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## **Self-Affirmation Effect on Risk Perception and the Moderating Role of Self-Efficacy in Anti-Alcohol Messages**

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### **Abstract**

The beneficial effect of self-affirmation on the reduction of people's defensive responses and the increase in message acceptance has been widely demonstrated in different health-related topics. However, little is known about the specific conditions in which self-affirmation strategies might be more effective. Our objective is to explore the interplay of self-affirmation and self-efficacy in the context of alcohol consumption. Recruited participants were randomly assigned to either a self-affirmation group or a no-treatment group and exposed to a video describing several consequences of alcohol consumption. Following the message exposure, participant's drinking refusal self-efficacy was measured together with their perceived risk of daily alcohol intake. In line with our predictions, self-affirmed individuals who reported higher drinking refusal self-efficacy perceived daily alcohol consumption as a significantly higher risk than those who were assigned to the no-treatment condition. In contrast, for individuals with low drinking refusal self-efficacy, there was no significant difference in the perceived risk between the self-affirmed and the non-affirmed. We predicted and showed that self-affirmation influences the risk perception of daily drinking only for the people who reported higher drinking refusal self-efficacy. This indicates that self-efficacy could be an important factor that moderates the effect of self-affirmation in alcohol consumption domain.

**Keywords:** anti-alcohol campaigns, self-affirmation, self-efficacy, risk perception, persuasive communication

### **Introduction**

Heavy alcohol consumption ranks among the leading five risk factors of global burden throughout the world (Lim et al., 2013). It has a wide range of health, social and economic consequences for the drinker, other individuals and for society in

general (World Health Organization [WHO], 2014). Alcohol abuse contributes to the development of severe physical and mental health problems for drinkers, causing acute intoxication, alcohol dependence, liver cirrhosis (Rehm et al., 2010), pancreatitis and even cancers (International Agency for Research on Cancer, 2012). Recently, a causal relationship has been discovered between alcohol abuse and infectious diseases such as tuberculosis (Rehm et al., 2009). In addition to these causal impacts of alcohol consumption, there is a long list of other diseases and injuries closely related to it, such as depression or anxiety disorders (Boden & Fergusson, 2011; Kessler & Üstün, 2004), and aggression (Wells, Graham, Speechley, & Koval, 2005). It is also related to the increased risk of HIV and other sexually transmitted diseases (Baliunas, Rehm, Irving, & Shuper, 2010; Hahn, Woolf-King, & Muiyindike, 2011). In the last *Global status report on alcohol and health 2014* of the World Health Organization, the death rate attributed to harmful alcohol consumption is estimated at approximately 3.3 million deaths every year (5.9% of all deaths) (WHO, 2014).

Besides health consequences, alcohol abuse often imposes high socioeconomic costs for the drinker, such as reduced school and work performance, stigma, family problems or job loss (Rehm et al., 2009; Room, 2005; Rumpf, Hapke, Meyer, & John, 2002). However, the consequences of harmful alcohol consumption are not limited to the consumer alone – they often “spillover” to other individuals. Intentional or unintentional injuries, toxic effects (e.g. fetal alcohol syndrome), psychological and emotional damage are only some of the examples of potential harm to others (Abel & Sokol, 1987). At a more global level, aside from the individual costs, alcohol consumption represents a considerable economic cost for the society (e.g. for the criminal justice and health-care system) (WHO, 2014).

According to the above mentioned WHO report, alcohol consumption in Spain reaches 11 liters of pure ethanol per capita per year. While being slightly above the European average (10.9 liters/ year), this level of consumption is double the yearly world average of 6.2 liters of pure ethanol for anyone aged 15 or older. The Spanish national survey ESTUDES 2014/2015 (Ministerio de Sanidad, Servicios Sociales e Igualdad [MSSSI], 2016) shows that alcohol is the most consumed psychoactive substance in this country. It also revealed a decrease in alcohol consumption among 14-18 year-olds due to prevention programs. Nevertheless, patterns of intensive alcohol consumption and binge drinking are still very frequent among Spanish youth and are often associated with the use of illegal drugs (MSSSI, 2016) and a higher probability of risky sexual behavior (Antón Ruíz & Espada, 2009).

Considering the magnitude of alcohol-related problems, reducing the harmful use of alcohol is a high priority goal in the public health agenda. A great deal of effort is invested in the development and implementation of persuasion campaigns and interventions, aiming to prevent alcohol-related problems and to promote healthier lifestyles (DeJong & Atkin, 1995; Witte & Allen, 2000).

However, in an effort to encourage a change in behavior, health messages typically represent a threat to the self-image of the recipients. This threat challenges people's personal identity by questioning their values and attitudes, judging their unhealthy behavior as irresponsible, dangerous or harmful to themselves and others. Faced with this kind of psychological threat, people – especially those most at risk – are motivated to reaffirm their self-integrity by ignoring or rejecting the health information and opportunities for change (Ehret & Sherman, 2014).

One of the effective approaches often used to reduce defensive responses and increase openness to threatening health information is self-affirmation intervention (Cohen & Sherman, 2014; Ehret & Sherman, 2014). The theory postulates that when people affirm other sources of their overall self-integrity unrelated to the domain of threat, they have less need to act defensively against threatening information (Steele, 1988; Sherman, Nelson, & Steele, 2000; Sherman & Cohen, 2006). More specifically, by expressing their most important values, attributes or actions (Harris & Epton, 2009), people affirm themselves in other aspects of the self that go beyond a particular threat. After boosting other sources of self-integrity, individuals are able to view the threat from a broader and more positive perspective, thus diminishing its influence on self-evaluation and psychological well-being (Cohen & Sherman, 2014; Sherman, 2013; Sherman et al., 2013). As a result, self-affirmation can effectively reduce resistance and increase acceptance of health-related information, intentions to change,

and subsequent behavior (Epton, Harris, Kane, Van Koningsbruggen, & Sheeran, 2015; Sweeney & Moyer, 2015). Where alcohol is concerned, previous research has shown that self-affirmation can mitigate the defensive responses of individuals with higher levels of risk behavior, therefore increasing the chances of alcohol consumption reduction (Armitage, Harris, Hepton, & Napper, 2008; Harris & Napper, 2005; Klein, Harris, Ferrer, & Zajac, 2011; Klein & Harris, 2009; Scott, Brown, Phair, Westland, & Schuz, 2013).

However, the effectiveness of affirmation depends on different conditions and moderators (Cohen & Sherman, 2014). Some authors argue that self-affirmation unleashes "previously unrealized behavioral potentials of the subject" (Bronfenbrenner, 1977, p. 528; Cohen & Sherman, 2014). In other words, self-affirmation intervention provides a reminder of the already existing aspects of the self and makes them more salient aspects that otherwise would have remained covered in the presence of a threat (Harris & Epton, 2009).

Consistently, we believe that self-affirmation interventions might be influenced by individual differences (Cohen & Sherman, 2014; Sherman & Cohen, 2006). People have different beliefs, cognitive representations about their physical characteristics, self-worth, role in life, attitudes, likes and dislikes, ability to handle life situations, etc. (Wright, 2001). Nevertheless, the amount of certainty and uncertainty about any of these self-beliefs may vary (Wright, 2001). The level of people's self-certainty reflects the level of confidence with which they hold specific beliefs about themselves (Story, 2004; Wright, 2001; for the role of certainty in attitude and persuasion literature see Bassili, 1996; Petrocelli, Tormala, & Rucker, 2007; Rucker & Petty, 2004). An important aspect of the self-related to confidence is perceived self-efficacy which indicates people's beliefs about their capability to "exert control over their own motivation, thought processes, emotional states and patterns of behavior" (Bandura, 1994). People avoid engaging in activities they believe exceed their capabilities, but perform those they judge themselves capable of handling with success (Bandura, 1982).

Self-efficacy is often taken into account in the area of health promotion as a decisive factor in the process of behavioral change (e.g. Bandura, 1991). It implies being confident about one's own capability of resisting the risky behavior, which would in turn lead to a more or less stable change of health habits. In terms of drinking behavior, one particular scale that has been developed is the Drinking refusal self-efficacy scale (Young, Hasking, Oei, & Loveday, 2007). This scale measures the person's certainty of his/her capability to resist or refuse drinking alcohol in a variety of situations. Drinking refusal self-efficacy is a significant predictor of individuals' intentions to drink alcohol (e.g. Jang, Rimal, & Cho, 2013) and also a predictor of their actual drinking behaviors (e.g. Oei & Baldwin, 1994; Connor, George, Gullo, Kelly, & Young, 2011).

In the present research, we argue that the effectiveness of self-affirmation in reducing resistance to health-related messages depends on people's perceptions of self-efficacy. We hypothesize that the effects of self-affirmation will only affect the responses of people who have relatively high self-efficacy related to the topic self-affirmation is being applied to. Specifically, we expect that anti-alcohol messages should be particularly effective for self-affirmed individuals who report relatively high drinking refusal self-efficacy. On the contrary, the absence of certainty in one's ability to refuse alcohol could make them less likely to use their affirmed "self" to guide their behavior.

To examine this hypothesis, we measured the effect of self-affirmation on the perceived risk of daily alcohol intake for people who were either high or low in self-efficacy.

## **Method**

### **Participants**

One hundred and thirty eight students (72.5% female) from the School of Communication Science at Complutense University of Madrid were recruited for this study in exchange for course credit. Briefing and debriefing of the students were approved by the Research Committee of the Department of Audiovisual Communication and Advertising II (School of Communication Science).

## Procedure

Participants were informed that they would complete a study related to the opinions of college students regarding alcohol intake. Participants were randomly assigned to either a self-affirmation group or a no-treatment group. Next, all participants watched a 13-minute video adaptation of the Argentinian documentary episode, "Alcoholismo: Abuso" (Goldstein & Zuber, 2008), which consisted of several personal testimonies of youth about the consequences of their alcohol consumption, such as aggressive episodes, car accidents or poor physical condition. Following the message exposure, they filled out the drinking refusal self-efficacy questionnaire (Young et al., 2007) and reported their perceived risk of daily alcohol intake. After completing the dependent variable, participants were debriefed, thanked and dismissed.

## Independent/Predictor Variables

### Self-Affirmation

Participants were randomly assigned to either a self-affirmation group or a no-treatment group. In the self-affirmation group, participants were asked to briefly describe (and write) three past situations in which they had behaved honestly. This manipulation has been shown to affirm participants' concepts of self in the past (Briñol, Gallardo, Horcajo, De la Corte, Valle, & Diaz, 2004; Zuwerink & O'Brien, 2004)<sup>1</sup>. Participants in the no-treatment group saw the video without being subjected to prior manipulation.

### Drinking Refusal Self-Efficacy Scale

Participants completed the drinking refusal self-efficacy scale (Young et al., 2007). The scale consists of 15 items ( $\alpha = .89$ ) which evaluate the respondent's perception of self-efficacy towards resisting alcohol intake. The options of response range from 1= *I'm very sure I could not resist* to 6= *I'm very sure I could resist*.

## Dependent Variable

### Perceived Risk of Daily Alcohol Intake

Participants valued the level of risk associated with *drinking 2-3 beers every day*. The responses ranged from 1= *Not risky at all* to 4= *Very risky*.

## Results

### Drinking Refusal Self-Efficacy Scale

The scale was submitted to a one-way ANOVA using the self-affirmation manipulation as the only predictor. As expected, the self-affirmation manipulation did not affect participants' responses to the self-efficacy scale,  $F(1, 136) = .27, p = .60, \eta^2 = .002$ .

### Perceived Risk of Daily Alcohol Intake

The item was submitted to a multiple regression using self-efficacy, self-affirmation and the interaction of the two as predictors. There was a significant main effect of drinking refusal self-efficacy  $b = 0.30, t(134) = 2.79, p = .006, 95\%, CI:$

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<sup>1</sup> A pilot study was run to check whether honesty could be an important enough value to self-affirm participants. 77 participants from Universidad Nacional de Educación a Distancia (55,8% percent women, age  $M = 36.82, SD = 11.90$ ) volunteered for a pilot study in which they were asked to rank 11 different values, the highest ranked being the most important to the lowest ranked being the least important for them. The list of values was taken from previous research on Self-Affirmation (Cohen et al., 2000). Out of the eleven values, more than 90% of participants chose "Honesty" as either the highest ranked or the second highest ranked value. In light of this, we chose to use honesty as the preferred value for the self-affirmation manipulation.

0.0896, 0.5263, showing that individuals who reported higher self-efficacy resisting alcohol intake also perceived more risk in daily beer intake. There was also a marginally significant main effect of self-affirmation,  $b = 0.20$ ,  $t(134) = 1.74$ ,  $p = .083$ , 95% CI: -0.0269, 0.4344, indicating that those who were assigned to the self-affirmation condition tended to perceive more risk in daily beer intake than those who were assigned to the no-treatment condition. More critical to our predictions, a significant two-way interaction emerged,  $b = 0.51$ ,  $t(134) = 2.32$ ,  $p = .021$ , 95% CI: 0.0770, 0.9574, showing that the self-affirmation intervention was significantly more successful for those who reported higher drinking refusal self-efficacy (see Figure 1). Specifically, among the participants who reported higher than average drinking refusal self-efficacy (+1 standard deviation over the mean), those who were assigned to the self-affirmation condition reported significantly higher risk in daily drinking than those who were assigned to the no-treatment condition,  $b = 0.48$ ,  $t(134) = 2.90$ ,  $p = .004$ , 95% CI: 0.1531, 0.8099. On the other hand, among the individuals who reported lower than average drinking refusal self-efficacy (-1 standard deviation below the mean), those who were assigned to the self-affirmation condition did not differ from those who were assigned to the no-treatment condition in perceived risk of daily drinking  $b = -0.07$ ,  $t(134) = -0.44$ ,  $p = .66$ , 95% CI: -0.4062, 0.2582.

To put it differently, for participants who were randomly assigned to the no-treatment condition, there was not a significant difference in the perceived risk of daily alcohol intake as a function of drinking refusal self-efficacy,  $b = 0.06$ ,  $t(134) = 0.43$ ,  $p = .66$ , 95% CI: -0.2167, 0.3378. In contrast, for those who were randomly assigned to the self-affirmation condition, there was a significant difference in perceived risk of daily alcohol intake as a function of drinking refusal self-efficacy,  $b = 0.57$ ,  $t(134) = 3.34$ ,  $p = .001$ , 95% CI: 0.2359, 0.9197, indicating that the higher the drinking refusal self-efficacy, the higher the perceived risk of daily alcohol intake.

## Discussion

The present research has demonstrated that a new individual variable may influence the impact of self-affirmation on persuasion when the message is threatening to the self. We hypothesized that self-affirmation influences the risk perception of daily drinking only in people with high self-efficacy. The results confirmed our hypothesis and demonstrated that individuals who were self-affirmed and able to resist alcohol consumption saw daily drinking as being riskier for their health than those who were self-affirmed but believed they were not able to resist it. On the other hand, for non-affirmed individuals, there was no difference in perceived risk among those who were either high or low in self-efficacy.

As explained earlier, self-affirmation is an important strategy for increasing persuasion of messages that are threatening to the self. People affirm themselves by expressing their important values, attributes or actions (Harris & Epton, 2009) and thus focus on aspects of the self that are not related to the threat contained in the message. Once other sources of the self are highlighted, people are able to view the threat from a broader and more positive perspective and thus reduce defensive responses to a call for behavioral change (e.g. Cohen, Aronson, & Steele, 2000; Cohen & Sherman, 2014; Sherman, 2013; Sherman et al., 2013). Our results indicate that self-affirmation is particularly effective in reducing the defensive responses of people who think they are capable of regulating their behavior. In other words, according to our findings, people perceive alcohol consumption as riskier for their health when they are self-affirmed and report high self-efficacy, but not when they report low self-efficacy. These findings are especially important for health interventions using a self-affirmation approach because they indicate that these interventions may not work if people do not believe in their capability of handling challenging situations and resisting the risky behavior.

The present research has a number of important implications for theory and practice in relation to self-threatening messages. First, the findings of the current research provide an important extension to prior work on self-affirmation processes in health related topics. Although previous research has focused on the impact of self-affirming strategies, only a limited amount of research deals with the specific conditions under which these strategies may work. For instance, Haddock and Gebauer (2011) found that self-affirmation is particularly effective at reducing actual-ideal self-discrepancies in defensive self-esteem individuals. Also, Steele, Spencer, & Lynch (1993) argue that people high in self-esteem have

more self-affirmation resources than people low in self-esteem and thus may rationalize self-threatening messages more effectively. Our research extends these findings and demonstrates one more condition where self-affirmation is more effective, that is for individuals who are high in self-efficacy.

Our findings are also interesting for policy makers who use self-affirmation strategies to encourage changes in health related behaviors. Convincing people to change their health behavior may be difficult, and because of that, it is important to identify the conditions under which health interventions work better. In that sense, our study indicates that self-affirmation interventions should only be aimed at people who believe they can avoid alcohol consumption since no difference in risk perception was found among individuals who are low in self-efficacy regardless of the self-affirmation condition they were assigned to.

The present study comes with some limitations. First, instead of a control group, a no-treatment group was used. Therefore, instead of being self-affirmed, it could be argued that participants who remembered a time in which they felt honest were less able to think about the message when they had high self-efficacy than when they did not. In other words, for self-affirmed individuals, self-efficacy may increase confidence in the affirmed value and consequently in the self, thus reduce message processing (for a review of self-confidence on message processing see Briñol & Petty, 2015). In this sense, individuals who are self-affirmed and also have high self-efficacy would not be able to differentiate between messages containing strong and weak arguments. On the other hand, it could be argued that in the no-treatment group, people were able to think carefully about the message and identify weak arguments which would lead to less persuasion independent of the perceived self-efficacy. Another possible explanation is that the risk perception assessment was referring to a general risk instead of a personal one. Consequently, self-affirmed individuals with high self-efficacy could have perceived a higher risk when other people's drinking is considered, but if the question had been focused on them, the opposite could have happened.

Future research should further examine the relationship between self-affirmation and self-efficacy by experimentally inducing both variables instead of measuring only one of them. Finally, it would be interesting to examine whether the effect is produced not only in people who focus on past instances of honesty (affirmation condition), but in those who focus on past instances of dishonesty as well (non-affirmation condition).

#### Disclosure statement

No potential conflict of interests was reported by the authors.

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Figure 1. Perceived risk of daily drinking as a function of self-efficacy and self-affirmation

