ANTI-ALCOHOL CAMPAIGNS EFFECTS DEPENDING ON TARGET DRINKING LEVELS AND SOURCE PERCEPTION

EFECTOS DE LAS CAMPAÑAS ANTI-ALCOHOL EN FUNCIÓN DE LOS NIVELES DE CONSUMO DEL RECEPTOR Y LA PERCEPCIÓN DEL EMISOR

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Abstract

Alcohol consumption represents a major problem for public health. As a consequence, there is a growing interest in understanding which communication strategies have the ability to increase the persuasive power of anti-alcohol campaigns. Many designers of health campaigns use both actors and real people interchangeably to deliver their messages. Nevertheless, little is known regarding which of these two types of message sources are more persuasive. *Aim & Methodology.* In this study, we used an experimental design to explore the effect of recipients' perceptions of the message source (presented as either real people or actors) on their drinking intentions. *Results.* We observed a significant difference in the drinking intentions as an effect of our manipulation, depending on previous recipients' drinking levels. Heavy consumers were more readily persuaded by the real source message. In contrast, light consumers showed less drinking intentions after receiving the message from the fictional source than from the real one. *Conclusions.* This indicates that in the context of anti-alcohol campaigns, the same strategy could have both positive and negative effects simultaneously on different target groups. Theoretical and practical implications of our findings are discussed.

Keywords: Anti-alcohol campaigns, alcohol prevention, media effects, message source, persuasive message.

Resumen

El consumo de alcohol representa un gran problema de salud pública. Existe, por tanto, un creciente interés en comprender qué estrategias comunicativas podrían incrementar la eficacia de las campañas anti-alcohol. Muchas campañas de salud utilizan tanto actores como personas reales indistintamente a la hora de transmitir sus mensajes. Sin embargo, poco se sabe sobre cuál de estos dos tipos de emisores es más persuasivo. *Objetivo y Metodología*. En este estudio se explora, a través de un diseño experimental, el efecto que la percepción que los receptores de un mensaje tienen acerca del emisor del mismo (si es presentado como un testimonio real o como un actor) sobre sus posteriores intenciones de consumir alcohol. *Resultados.* Se observaron diferencias significativas en las intenciones de consumo en función de la percepción de la fuente y del nivel de consumo previo de alcohol. Los grandes consumidores resultaron más persuadidos cuando la fuente se presentaba como un testimonio real. Sin embargo, los individuos con niveles de consumo moderado mostraron menor intención de beber cuando el mensaje se percibía como transmitido por una fuente de ficción. *Conclusiones.* En el contexto de campañas anti-alcohol, la misma estrategia puede producir tanto efectos positivos como negativos en función de los diferentes destinatarios, con las implicaciones teóricas y prácticas que ello conlleva.

Palabras clave: Campañas contra el alcohol, efectos de los medios, prevención en alcohol, fuente del mensaje, mensaje persuasivo

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Harmful alcohol consumption and its consequences

In recent decades, the harmful use of alcohol has been recognized as one of the major public health problems that compromises individual and social development (Anderson & Baumberg, 2006). According to the most recent WHO report in 2018, excessive alcohol consumption has been identified as a contributor to more than 200 diseases and injuries. Furthermore, the relative effect of alcohol consumption on mortality was estimated at 132.6 million disability-adjusted life years (DALYs) (5.1% of all DALYs in that year) and 3 million deaths in 2016 (5.3% of all deaths) worldwide, which represents a significant increase in the number of alcohol related deaths compared to that of 2004 (2.5 million) (WHO, 2009). Although the alcohol-attributable deaths proportion in total deaths decreased slightly from 5.6% in 2010 to 5.3% in 2016, the alcohol-attributable DALYs proportion remained relatively stable (5.1% of all DALYs in 2010 and 2016) (WHO, 2018).

In addition to the individual health consequences, alcohol consumption also bears a high social cost reflected in health care, crime rates, traffic injuries and lower productivity rates. In order to reduce and prevent individual and social harm caused by excessive alcohol consumption, the World Health Organization global strategy framework is developed and implemented through alcohol policies and interventions at both the national and local levels (WHO, 2010). These policies must be well implemented and evaluated in order to be effective (Jones-Webb, Nelson, McKee, & Toomey, 2014). The purpose of this paper is to contribute to the study of effective communication strategies that may effectively fight the problem of excessive alcohol consumption.

Mass media prevention campaigns

Among the most common prevention strategies against alcohol consumption are mass media prevention campaigns. Their main purpose is (1) to increase awareness and knowledge among citizens as to the potential risks of alcohol consumption, (2) to promote healthier lifestyle and, (3) attempt to produce a psychological and behavioral change in the population (Bergen et al., 2014; Elder et al., 2004; Hornik, 2002; Institute of Medicine, 2002; Randolph & Viswanath, 2004; Yadav, & Kobayashi, 2015).

There is a body of evidence looking at the effectiveness of these media campaigns in changing alcohol-related intentions, attitudes and behavior, but the findings are somewhat contradictory. For instance, some campaigns have been effective in decreasing drivers' intentions to drink and drive (Tay, 2002) as well as alcohol impaired driving and alcohol related accidents (Yadav, & Kobayashi, 2015). On the other hand, some media campaigns that aimed to reduce alcohol intake have shown little success (e.g. Spoth, Greenberg, & Turrisi, 2008; Wechsler et al., 2002). Additionally, some responsible drinking campaigns have been largely ineffective – and even counterproductive – in changing drinking behavior while at the same time serving as a marketing strategy for the alcohol industry (DeJong, Atkin, & Wallack, 1992; Smith, Atkin, & Roznowski, 2006). A recent systematic review of effectiveness of these media campaigns concludes that they have the power to increase knowledge about drinking, but discovers mixed evidence of changing people's intentions, attitudes and beliefs about alcohol and very limited evidence of reducing people's alcohol consumption (Young et al., 2018). Given this disparity of results, our aim here is to investigate the characteristics that define effective communication strategies in reducing drinking intentions.

Campaign's effectiveness depends on many different factors

The persuasive effectiveness of alcohol prevention campaigns is determined by different factors. A growing body of research in this field has been studying different message characteristics as determinants of its persuasive effect. For instance, several studies indicate that messages using intense, dogmatic or forceful language lead to state reactance and consequently greater intentions to drink (Bensley & Wu, 1991; Dillard & Shen, 2005), especially when the message is deemed insulting or is perceived to be a poor argument (Kim, Levine, & Allen, 2013). Other message characteristics such as the magnitude of the request (Rains & Turner, 2007) have been proven as decisive factors for alcohol prevention campaigns. Specifically, a request for responsible drinking can be more effective than a request for a complete drinking cessation because the former causes less imposition and reactance to the recipient (Rains & Turner, 2007).

There is a considerable body of research that explores persuasive effectiveness beyond the effect of message characteristics. These focus on how the message is designed according to the audience's specific needs and personal characteristics (e.g. Hawkins, Kreuter, Resnicow, Fishbein, & Dijkstra, 2008; Igartua, 2006; Rimer & Kreuter, 2006). Health messages based on the pre-assessment of characteristics and concerns of the target audience are perceived as more relevant by recipients and provoke more motivation to process and accept information (Kreuter & Wray, 2003; Rimer & Kreuter, 2006) than generic messages (eg. Lustria et al., 2013; Noar, Benac, & Harris, 2007). It has been shown that a campaign is more effective when it has been designed according to the recipients' characteristics, such as: sensation seeking levels (Palmgreen & Donohew, 2003; Palmgreen, Donohew, Lorch, Hoyle, & Stephenson, 2001; Sargent, Tanski, Stoolmiller, & Hanewinkel, 2010), gender specificity and identity (Lewis & Neighbors, 2007), drinking status and readiness to change (Chiauzzi, Green, Lord, Thum, & Goldstein, 2005), specific alcohol beverages (Werch et al., 2005) or self-efficacy and outcome expectancies regarding alcohol-related consequences (Weitzel, Bernhardt, Usdan, Mays, & Glanz, 2007). In the same vein, some previous studies explored which type of message frame corresponds to different levels of alcohol consumption. They found that loss-frame messages (i.e., messages that focus on the costs or negative consequences of alcohol consumption) were more effective for heavy drinkers, while the gain-frame message (i.e., messages that focus on the benefits or positive consequences of quitting alcohol consumption) aroused greater anger as alcohol consumption increased (Quick & Bates, 2010). In an attempt to resolve some of the contradictory results shown above, we study in this paper a new way in which the variable alcohol consumption levels can affect the effectiveness of anti-alcohol campaigns.

Source as a persuasive factor

One of the most basic and common persuasive principles is the adaption of the message source to the previously studied characteristics and preferences of the target audience, including not only demographics, but also culturally relevant values, beliefs and lifestyles (Rimer & Kreuter, 2006). In alcohol campaigns, it is extremely important to select the right message source, a person (or group) who delivers the persuasive message (DeJong, 2002). For instance, there is evidence that students' drinking norm perceptions and drinking intention are more influenced by sources belonging to their own peer networks whom they closely relate to and are similar to themselves (Real & Rimal, 2007). Additionally, when the communicator is the same gender as the recipient, the message against alcohol was more effective (Bochner, 1994). For other health topics such as AIDS, a culturally specific education video addressed to African Americans was more persuasive, credible and attractive when delivered by an African American announcer than when delivered by a White announcer (Herek et al., 1998; Wang & Arpan, 2008).

In this context of using audiences' preferred message sources, we want to consider another message source characteristic: source labeling as a *real person* or as an *actor*. Many designers of health campaigns (public service announcements, educational TV series) use both actors and real people interchangeably to send their messages against addictive behaviors. We hypothesized that providing the audience with explicit information about whether the communicator of the message is a *real person* or an *actor* might influence its perceptions of the message source, and therefore affect the message persuasiveness. But equally important, we also assume that different types of alcohol consumers might perceive and respond differently to the real or fictional source testimonials about alcohol problems. Nevertheless, little is known about which of these two types of message sources is more persuasive and for whom.

Theoretically (Slater, 1990), it could be argued that the message recipients should be more persuaded by a real person than by fictional portrayals represented by actors since a real person may be perceived as a more credible source (more authentic and even more competent about the subject). However, it could also be argued that, for some people, a real person who already has problems with alcohol consumption does not have enough credibility to convey advice against alcohol. In this case, an actor might be more effective at addressing the message. Therefore, we believe that the persuasiveness of a message delivered by a real/fictional alcohol consumer and his/her perceived credibility might depend on the recipients' characteristics, specifically on their level of alcohol consumption.

For heavy alcohol consumers specifically, the real person might be perceived as more similar to one's self and easier to identify with than an actor, which would make the former more persuasive. However, it could also be argued that there might be some condition in which the most persuasive source would be an actor (rather than a real person). Specifically, for light alcohol consumers, it might be difficult to identify with real people suffering from the real consequences of alcohol abuse. Consequently, light drinkers may be more persuaded by actors communicating an anti-alcohol message than by real people communicating anti-alcohol messages.

In order to provide evidence for these different hypotheses, we conducted a study to explore the effect that different sources have on recipients' perceptions and how it affects their intentions to drink as a function of recipients' drinking levels.

METHOD

Participants

A total of 260 undergraduate students from the School of Communication Science, at Universidad Complutense de Madrid participated in the present study (110 men and 150 women) (M_{age}= 20.27; SD_{Age}= 1.69) after three participants older than 29 were excluded according to the age criteria applied by Eurostat (Eurostat, 2015) and the Spanish Youth Institute (Instituto de la Juventud, 2012).

Study Design and Statistical Analysis

The participants were randomly assigned to a between-subjects factorial design: 2 (Message Source: Actors vs. Real people) × Level of Alcohol Consumption (continuous measured variable). We tested the two-way interaction using a multiple regression approach by utilizing the PROCESS macro for SPSS (model 1) (Hayes, 2013).

Procedure

After receiving approval from the Research Committee of the Department of Audiovisual Communication and Advertising II (School of Communication Science) to conduct the study, the participants were randomly assigned to one of two experimental conditions. At the beginning, the researcher informed the participants from both groups that the study was about alcohol consumption and that their participation was voluntary and anonymous. All participants filled out a baseline questionnaire with questions concerning their age, sex and alcohol drinking behavior during the previous month. Just before the message exposure, one group was informed that they were about to see a video where "actors are representing some stories related to alcohol consumption", while the other group was told that in the following video "real people are describing their experiences with alcohol consumption".

Both groups saw the same 13-minute video adaptation of the Argentinian documentary episode "Alcoholismo: Abuso" (Goldstein & Zuber, 2008). It consisted of several young people's personal testimonies about their alcohol consumption and its negative consequences, such as aggressiveness episodes, car accidents or poor physical condition. After viewing the message, the participants responded to a question regarding their future drinking intentions.

Independent Variables

Message Source: Actors vs. Real people. In order to manipulate perceptions of the message source before viewing the message, participants were clearly informed as to whether the message sources were real people telling their own stories, or actors telling other people's stories.

Level of Alcohol Consumption. The participants' drinking levels were derived from the product of the frequency and quantity of consumed alcoholic beverages in the last month (for similar measures see e.g. van Leeuwen, Renes, & Leeuwis, 2012; Wechsler et al., 2002). Participants were asked to indicate how frequently they had consumed alcohol in the previous 4 weeks. The response options were 1= *not a single time*, 2= *1 or 2 times*, 3= *3 or 4 times*, 4= *5 to 8 times*, 5= *more than 8 times*. In order to measure the quantity, they were asked to provide the information about the number of drinks they usually have on one drinking occasion ("How many standard drinks do you have on average on the days that you do drink?"). Standard drink was defined as "a standard glass of beer, a glass of wine, "copa", or a shot of alcoholic spirit", according to the WHO

guidelines. Finally, the levels of students' monthly alcohol consumption were calculated by multiplying the midpoint of each of the response categories of frequency by the average number of drinks per occasion.

Dependent Variable

Future Drinking Intentions. The future drinking intention was assessed by the question "How many times do you intend to drink alcohol in the next 4 weeks?" (e.g. Kim, 1988). This question was answered using the 5-items Likert scale where response category options ranged from "not a single time" to "more than 8 times". Decreasing values of drinking intentions indicated increased message effectiveness.

RESULTS

Results of the Message Source x Level of Alcohol Consumption multiple regression analysis revealed a main effect of the level of alcohol consumption, *B*= 0.42, *t*(249) = 15.11, *p* < .01, 95% CI: [.04, .05] indicating that, as expected, higher scores of alcohol consumption were associated with higher alcohol consumption intentions; but no effect for source type was found, *B* = .13, *t*(249) = 1.23, *p* = .21, 95% CI: [-.08, .33]. However, the alcohol consumption main effect was qualified by a significant two-way interaction between the extent of previous alcohol consumption and the message type condition, *B* = -.02, *t*(249) = -3.77, *p* < .01, 95% CI: [-.03, -.01] (Figure 1, Table 1 and Table 2). This interaction was decomposed at one standard deviation above and below the mean of the previous alcohol consumption continuous measure. At relatively high alcohol consumption (analyzed at 1 SD above the mean), participants showed more alcohol consumption intentions in the actor condition than in the real source condition, *B* = -.32, *t*(249) = -2.07, *p* = .02, 95% CI: [-.62, -.02]. On the other hand, at relatively low alcohol consumption (analyzed at 1 SD below the mean), participants showed more alcohol consumption intentions in the real person condition than in the actor source condition, *B* = .49, *t*(249) = 3. 54, *p* < .01, 95% CI: [.22, .77].

Table 1. Effects of the message source and the level of alcohol consumption on drinking intentions

Source	B	t	p	95% CI
Message Source	.13	1.23	.21	[-.08, .33]
Level of Alcohol Consumption	.42	15.11	<.01	[.04, .05]
Message Source X Level of Alcohol Consumption	-.02	3.77	<.01	[-.03, -.01]

Note: df(249)

Table 2. Descriptive Stadistics

	M	SD
Drinking intentions	2.77	1.08
Monthly Level of Alcohol Consumption = drinking frequency * average number of drinks per occasion.	15.77	18.26
Message Source - Experimental condition	1.62	.49

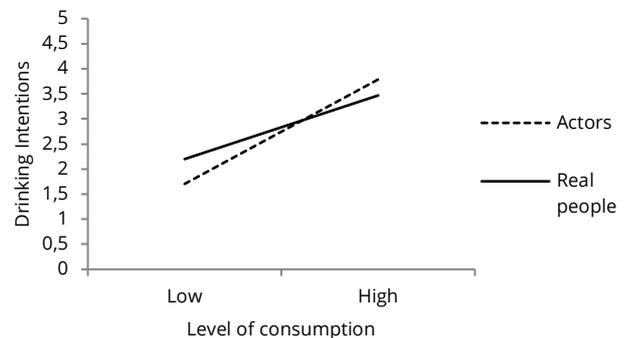*Note: N*=253; *M*=Mean; *SD*=Standard Desviation.

Figure 1. Drinking intentions as a function of the level of alcohol consumption and the message source

DISCUSSION

The aim of our study was to explore how recipients' levels of alcohol consumption and their perceptions of the type of anti-drinking message source affect their intention to drink. Although the same message source was maintained, we manipulated the recipients' perceptions of the message source by labeling them as a real person or an actor. We hypothesized that the persuasiveness of each source type would depend on the recipients' drinking habits (heavy alcohol consumers vs. light alcohol consumers). Our results revealed that the heavy consumers showed significantly less drinking intentions after seeing the real source message than the message expressed by actors. On the contrary, light consumers were more persuaded and showed less

drinking intentions with the fictional message source than with the real one.

In other words, real people's testimonials about the negative consequences of alcohol use were more effective for heavy drinkers than the testimonials coming from the individuals we claimed were actors. In contrast, among light drinkers, the real source testimonials were less effective than the fictional messages despite the supposedly more credible status of real people. These results are, to our knowledge, the first evidence that heavy and light drinkers respond to real and fictional message sources differently.

In the case of heavy drinkers, the real message source was more effective probably because it was perceived as both more credible and more attractive than the message presented by actors. Previous research offers evidence that messages labeled as real are perceived as more typical, involving and useful for the real life (Appel & Malečkar, 2012, Study 1; Vega, 2010), while its source is rated as more trustworthy than the fiction sources (Appel & Malečkar, 2012, Study 1). On the other hand, heavy alcohol consumers could also find source messages labeled as real people more attractive since they can find more similarity between themselves and the real characters having problems with alcohol than with actors representing the same stories.

Why would a real source be less persuasive for light drinkers? One possible explanation is that even though we could expect that a real source message would be more credible, the lack of similarity and attractiveness of the real person to that of the light drinkers might be a decisive factor for the failure to persuade light consumers. They might find it difficult to identify with or find any similarity between their own way of acting, living and drinking and the habits of the real youngsters from the video who face negative consequences for their excessive alcohol consumption. Since they cannot identify with them, the message the real people are sending might be irrelevant for light drinkers. These results might have important theoretical implications since they may conflict with some other pre-established theories. Namely, according to some fear appeal theories (Janis & Leventhal, 1968; McGuire, 1968, 1969), we could expect that heavy drinkers would more aggressively reject the real source message. Specifically, the curvilinear model of fear appeal predicts that the

greater the fear is depicted, the greater the defensive avoidance is elicited, a reaction in which message recipients disengage from the message, avoid further exposure to the message, and/or derogate the message because it is too frightening (Witte & Allen, 2000; Peters, Ruiter & Kok, 2013). Consequently, high levels of depicted fear should be less effective than moderate levels of depicted fear. When applied to our study, this could mean that the real message source could provoke more fear and anxiety (as it is perceived as a more credible threat) and may therefore be rejected, especially by the more affected recipients (i.e., high drinkers). One possible explanation for not finding this pattern in our results could be that the message used in our study might not be particularly threatening, but since we have not measured fear and anxiety, future studies should look into this apparent discrepancy.

Additionally, these results also have a clear implication for practice. Our findings suggest that strategies for designing anti-alcohol campaigns should be different depending on the audience and purpose: designers who aim to prevent alcohol abuse among light drinkers might benefit from using actors (and make that information explicitly known to the audience). However, when designing campaigns for heavy consumers, real people's testimonials might work better. Having a source with lived experience to convey a highly sensitive health message has been shown extremely promising strategy in areas beyond health promotion, such as the process of treatment and recovery from substance use. For instance, having peers with lived experience of similar substance-related problems providing support in this process has been shown to increase the hope, motivation, confidence, enhancement of health self-efficacy through role modelling of self-care and recovery, and skills needed to initiate and sustain the difficult, long-term work of treatment and recovery (White, 2009; Eddie et al., 2019). Our results suggest that these findings could be moderated by recipient's level of consumption. In other words, for heavy consumers having peers who had lived similar alcohol-related problems providing support would be more beneficial than for light consumers. We conclude that the prevention communication strategies for the subpopulation of light consumers should be further explored.

The current study presents several limitations. First, we have not measured recipients' perceptions of credibility and attractiveness of the source; we can only speculate about the mechanism beneath this effect. Thus, future studies might focus on how explicitly labeling the source as a real person affects audience's perceptions of the source credibility and attractiveness. Second, future research might consider exploring whether drinking intentions translate into behavioral changes. Finally, in order to generalize our findings, future research could benefit from using a larger and more diverse sample. In the same vein, it might be interesting to replicate this study with messages referring to other addictive behaviors, such as tobacco use, drug consumption, food addiction, and more extreme consumers.

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