

PERSUASION APPLICATIONS FOR HEALTH CAMPAIGN OPTIMIZATION: A REVIEW

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ABSTRACT. Although persuasion is naturally present in human communication, its proper use seems absent in healthcare awareness campaigns, as evidenced by the disparity between the frequency of specific campaigns and the decrease in behaviors associated with them. As such, this study aims to conduct a literature review about the types of persuasion used in healthcare, their efficacy, and the most suitable application contexts. Papers in Portuguese or English, published in the last five years on the BVS, PubMed and Scielo platforms, were considered. A total of 38 articles were selected that were divided by persuasion strategy or the type of issue addressed (eating habits, diseases, drugs, exercise, vaccination and others). The results indicated that, in general, the persuasive strategies were effective in achieving their objectives. The most significant challenge is the adequacy of the strategy's choice to be used according to the type of issue addressed by the campaign. Therefore, it is concluded that persuading the target audience is a relevant topic to optimize healthcare campaigns and should be considered in the future.

Keywords: Health; persuasive communication; efficacy.

APLICAÇÕES DA PERSUASÃO PARA OTIMIZAÇÃO DE CAMPANHAS NA SAÚDE: UMA REVISÃO

RESUMO. Apesar da persuasão estar presente de forma natural na comunicação humana, o seu uso adequado parece estar ausente nas campanhas de conscientização na saúde, como é evidenciado pela disparidade entre a frequência de certas campanhas e a diminuição dos comportamentos associados a ela. Nesse sentido, o objetivo do estudo foi realizar uma revisão de literatura acerca dos tipos de persuasão empregados na saúde, sua eficácia, e contextos de aplicação mais adequados. Foram considerados trabalhos em português ou inglês, publicados nos últimos cinco anos nas plataformas BVS, *PubMed* e Scielo, sendo selecionado o total de 38 artigos que foram divididos por estratégia de persuasão ou o tipo de questão abordada (alimentação, doenças, drogas, exercício, vacinação e outros). Os resultados indicaram que no geral, as estratégias persuasivas obtiveram eficácia em alcançar seus objetivos, sendo o maior desafio a adequação na escolha das estratégias ao tipo de questão abordada pela campanha. Portanto, é concluído que pensar na forma de persuadir o público-alvo é um tema pertinente para otimizar as campanhas de saúde, devendo ser um aspecto considerado no futuro.

Palavras-chave: Saúde; comunicação persuasiva; eficácia.

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APLICACIONES DE PERSUASIÓN PARA LA OPTIMIZACIÓN DE LAS CAMPAÑAS DE SALUD: UNA REVISIÓN

RESUMEN. Aunque la persuasión está naturalmente presente en la comunicación humana, su uso adecuado parece estar ausente en las campañas de concientización de la salud, como lo demuestra la disparidad entre la frecuencia de ciertas campañas y la disminución de los comportamientos asociados con ella. En este sentido, el objetivo del estudio fue realizar una revisión de la literatura sobre los tipos de persuasión empleados en salud, su eficacia y los contextos de aplicación más adecuados. Se seleccionaron un total de 38 artículos que se dividieron por estrategia de persuasión o el tipo de pregunta abordada (alimentos, enfermedades, drogas, ejercicio, vacunación y otros). Los resultados indicaron que, en general, las estrategias persuasivas fueron efectivas para lograr sus objetivos, y el mayor desafío fue la adecuación de la elección de las estrategias al tipo de pregunta que aborda la campaña. Por lo tanto, se concluye que pensar en cómo persuadir a la audiencia objetivo es un tema relevante para optimizar las campañas de salud y se debe considerar en el futuro.

Palabras clave: Salud; comunicación persuasiva; eficacia.

(Persuasive) tactics are available either for good or evil. They can be structured to deceive and therefore exploit people. But they can also be structured to inform and thus make other people better (Cialdini, 2017, p. 22)

Introduction

Persuasive forms of communication are naturally included in human interactions, either in a dialogue between a salesperson and a customer or in a flashy scientific article title. Objectively, persuasion can be defined as any form of communication that aims to cause change, to shape or reinforce a subject's responses to certain stimuli (Wall, Campbell, Kaye, Levy, & Bhullar, 2019). Alkış and Temizel (2015) point out that it is essential for understanding changes in attitudes and behaviors, which justifies the fact that several theories attempt to systematize the persuasion understanding.

In these theoretical models, the focus traditionally falls on conceptualizing and operationalizing the persuasive strategies that exist, being the model proposed by Cialdini (2001, 2004, 2017) the most used. This theory suggests six persuasive principles: reciprocity (the subjects tend to agree when they believe they owe something to the person communicating the message); consensus (social proof) (when the subjects observe the group performing a particular behavior, they tend to repeat it); liking (the subjects tend to agree more easily with people they like); commitment (the subjects tend to desire a balance between their beliefs and attitudes, so they may agree on something more easily if that goal is achieved); scarcity (the subjects wish more something that seems limited or hard to get); and authority (the subjects believe more in information and recommendations exposed by someone who seems reliable and an expert on the topic). It is important to emphasize that each of these strategies depends on several aspects to work properly, such as the message being conveyed and the characteristics of whom is being targeted.

Initially dealing with these more individual characteristics, personality seems to predispose subjects to be more susceptible to different influencing strategies. Alkış and Temizel (2015) demonstrate in their study, for example, that people with a high

agreeableness (characterized by compassion, altruism and inclination to help others) are associated with the styles mentioned above, with this trait being significantly correlated with four of the six ones (reciprocation, authority, liking and commitment). Moreover, this research shows differences among them, with conscientiousness (defined by organization, meticulousness, etc.) demonstrating a more significant positive correlation with commitment and openness to change, a negative correlation with consensus.

These differences occur since our personality is the fundamental basis for interacting with external stimuli, the aspects we value, and how we communicate with other people. This is also evident in the results of previous studies (Halko & Kientz, 2010; Kaptein, Markopoulos, Ruyter, & Aarts, 2015) that have linked the personality to differences in reaction to persuasion using other approaches or theoretical models. Besides, Hirsh, Kang and Bodenhausen (2012) and Wall et al. (2019) point out the discussion about the importance of tailoring persuasive messages to the recipient's personality to increase their efficacy.

The efficiency of some of these strategies over others also depends on how the message receiver processes the received information. In this matter, the dual-process model is applied, which postulates two activated processing paths when a persuasive message is transmitted: The systematic processing of information, or central route, which demands more conscious effort, then requiring more detailed strategies based on factual and logical information; and the heuristic processing of information, or peripheral route, where peripheral cues (such as the communicator's attractiveness) delimit how well this message achieves its goals (Fischer & Vaclair, 2015).

However, although the characteristics of the receiver are essential, how the message is developed is obviously a pivotal point to be considered in this relation. Some of the vital features in this topic are the ability to engage and motivate subjects to produce a behavior change that is sustainable and continuous, as well as using a means of communication that is compatible with the message and the target audience (Alahäivälä & Oinas-Kukkonen, 2016). Furthermore, broader issues should also be analyzed as to whether this message fits the culture in which the public is inserted (Fischer & Vaclair, 2015).

Seeking to understand and use these psychological mechanisms to achieve specific goals is the advertising industry, which not only relies on high investments but increasingly transforms its products into a media format with unique characteristics (Albers-Miller, 1999). It is essential to understand the differences between commercial advertisements and campaigns carried out in healthcare. While the first category aims to encourage a group to consume a product and/or service, campaigns seek to raise awareness, educate and inform about some subjects, such as healthy eating or physical exercise practice (Stevens, 2018).

In the scenario of healthcare campaigns, effectively applied persuasion appears to be a vital element and considerably absent. Stavrositu and Kim (2018) point out that although there are countless campaigns aimed at transforming behaviors that can be harmful to health, a tiny number of people are effectively reached. In the Brazilian context, this can be demonstrated, for example, by the annual increase in contamination with Sexually Transmitted Infections, despite the several campaigns throughout the year (and in specific seasons, such as Carnival) aimed at raising awareness about this topic (Lenharo, 2018).

Therefore, it is possible to see that understanding the proper way to use persuasive communication is essential for healthcare campaigns to have greater reach and efficacy results, thus considering the psychosocial aspects of each specific target audience. So, this study aimed to observe how the various elements of persuasion are used in these campaigns and which are the most common and the most appropriate contexts for their use.

Method

This research was a systematic literature review according to the PRISMA criteria (Moher, Liberati, Tezloff, & Altman, 2009).

Database: The PubMed, BVS and Scielo databases were consulted, and the following functionalities, as provided by the platform: 2014-2019 time interval, only studies with human beings, and English and Portuguese languages.

Inclusion and exclusion criteria: The descriptors (registered in the Health Sciences Descriptors) 'health' and 'persuasive communication' or 'persuasion' (written as a synonym of the previous) were used. This combination considered research reports published in Portuguese and English in the last five years, indexed in the proposed databases.

Data analysis: The articles found from the descriptors had their abstracts analyzed to see if they fit the research question. After this process (Figure 1), the remaining articles were organized using categories that described the type of issue they addressed (e.g., healthy eating, alcohol consumption) to facilitate the analysis process, which consisted of a descriptive phase (classifying the studies according to a category, year of publication and means of communication used), another focused on the persuasion strategies themselves and finally one that sought to observe the efficacy informed by the articles' results. It is worth highlighting that all studies were analyzed by two independent reviewers, who examined both the inclusions in the final sample and the distribution in the categories.

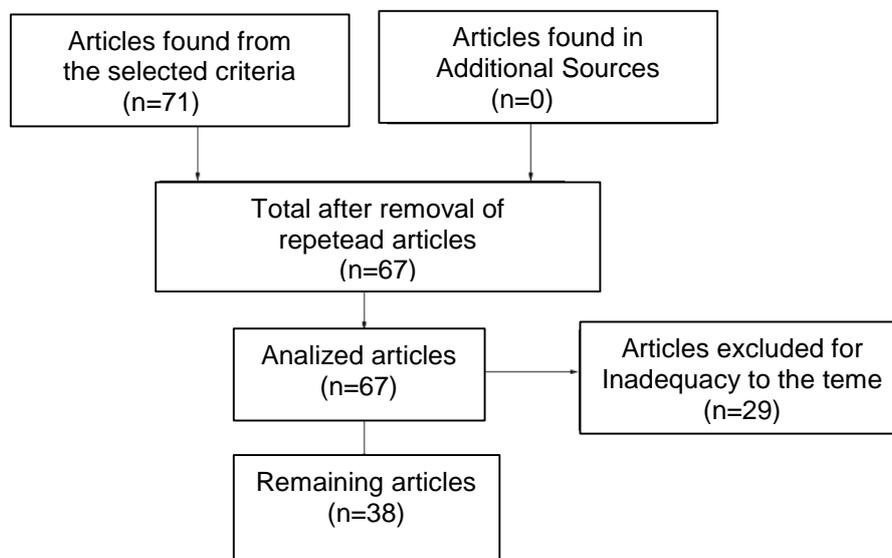


Figure 1. Review diagram.

Results

Descriptive phase

The 38 studies analyzed were divided into six categories: Eating Habits (promoting healthy eating habits and reducing the consumption of harmful foods), Diseases (promoting behaviors that reduce the risk of pathological conditions or awareness of certain conditions), Legal and illegal drugs (reduction in consumption and information about risks), Physical exercise (promotion of physical activity for various purposes), Vaccination (encouraging

vaccination) and Others (2 works that did not fit into the categories above). In these categories, the one dealing with drugs gathered the most significant number of articles, representing 14 of the total; among the persuasive message media, the use of more objective texts was the most common (11); finally, the year 2015 was represented by the largest number of works (11), with a progressive decrease in subsequent years. Detailed information can be found in Table 1.

Table 1. Descriptive results

Category	Means of communication used	Year
Eating habits - 7	Audio - 2	2014 - 9
Diseases - 9	Warning messages - 3	2015 - 11
Legal and ilegal drugs - 14	Narrative - 7	2016 - 8
Physical exercise - 5	Posters - 5	2017 - 7
Vaccination - 3	Pamphlet - 2	2018 - 4
Others - 2	Text - 11	2019 - 0
	Videos - 6	
	Others - 3	

Persuasion Strategies

Sixteen persuasion strategies were identified (see **Table 2**) among the studies (some using more than one), the most common being the Message Framing, with 11 uses. The categorization of strategies was conducted through two ways: creating a category for strategies already appropriately named in the articles (e.g., in studies about the message framing); or, in cases where the strategy was not named, identifying studies that had similar procedures and objectives (e.g., emotional appeal). Strategies ranged from the focus (individual in self-persuasion, the communicator, the source credibility and the message framing) and considering the means of communication used, such as absorption into the story and the writing style applied in a narrative.

Table 2. Persuasion strategies.

Persuasion strategie	Description
Appeal to differentiated forms of processing (1)	Induce automatic or elaborate cognitive processing
Absorption into the history (1)	Use narrative to persuade
Emotional appeal (6)	The message induces feelings (sadness, fear) to persuade
Self-reference (2)	Induce comparison of the message with its characteristics
Self-persuasion (2)	Create a situation that motivates the subject to self-encourage towards change
Source credibility (1)	Use the source confidence to increase the power of the message
Voice intonation (1)	Change the tone used (bass, normal or treble)
Message framing (11)	Adapt the message according to the target audience.
Writing style (1)	Use ways of writing that increase persuasion.
Example (1)	Offer an example.
Identification (4)	Make the audience experience the character's point of view.
Distressing images (1)	Exposure to images that cause discomfort.
Information (6)	Provide information (e.g., data) about the topic.
Social norms (2)	Demonstrate that a specific action is viewed favorably/unfavorably by the social group.
Customization (1)	Create a message tailored to a specific subject.
Taylor's Strategies Wheel (1)	Theory created to base persuasive messages according to the aspects valued by the subjects.

Efficacy

Finally, it was analyzed how effective the planning brought by the articles was in achieving the proposed results, dividing both according to persuasion strategies and categories. From this, the results were considered as ineffective (the persuasion strategy did not reach the goal), partially effective (it was possible to reach part of the objectives) or effective (if it reached everything that was proposed). The results exposed in **Table 3** and Table 4 indicate that only 10.5% of the studies showed completely ineffective results. In this pole, the messages aimed at physical exercise practice stand out. In contrast, in efficacy, campaigns about eating habits, awareness of diseases and drugs, and the strategies of emotional appeal, message framing and information are highlighted.

Table 3. Efficacy levels by persuasion strategy.

Persuasion strategy	Ineffective	Partially ineffective	Effective
Appeal to differentiated forms of processing	0	0	1
Absorption into the history	0		1
Emotional appeal	0	5	1
Self-reference	1	1	0
Self-persuasion	0	2	0
Source credibility	1	0	0
Voice intonation	0	1	0
Message framing	0	6	5
Writing style	0	0	1
Example	1	0	0
Identification	0	3	1
Distressing images	0	1	0
Information	0	2	4
Social norms	0	0	2
Customization	0	1	0
Taylor's Strategies Wheel	0	0	1

Table 4. Efficacy levels by category.

Persuasion strategy	Ineffective	Partially ineffective	Effective
Eating habits	0	3	4
Diseases	0	4	4
Legal and ilegal drugs	1	9	4
Physical exercise	2	1	2
Vaccination	1	1	1
Others	0	1	1

Discussion

This study aimed to conduct a literature review on the applications of persuasion in healthcare campaigns. It was possible to observe the variety of applied strategies, which, combined with different means of communication, were able to reach a satisfactory level of usefulness, thus demonstrating how well persuasion is a factor that deserves attention in this field. The results also indicate that the most diverse ways of persuading present the possibility of being effective, with the main issue being related to the type of behavior one wants to promote/inhibit, in agreement with other authors in the field (Gerend & Shepherd, 2016).

Discussing some strategies that have had good efficacy, it is possible to observe parallels among the abovementioned ideas. The appeal to differentiated forms of processing is in line with the dual processing model since, in the study, messages were created that suited to faster or more detailed processing (Fischer & Vaclair, 2015). On the other hand, the evidence of social norms regarding a specific behavior dialogue with Cialdini's theory about the social approval principle. People tend to be more persuaded when they see a specific attitude as coherent concerning their social group (Cialdini, 2017).

Two other strategies are distinguished by their efficacy: Message framing and emotional appeal. Riet (2009) and Keyworth et al. (2018) provide some justifications for the performance of message framing: the way a message is communicated (e.g., focusing on the benefits of quitting smoking or the harm of continuing) can influence the audience even though the content of the two versions is objectively the same, making choosing a form of communicating that suits the object of the message essential to persuade the target audience.

Similarly, according to the results presented here, choosing the right way to appeal to the audience's emotions motivates a more remarkable change in attitudes towards a topic (AdAge, 2015). However, one of the possibilities that most studies have not been entirely effective is the focus of most healthcare campaigns that use emotional appeal to negative emotions such as fear. Despite causing an increase in the susceptibility of some populations, these emotions can bring unpleasant sensations to the public, making some authors question whether inducing fear is effective in changing attitudes (Cho, 2012; Fischer & Vaclair, 2015; Stevens, 2018).

The use of strategies that make the subject directly involved may have been a decisive factor in the ineffectiveness of campaigns promoting physical exercise practice. In one of the studies, the authors discuss the fact that people avoid thinking about what they can do when they are exposed to a message, complementing the results of another research, where participants exposed to self-persuasion, despite showing increased attitudes in favor of eating more vegetables (which, thanks to the local culture, was an easier behavior), showed no interest in exercising more (something that would imply a more outstanding commitment to change) (Lee & Mackert, 2017; Stavrositu & Kim, 2018). Thus, it emphasizes the importance of understanding the factors involved in a change in behavior before choosing a strategy to persuade the target audience.

Although the present study has fulfilled its objectives, it is pertinent to highlight some limitations: the fact that it only considered articles in English or Portuguese (as only studies in the first language the proposed criteria were found), and only a limited number of databases and keywords may have narrowed the analyzed sample. Furthermore, as the methods used by the articles were quite different, the comparison among their characteristics may have been impaired. However, it is expected to have contributed to studying the practical application of persuasion in the healthcare context.

Therefore, it is possible to conclude that persuasive techniques can be structured to promote behaviors that lead to a healthier and quality life for the population, thus raising the need for more detailed research on the subject in the Brazilian context.

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