE	3.74	85	1.28	1.346	84	.182
	ATTITUDE_POST	3.48	85	2.00			

Source: Own processing

A regression analysis was then performed to determine the effect of the different independent variables on ATTITUDE_POST. The results indicate that both ATTITUDE_PRE (β=.360, p=.000) and PERCEIVED EFFECTIVENESS (β=.220, p=.000) have an effect on ATTITUDE_POST (R^2=0.241; p< .000). However, in the case of the variable SELF-EFFICACY (β=.056, p=.404) it does not observe any effect on the variable ATTITUDE_POST.

Nevertheless, SELF-EFFICACY has been considered in the literature as a relevant variable to explain consumer behaviour. Therefore, it is considered that it may play a role, perhaps indirectly, in the effect of campaigns depending on the strategy used and the effect achieved. Thus, participants with high and low SELF_EFFICACY scores were differentiated in order to analyse ATTITUDE_POST scores in each group. Participants with low SELF_EFFICACY (i.e., with scores below the mean) show significant increases in ATTITUDE_POST only in the case of the C1 campaign. In contrast, participants with above average SELF_EFFICACY scores, i.e., with high SELF_EFFICACY, show significant increases in ATTITUDE_POST in both the C1 and C2 campaigns. Finally, the C3 campaign seems to have no effect on participants with high or low SELF_EFFICACY (Table 4). This leads us to claim that SELF_EFFICACY does have some influence on the impact of the communication strategy. In light of these results, people who are less confident in their self-control to comply with the measures prescribed by the authorities will react better to a loss strategy with a moderate narrative, in contrast to the group with high self-control, which reacts positively to both moderate and explicit narratives. These results provide an answer for the third research question RQ3.

Table 4: Analysis of low versus high self-efficacy participants

LOW SELF_EFFICACY		Mean	N	Std. Dev.	*t*	df	Sig. (2-tailed)
C1	ATTITUDE_PRE	**3.46**	31	1.19	-2.787	30	**.009**
	ATTITUDE_POST	**4.23**	31	1.91			
C2	ATTITUDE_PRE	3.14	31	.92	-1.183	30	.246
	ATTITUDE_POST	3,55	31	1,929			
C3	ATTITUDE_PRE	2.87	34	1.02	1.086	33	.285
	ATTITUDE_POST	2.56	34	1.541			
HIGH SELF_EFFICACY		**Mean**	**N**	**Std. Dev.**	*t*	**df**	**Sig. (2-tailed)**
C1	ATTITUDE_PRE	**4.40**	49	1.21	-2.199	48	**.033**
	ATTITUDE_POST	**5.04**	49	1.93			
C2	ATTITUDE_PRE	**4.23**	49	1.32	-2.397	48	**.020**
	ATTITUDE_POST	**4.84**	49	1.85			
C3	ATTITUDE_PRE	4.32	51	1.09	.863	50	.393
	ATTITUDE_POST	4.10	51	2.05			

Source: Own processing

5 Discussion and Conclusion

The main objective of this research is to evaluate the differences in the effectiveness of three health campaigns designed to improve young people's attitudes towards adherence to health measures during the COVID-19 pandemic. It also wanted to assess the emotional impact of each campaign, along with the role of self-efficacy in the success of the three selected campaigns.

The results of the experiment conducted show that the message with a loss frame and a moderate narrative elicits the highest level of negative emotions (sadness and fear) compared to a message with a loss frame and an explicit narrative or a message with a gain frame. Thus, in relation to the emotional response RQ1, the more moderate and less explicit message but also the one closer to the young people's reality, is the one that causes the greatest emotional impact.

The role of negative emotional appeals as a strategy to favourably modify individuals' attitudes towards health behaviours is widely supported by a large number of studies in the literature.[47] Our study also supports the use of these messages with moderate narratives to achieve emotional impacts among young people. In the case of positive emotions, it was Campaign 3, with a gain framed and humorous narrative, which obtained the highest scores.

Regarding the analysis of effectiveness (RQ2), our study shows that the most effective campaigns in improving adherence to health measures among young people were those that used a loss narrative message (C1 and C2). On the other hand, C3 with a gain message was not effective. Yet, contrary to previous studies,[48] our study shows that only campaigns with a loss message generate attitudinal changes in young people. Thus, it is necessary to take into account that the pandemic has generated a state of great uncertainty and intense collective emotions as a result of the severe social changes that have taken place.[49] In this context, the use of a humorous narrative strategy has failed to impact young people in the expected way. These results are in line with those of previous studies conducted in non-pandemic contexts.[50]

Finally, according to our results, self-efficacy (RQ3) plays a discriminant role in the success of the campaigns analysed. Thus, the loss-framed campaigns (C1 and C2) prove to be effective for subjects with high levels of self-efficacy. But for subjects with lower levels of self-efficacy, only the moderate campaign (C1) is effective. The literature indicates that self-efficacy is a strong predictor of behavioural intention.[51] Thus, subjects with low levels of self-efficacy will be the most vulnerable to non-compliance with health measures, being therefore the risk group to be considered. Therefore, it would be very interesting to develop health campaigns aimed at this target group, as they are the least compliant, ensuring that they are effective for these subjects.

These results are consistent, in part, with previous studies that showed that people with high levels of self-efficacy better accept the loss frame and behaviour change, while people with low levels of self-efficacy tend to reject the threatening loss message.[52] These results are particularly important as they allow health authorities to develop effective campaigns focused on subjects at higher risk of non-compliance with measures. Our study shows that, in the context of the pandemic, subjects with low self-efficacy do accept loss messages

47 TANNENBAUM, M. B. et al.: Supplemental Material for Appealing to Fear: A Meta-Analysis of Fear Appeal Effectiveness and Theories. In *Psychological Bulletin*, 2015, Vol. 141, No. 6, p. 1178-1204.

48 See: O'KEEFE, D. J., JENSEN, J. D.: The Relative Persuasiveness of Gain-Framed and Loss-Framed Messages for Encouraging Disease Prevention Behaviors: A Meta-Analytic Review. In *Journal of Health Communication*, 2007, Vol. 12, No. 7, p. 623-644; STRACHAN, S. M. et al.: Self-Affirmation and Physical Activity Messages. In *Psychology of Sport and Exercise*, 2020, Vol. 47, Article No. 101613, p. 1-9.

49 CHO, H., LEE, J. S.: The Influence of Self-Efficacy, Subjective Norms, and Risk Perception on Behavioral Intentions Related to the H1N1 Flu Pandemic: A Comparison between Korea and the US. In *Asian Journal of Social Psychology*, 2015, Vol. 18, No. 4, p. 311-324.

50 See: FRAUSTINO, J. D., MA, L.: CDC's Use of Social Media and Humor in a Risk Campaign "Preparedness 101: Zombie Apocalypse." In *Journal of Applied Communication Research*, 2015, Vol. 43, No. 2, p. 222-241; MOYER-GUSÉ, E., MAHOOD, C., BROOKES, S.: Entertainment-Education in the Context of Humor: Effects on Safer Sex Intentions and Risk Perceptions. In *Health Communication*, 2011, Vol. 26, No. 8, p. 765-774.

51 See: LIAO, Q. et al.: Factors Affecting Intention to Receive and Self-Reported Receipt of 2009 Pandemic (H1N1) Vaccine in Hong Kong: A Longitudinal Study. In *PLoS ONE*, 2011, Vol. 6, No. 3, Article No. 17713, p. 1-13.

52 See: CARFORA, V., CATELLANI, P.: The Effect of Persuasive Messages in Promoting Home-Based Physical Activity during COVID-19 Pandemic. In *Frontiers in Psychology*, 2021, Vol. 12, Article No. 644050, p. 1-14.

but only with a moderate strategy close to their reality. However, an explicit narrative with images of hospitals, respirators, tombstones and cemeteries probably leads them to activate defence mechanisms that reject the messages received, according to the theory of psychological reactance.[53]

Regarding limitations, the stimuli used in the experiment were videos of real campaigns produced by different European health authorities that were being broadcast on the Internet. While two of them were available with audio in Spanish, the humorous campaign was only available with Spanish subtitles. Although the pre-test was satisfactory and all participants expressed their understanding, this aspect may have been to some extent a conditioning factor of the campaign.

As possible avenues for future research, cultural and social influences should be taken into account, analysing the impact of the different strategies in other countries. It would also be interesting to study in depth the role that variables such as perceived risk, confidence, or optimism can play in the impact of the messages on the modification of certain risk behaviours.

This study on the different frames of the messages and the emotions they arouse provides relevant knowledge that will allow the design of more effective health campaigns to promote the mitigation of unhealthy behaviours, especially for those risk groups with a higher level of non-compliance with the measures ordered by the health authorities.

Every communication campaign must be carefully analysed and assessed for its effectiveness by its authors. This is the only way to ensure that the objectives are achieved. In the case of social campaigns launched by health authorities with the aim of educating and promoting the improvement of citizens' behaviour, this is doubly essential. Not only to assess the level of compliance with the objectives and measure their effectiveness, but also to be able to develop the right communication policies in the future, always within tight public budgets.

Our results indicate that loss-framed moderate strategy is the one most effective for all young people in general, but also for the most reluctant ones in particular. This group of young people with a low level of self-efficacy, the most vulnerable and least likely to comply with prevention rules, presents better results with this type of strategy than the one with explicit narrative. In short, this study contributes to a better understanding of the effectiveness of social communication campaigns by providing evidences that improve the design of the creative strategy as well as the definition of the targets to be impacted. Two key questions that no communication manager can ignore.

BIBLIOGRAPHY:

AVERY, E. J., KIM, M., PARK, S.: Self-Efficacy and Other Considerations in Performance of Risk-Reducing Behaviors during a Major Disease Outbreak. In *Journal of Health Communication*, 2020, Vol. 26, No. 2, p. 112-120. ISSN 1081-0730.

AZJEN, I.: The Theory of Planned Behavior. In *Organizational Behavior and Human Decision Processes*, 1991, Vol. 50, No. 2, p. 179-211. ISSN 0749-5978.

BAGOZZI, R. P., GOPINATH, M., NYER, P. U.: The Role of Emotions in Marketing. In *Journal of the Academy of Marketing Science,* 1999, Vol. 27, No. 2, p. 184-206. ISSN 0092-0703.

BANDURA, A.: Perceived Self-Efficacy in Cognitive Development and Functioning. In *Educational Psychologist*, 1993, Vol. 28, No. 2, p. 117-148. ISSN 0046-1520.

BORAWSKA, A., OLEKSY, T., MAISON, D.: Do Negative Emotions in Social Advertising Really Work? Confrontation of Classic vs. EEG Reaction toward Advertising that Promotes Safe Driving. In *PLoS ONE*, 2020, Vol. 15, No. 5, p. 1-20. ISSN 1932-6203.

BREHM, S. S., BREHM, J. W.: *Psychological Reactance: A Theory of Freedom and Control.* New York : Academic Press, 1981.

BRUSSE, E. D. A., FRANSEN, M. L., SMIT, E. G.: Framing in Entertainment-Education: Effects on Processes of Narrative Persuasion. In *Health Communication*, 2017, Vol. 32, No. 12, p. 1501-1509. ISSN 1532-7027.

Campaña Alemana. Released on 13th February 2021. [online]. [2022-10-08]. Available at: <https://www.youtube.com/watch?v=JNxz9xR1Aks>.

Campaña Covid B. Released on 13th February 2021. [online]. [2022-10-08]. Available at: <https://www.youtube.com/watch?v=xBJGzaDGsXM>.

Campaña Covid C. Released on 13th February 2021. [online]. [2022-10-08]. Available at: <https://www.youtube.com/watch?v=3YFgKNq3cxM>.

CARFORA, V., CATELLANI, P.: The Effect of Persuasive Messages in Promoting Home-Based Physical Activity during COVID-19 Pandemic. In *Frontiers in Psychology*, 2021, Vol. 12, Article No. 644050, p. 1-14. ISSN 1664-1078.

CESARIO, J., HIGGINS, E. T., SCHOLER, A. A.: Regulatory Fit and Persuasion: Basic Principles and Remaining Questions. In *Social and Personality Psychology Compass*, 2008, Vol. 2, No. 1, p. 444-463. ISSN 0031-9201.

CHO, H., LEE, J. S.: The Influence of Self-Efficacy, Subjective Norms, and Risk Perception on Behavioral Intentions Related to the H1N1 Flu Pandemic: A Comparison between Korea and the US. In *Asian Journal of Social Psychology*, 2015, Vol. 18, No. 4, p. 311-324. ISSN 1467-839X.

DENG, T., EKACHAI, D., POKRYWCZYNSKI, J.: Global COVID-19 Advertisements: Use of Informational, Transformational and Narrative Advertising Strategies. In *Health Communication*, 2022, Vol. 37, No. 5, p. 628-636. ISSN 1532-7027.

FRAUSTINO, J. D., MA, L.: CDC's Use of Social Media and Humor in a Risk Campaign "Preparedness 101: Zombie Apocalypse." In *Journal of Applied Communication Research*, 2015, Vol. 43, No. 2, p. 222-241. ISSN 1479-5752.

FUADY, A. et al.: Good Knowledge but Poor Practice toward COVID-19 among Indonesian Youth. In *Asia Pacific Journal of Public Health*, 2021, Vol. 33, No. 5, p. 605-607. ISSN 1010-5395.

GALLAGHER, K. M., UPDEGRAFF, J. A.: Health Message Framing Effects on Attitudes, Intentions, and Behavior: A Meta-Analytic Review. In *Annals of Behavioral Medicine*, 2012, Vol. 43, No. 1, p. 101-116. ISSN 0883-6612.

GRAFFIGNA, G. et al.: "#I-Am-Engaged": Conceptualization and First Implementation of a Multi-Actor Participatory, Co-Designed Social Media Campaign to Raise Italians Citizens' Engagement in Preventing the Spread of COVID-19 Virus. In *Frontiers in Psychology*, 2020, Vol. 11, Article No. 567101, p. 1-12. ISSN 1664-1078.

GREEN, M. C., BROCK, T. C.: The Role of Transportation in the Persuasiveness of Public Narratives. In *Journal of Personality and Social Psychology*, 2000, Vol. 79, No. 5, p. 701-721. ISSN 0022-3514.

GRIGORYAN, N.: Ethics of a Social Marketing Campaign: An Integrative Assessment Model. In *Journal of Media Ethics: Exploring Questions of Media Morality*, 2019, Vol. 34, No. 2, p. 114-127. ISSN 2373-700X.

HEFFNER, J., VIVES, M., FELDMANHALL, O.: Emotional Responses to Prosocial Messages Increase Willingness to Self-Isolate during the COVID-19 Pandemic. In *Personality and Individual Differences*, 2021, Vol. 170, Article No. 110420, p. 1-8. ISSN 0191-8869.

LIAO, Q. et al.: Factors Affecting Intention to Receive and Self-Reported Receipt of 2009 Pandemic (H1N1) Vaccine in Hong Kong: A Longitudinal Study. In *PLoS ONE*, 2011, Vol. 6, No. 3, Article No. 17713, p. 1-13. ISSN 1932-6203.

LIM, M. S. C. et al.: Reach, Engagement, and Effectiveness: A Systematic Review of Evaluation Methodologies Used in Health Promotion via Social Networking Sites. In *Health Promotion Journal of Australia*, 2016, Vol. 27, No. 3, p. 187-197. ISSN 2201-1617.

MISSAGLIA, A. L. et al.: The Impact of Emotions on Recall: An Empirical Study on Social Ads. In *Journal of Consumer Behaviour*, 2017, Vol. 16, No. 5, p. 424-433. ISSN 1479-1838.

MOYER-GUSÉ, E., MAHOOD, C., BROOKES, S.: Entertainment-Education in the Context of Humor: Effects on Safer Sex Intentions and Risk Perceptions. In *Health Communication*, 2011, Vol. 26, No. 8, p. 765-774. ISSN 1041-0236.

NIVETTE, A. et al.: Non-Compliance with COVID-19-Related Public Health Measures among Young Adults in Switzerland: Insights from a Longitudinal Cohort Study. In *Social Science & Medicine*, 2021, Vol. 268, Article No. 113370, p. 1-9. ISSN 0277-9536.

O'KEEFE, D. J., JENSEN, J. D.: The Relative Persuasiveness of Gain-Framed and Loss-Framed Messages for Encouraging Disease Prevention Behaviors: A Meta-Analytic Review. In *Journal of Health Communication*, 2007, Vol. 12, No. 7, p. 623-644. ISSN 1081-0730.

POELS, K., DEWITTE, S.: The Role of Emotions in Advertising: A Call to Action. In *Journal of Advertising*, 2019, Vol. 48, No. 1, p. 81-90. ISSN 0091-3367.

PRASAD SINGH, J., SEWDA, A., SHIV, D. G.: Assessing the Knowledge, Attitude and Practices of Students Regarding the COVID-19 Pandemic. In *Journal of Health Management*, 2020, Vol. 22, No. 2, p. 281-290. ISSN 0973-0729.

ROGERS, R. W.: A Protection Motivation Theory of Fear Appeals and Attitude Change. In *The Journal of Psychology*, 1975, Vol. 91, No. 1, p. 93-114. ISSN 0022-3980.

53 See: BREHM, S. S., BREHM, J. W.: *Psychological Reactance: A Theory of Freedom and Control.* New York : Academic Press, 1981.

ROSENBERG, M. J., HOVLAND, C.: Cognitive, Affective, and Behavioral Components of Attitudes. In ROSENBERG, M. J. (ed.) et al.: *Attitude Organization and Change*. New Haven : Yale University Press, 1960, p. 233-239.
ROSENSTOCK, I. M.: The Health Belief Model and Preventive Health Behavior. In *Health Education & Behavior*, 1974, Vol. 2, No. 4, p. 354-386. ISSN 1090-1981.
ROSKOS-EWOLDSEN, D. R., YU, H. J., RHODES, N.: Fear Appeal Messages Affect Accessibility of Attitudes toward the Threat and Adaptive Behaviors. In *Communication Monographs*, 2004, Vol. 71, No. 1, p. 49-69. ISSN 0363-7751.
SHEN, F., SHEER, V. C., LI, R.: Impact of Narratives on Persuasion in Health Communication: A Meta-Analysis. In *Journal of Advertising*, 2015, Vol. 44, No. 2, p. 105-113. ISSN 0091-3367.
SOBKOW, A. et al.: Worry, Risk Perception, and Controllability Predict Intentions toward COVID-19 Preventive Behaviors. In *Frontiers in Psychology*, 2020, Vol. 11, Article No. 582720, p. 1-15. ISSN 1664-1078.
STRACHAN, S. M. et al.: Self-Affirmation and Physical Activity Messages. In *Psychology of Sport and Exercise*, 2020, Vol. 47, Article No. 101613, p. 1-9. ISSN 1469-0292.
TANNENBAUM, M. B. et al.: Supplemental Material for Appealing to Fear: A Meta-Analysis of Fear Appeal Effectiveness and Theories. In *Psychological Bulletin*, 2015, Vol. 141, No. 6, p. 1178-1204. ISSN 0033-2009.
VAN'T RIET, J. et al.: The Influence of Self-Efficacy on the Effects of Framed Health Messages. In *European Journal of Social Psychology*, 2008, Vol. 38, No. 5, p. 800-809. ISSN 0046-2772.
WITTE, K., ALLEN, M.: A Meta-Analysis of Fear Appeals: Implications for Effective Public Health Campaigns. In *Health Education and Behavior*, 2000, Vol. 27, No. 5, p. 591-615. ISSN 1090-1981.
WRIGHT, K. B., SPARKS, L., O'HAIR, H. D.: *Health communication in the 21st century*. Malden, MA : Blackwell Publishing, 2008.
YOON, H. J., TINKHAM, S. F.: Humorous Threat Persuasion in Advertising: The Effects of Humor, Threat Intensity, and Issue Involvement. In *Journal of Advertising*, 2013, Vol. 42, No. 1, p. 30-41. ISSN 0091-3367.