Bachelor Thesis

International Business Communication

DRUGS OR DROGAS: WHICH ONES TO TAKE?

A study on the role of the Foreign Language Effect in the persuasiveness of anti-drug campaigns targeting Spanish native speakers.

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Abstract

To expand knowledge on the role of the foreign language effect in the persuasiveness of anti-drug campaigns targeting Hispanics, the present study investigated the effect of language (*L1-Spanish/L2-English*) and appeal (*rational/emotional)* on the persuasiveness, emotionality, rationality, and cognitive effect of anti-drug campaigns. The aim of the present investigation is to improve future language strategies as part of the academic field of communication and linguistics. In addition, research on anti-drug campaigns might prevent future drug use, given the increasing popularity of drugs among festival visitors. The materials consisted of four anti-drug campaigns: English rational campaign, Spanish rational campaign, English emotional campaign, Spanish emotional campaign. One condition per participant was randomly assigned to 173 Spanish native speakers between 18-30 with English as a second or foreign language. Persuasiveness, emotionality, rationality, and cognitive effect were measured with an online questionnaire. Findings proved a significant effect of general emotionality of language, and a significant interaction effect between language and appeal for emotionality of ad and cognitive effect. The foreign language effect occurred for Spanish and English, implying that Spanish was perceived as more emotional than English by the Hispanic participants. The present study suggests combining emotional appeals with Spanish or rational appeals with English to increase emotionality and comprehensibility of future anti-drug campaigns targeting Hispanics.

Introduction

Public health communication is of great importance for many institutions worldwide to achieve a healthier society. Likewise, public health communication affairs have been gaining attention in the academic field. Previous research has emphasized the role of language in public health campaigns. According to Kelly et al. (2006), English anti-tobacco advertisements were more effective for Mexican Americans than their Spanish counterparts, regardless of their cultural identity. This outcome could be a result of the language proficiency or the context of language acquisition of the target group, but this assumption has not been empirically investigated before (Kelly et al., 2006). Moreover, Ramirez et al. (2000) proposed implementing a dual-language strategy including both English and Spanish for anti-drug campaigns targeting a Hispanic target group. Still, the dominating preference for the English language by Hispanic drug users has not been considered (Moon et al., 2009). Thus, the importance of language in public health campaigns has been investigated before. Yet, research on the potential mechanisms behind these language strategies has been absent. Perhaps the concept of the Foreign Language Effect (FLe) could be an underlying process influencing the persuasion of public health campaigns.

Inspired by the theories of Puntoni et al. (2009) and Caldwell-Harris et al. (2009; 2011), the FLe could be defined as the occurrence of a stronger emotional experience when communicating in one's first language than in a foreign language (FL). To be more specific, for Belgian trilingual participants, Puntoni et al. (2009) measured a stronger emotional experience when marketing slogans were presented in a native language. For bilinguals with Chinese as their native language, emotional statements were perceived as more emotional in Chinese than in English (Caldwell-Harris et al., 2011). Moreover, lies in Turkish resulted in more emotional resonance than lies in english for Turkish native speakers (Caldwell-Harris & Aycicegi-Dinn, 2009). Thus, emotional processing could be influenced by the FLe.

According to Petty and Briñol (2014), emotions are likely to influence persuasion through attitude change. Also, Dillard and Nabi (2006) stated that emotions affect persuasion through the distinction between different types of emotional appeals to achieve certain persuasive goals. Moreover, persuasion is likely to be achieved by stimulating central route processing (Petty & Cacioppo, 1986) and systematic processing (Cipoletti et al., 2016), which could be considered as rational processing. Cognition is likely to influence persuasion as well, since orally expressing desert choices in German led to more healthy choices than using English for German native speakers (Klesse et al., 2015). Thoughtfulness, ability to process, and message comprehensibility belong to the central route theory (Petty & Cacioppo, 1986) as well, but focus more on the cognitive effect rather than rationality. Therefore, cognitive effect might also affect persuasion. Thus, the FLe might influence persuasiveness through emotionality, rationality, and cognitive effect.

Furthermore, the FLe is likely to be influenced by language proficiency. Increasing proficiency in a second language led to a stronger emotional experience of the second language (Degner, Doycheva & Wentura, 2011). Moreover, the context of acquisition might have influence on the FLe as well, as reprimand frases related to a childhood context were more emotional in Turkish for Turkish-English bilinguals (Harris et al., 2003). Moreover, the age of acquisition might influence the FLe, as emotional experience in English was higher for early English learners than late English learners for Spanish-English bilinguals (Harris, 2004). Thus, the FLe might explain the results of Kelly et al. (2006), regarding the influence of language proficiency, context of acquisition, and age of acquisition on the FLe and given that Kelly et al. (2006) mentioned language proficiency, context of acquisition, and age of acquisition as potential factors influencing the language preference of Mexican Americans for anti-drug advertisements.

The present study aimed to expand knowledge on the role of the FLe in persuasion for anti-drug campaigns targeting Hispanics, as statistically significant data has been missing on the most effective anti-drug campaign language strategy for Hispanics (Ramirez et al., 2000). Moreover, the role of FLe on emotionality, rationality, and cognitive effect has not been investigated before within anti-drug campaigns, while emotionality (Petty & Briñol, 2014; Dillard & Nabi, 2006), rationality (Petty & Cacioppo, 1986; Cipoletti et al., 2016), and cognitive effect (Petty & Cacioppo, 1986; Klesse et al., 2015) are likely to influence persuasion. Emotional and rational appeals might interact with the FLe regarding the importance of emotionality and rationality in persuasion (Petty & Briñol, 2014; Dillard & Nabi, 2006; Petty & Cacioppo, 1986; Cipoleetti et al., 2016). Also, Dillard and Nabi (2006) recommended to test for the effectiveness of emotional and rational appeals in different circumstances. Other elements included in the present research were language proficiency (Degnet et al., 2011), context of acquisition (Harris et al., 2003), and age of acquisition (Harris, 2004), given their influence on the FLe. Hence, the present investigation focused on the influence of the FLe and type of appeal on persuasiveness, emotionality, rationality, and cognitive effect of anti-drug campaigns targeting Hispanics with language proficiency, context of acquisition, and age of acquisition as background variables.

Expanding knowledge of the FLe and its role in persuasion within the public health communication field might bring value to the academic field of communication and linguistics with the purpose to improve future language and marketing strategies. This research might offer a framework for future investigations on the FLe.

Increasing the persuasiveness of anti-drug campaigns has societal relevance as well, as combating drug use has been on the agenda of public health institutions. For example, the World Health Organization (2023) has a global objective called “prevention of drug use and reduction of vulnerability and risks". Currently, the focus is on illicit hard drugs, given their growing popularity among festival visitors (Hughes et al., 2017). This could form a threat to public health, as more than a half of million people have died from drugs worldwide (World Health Organization, 2023).

Theoretical Framework

The conceptualization of the Foreign Language Effect

Previous articles acknowledged different effects of language on the emotional experiences of multilingual speakers. According to Puntoni, De Langhe, and Van Osselaar (2009), marketing slogans in a native language were rated as more emotional than slogans in a foreign language by Belgian trilingual students. In addition, Caldwell-Harris et al. (2011) reported a higher perceived emotionality for emotional statements, such as insults and reprimands, in the Chinese native language than in English for Chinese-English bilinguals. Moreover, lies were perceived as emotionally stronger in the Turkish native language than in English for Turkish-English bilinguals (Caldwell-Harris & Aycicegi-Dinn, 2009). Developed on previous theories, this phenomenon could be defined as the *Foreign Language Effect* (FLe), which covers the fact that native languages (L1) would be experienced more emotionally than other languages, such as second languages (L2) or other foreign languages (Lx or FL).

The following definitions form the basis of the FLe. First, a *first language* or a *native language (L1)* is “a language learned from birth, regardless of the speaker’s current proficiency” (Pavlenko, 2012, p. 407). Second, a *second language* is “a language learned after early childhood (ages 1-3 years) following the L1” (Pavlenko, 2012, p. 407). A second language is “typically learned in an immersion context, such as via immigration, and is frequently spoken with a good deal of proficiency, and often on a daily basis” (Caldwell-Harris & Aycicegi-Dinn, 2016, p. 2). Finally, a *foreign language* is a language that “is usually learned vis classroom contexts, and used irregularly, such as to communicate as a tourist or sojourner (Caldwell-Harris and Aycicegi-Dinn, 2016, p. 2). Thus, a clear distinction exists between a native, a second, and a foreign language, which might lead to different ways of language processing.

Furthermore, the mechanisms behind the FLe play an essential role in its understanding. L1 has been argued to activate system 1 processing, characterized as automatic and intuitive, while a FL stimulates system 2 processing, characterized as reflective, and deliberative (Kahneman, 2003). Moreover, Pavlenko (2012) stated that the L1 of bilingual speakers led to more automaticity of affective processing, which caused more emotionality when reading L1 words. In contrast, their L2 resulted in less automaticity resulting in less emotionality when reading L2 words (Pavlenko, 2012).

As mentioned by Caldwell-Harris (2015), language might impact decision-making processes. As a matter of fact, when problems were presented in an L1, participants preferred the safe option more within gain-frame conditions, and the risky option more within loss-frame conditions, which is in line with the framing effect primed by the researchers Costa et al. (2014). However, problems presented in an FL reduced the mentioned framing effect (Costa et al., 2014). Moreover, an FL activated systematic processing when handling moral dilemmas, leading to more utilitarian moral decisions (Cipoletti et al., 2016).

Likewise, the FLe could influence health decisions. When offering free desserts to German restaurant attendees, Klesse et al. (2015) discovered that the healthy dessert option (fruit salad) was selected more often when attendees expressed their choice in L2 English orally, while expressing themselves orally in L1-German led more often to the unhealthy dessert choice (chocolate mousse). Thus, it could be relevant to expand FLe research toward the public health communication domain with other health topics.

As a matter of fact, the FLe impacts emotional processing and decision-making, but the FLe itself could be susceptible to other factors as well. *Language proficiency* (LP), which is the "overall level of language achievement" (Pavlenko, 2012, p. 407), impacted the strength of the FLe, given that an L2 became more emotional for bilinguals after achieving a high level of proficiency through an immersion context (Degner, Doycheva & Wentura, 2011). However, Puntoni et al. (2009) proved that language comprehension did not impact the emotionality of words for L1-Dutch speakers with L2 English by testing the FLe with Dutch and English cognates (words that are pronounced and written in a similar manner). It appeared that, despite proficiency, the L1-Dutch cognates were experienced as more emotional than the L2 English cognates (Puntoni et al., 2009).

Moreover, the *context of acquisition (CoA)* could also influence the outcome of the FLe. An earlier experiment by Harris et al. (2003) demonstrated that reprimand phrases were experienced as more emotional in L1-Turkish than in L2-English, since parental reprimands were related to the childhood context of the Turkish participants. As the growth of emotional regulation systems and language acquisition happens simultaneously (Beckwith, 1989), it could be concluded that the relationship between the emotional part of the brain and earlier acquired languages would be stronger, making the L1 more emotional than other languages (Caldwell-Harris & Aycicegi-Dinn, 2016). In contrast, Puntoni et al. (2009) proved that L2-concepts were more emotional than L1-concepts since Dutch bilinguals perceived L2-English words as more emotional when encountered more frequently in an L2-context than L1-Dutch words. Moreover, Harris et al. (2003) reported that respondents experienced a similar emotionality when hearing and reading taboo words in L1-Turkish and L2-English, given that the Turkish participants had been exposed to an English personal living environment for about five years while living in Boston, USA.

Furthermore, *age of acquisition (AoA)* is likely to impact the FLe, which could be defined as the "age at which language learning began" (Pavlenko, 2012, p. 407). Harris (2004) measured a difference in emotional experience between early L2-English learners and late L2-English learners with a Spanish-English bilingual group. The results demonstrated a higher emotional reactivity to L1-Spanish reprimands for late L2-English learners, but a similar emotional reactivity to L1-Spanish reprimands and L2-English reprimands for early L2-English learners (Harris, 2004).

Factors of persuasion

As previously mentioned, the FLe influences emotional processing (Caldwell-Harris et al., 2011; Kahneman, 2003; Pavlenko, 2012; Puntoni et al., 2009). Moreover, according to Petty and Briñol (2014), emotions influenced persuasive outcomes through attitude changes. When elaboration (motivation and ability to think) was low, emotions influenced attitudes toward the valence of the emotion (Petty & Briñol, 2014). When elaboration was high, emotions were used as arguments, and even as cognitive biases to enhance the valence of the attitude (Petty & Briñol, 2014). Therefore, it could be plausible that the FLe could impact persuasion through emotional processing.

These concepts must be defined before focusing on the possible mechanisms behind the link between FLe and persuasion. First, the concept of *emotion* includes feelings (Ekman, 1972) and moods (Forgas, 1995). The present research referred to emotions as *emotionality.* Moreover, *attitude* could be defined as a "general evaluation people have" and *persuasion* as "an attempt to bring about a change in attitudes as a result of providing information on a topic" (Petty & Briñol, 2014, p. 1-2).

Furthermore, the *Elaboration Likelihood Model* (ELM) has been utilized to explain the effect of emotions on persuasion. More explicitly, persuasion was achieved through the central route, which was more rational and thoughtful, or the peripheral route, which was more emotional and irrational (Petty & Cacioppo, 1986). The latter was initiated by presenting emotional cues, such as positive or negative affect and expert sources, when the receiver lacks motivation and the ability to process the message (Petty & Cacioppo, 1986). Therefore, a peripheral attitude shift was achieved, which could be characterized as a temporary, susceptible, and unpredictable attitude change (Petty & Cacioppo, 1986).

In addition, Dillard and Nabi (2006) distinguished the effectiveness of different types of emotional appeals for different persuasive goals for cancer prevention and detection messages: fear appeals were recommended for alerting participants on risk from family history, sadness appeals for stimulating reflection and preventative actions, disgust appeals for increasing negative attitudes toward risk behavior, and finally, hope appeals for encouraging behavior perceived as impossible. Also, Jorgensen (1996) emphasized the importance of emotional appeals since these could catalyze societal change. Hence, emotionality and emotional appeals might be relevant for future health communication messages.

On the other hand, the FLe might influence persuasion through the central route of the ELM, provided that the FLe influenced decision-making regarding moral dilemmas by activating systematic processing (Cipoletti et al., 2016). Thoughtful considerations by the message receiver about the provided information led to persuasion through the central route as well (Petty & Cacioppo, 1986). The central route provoked by the presence of motivation, depending on personal relevance and need for cognition, and the ability to process, depending on prior knowledge and message comprehensibility (Petty & Cacioppo, 1986). Consequently, a central positive or negative attitude change was realized, which is a relatively enduring, resistant, and predictive attitude change (Petty & Cacioppo, 1986). Furthermore, Harrington et al. (2003) found that negative attitudes toward marihuana were encouraged when using high cognition value messages, in other words, messages consisting of rational arguments with the goal to activate central processing.

Therefore, rationality, cognitive effect, and rational appeals might be applicable to health communication messages as well. Developed on previous theories, the concepts central route processing (Petty & Cacioppo, 1986) and systematic processing (Cipoletti et al., 2016) carried the denomination *rationality* in the present research. Also developed on previous theories, the concepts cognition (Klesse et al., 2015), thoughtfulness, ability to process, and message comprehensibility (Petty & Cacioppo, 1986) were labeled as *cognitive effect.*

Language as an essential part of public health communication

The involvement of the FLe might be of great importance for public health campaigns, but previous research has not tested this assumption before. Only the effectiveness of L1 and L2 of Hispanic bilinguals have been investigated within the public health communication sector without considering the FLe.

For example, Kelly et al. (2006) proved that English anti-tobacco ads were more effective than Spanish ads, even though the analysis sample only consisted of participants that identified themselves as Mexican American rather than Anglo-American. However, the Mexican American participants did expect their peers to prefer Spanish communication and suggested accommodating future campaigns toward both cultures (Kelly et al., 2006). This target group preferred using Spanish in certain contexts, but also achieved high proficiency in English while living in the United States for 10.4 years on average (Kelly et al., 2006). Also, the target group was more familiar with written English than written Spanish, as schools usually offer their materials in English. Thus, the researchers indirectly assume that the LP, the AoA, or the CoA were factors for the contradicting outcome, and therefore, the FLe might be a plausible explanation behind this outcome.

Moreover, Ramirez et al. (2000) suggested the inclusion of both English and Spanish for future anti-drug campaigns, given that the proficiency of English and Spanish is equally divided within Hispanic communities in the United States. However, a dual-language strategy with both Spanish and English to reach a Hispanic target group might not be effective, because it lacked empirical evidence to back up this suggestion. It was also proven that Mexican Americans with English as their dominant language were 25 times more likely to use cocaine than Spanish-dominant Mexican Americans (Amaro et al., 1990). Therefore, English was likely to be experienced as more emotional than Spanish as English was used more often, which might be explained by the FLe. Thus, unclarity on the most effective language strategy for anti-drug campaigns remains, but the FLe could be an underlying mechanism to explain the effectiveness of anti-drug campaigns regarding the dissimilar proficiencies of the Hispanic target groups.

The comparison between the benefits of Spanish and English for Hispanics might be relevant for public health institutions. According to statistics of Ethnologue from 2022, Spanish is the second largest language with approximately 450 million speakers worldwide, prevailing in 20 countries as the official language (Berges Institute, 2023). To clarify, the term *Hispanics* describes “Mexicans, Puerto Ricans, Cubans, Central, and South Americans, and individuals from other Spanish cultures or origins” (Marín & Marín, 1991, as cited in Altarriba & Santiago-Rivera, 1994, p. 388). Moreover, English is the general largest language worldwide with 1 billion native and non-native speakers worldwide, consisting of approximately 373 million native speakers (Ethnologue, 2022). English is a *lingua franca,* namely a “common language used to make communication possible between persons not sharing a native language or dialect” (Chirikba, 2008, as cited in Daiya, 2015, p. 90). Because of this, English could be considered “a communicative tool of immense political, ideological, and economic power” (Kachru, 1996, as cited in Daiya, 2015, p. 90). Thus, the inclusion of English and Spanish in public health messages could reach a large international audience, which might be necessary to improve the public health worldwide.

Reducing drug use as part of international public health objectives

The dual-language strategy including both Spanish and English as campaign languages suggested by Ramirez et al. (2000) is still missing empirical data for verification. According, Moon et al. (1999), drug offers, and drug use was more prevalent among Mexican Americans than among other ethnic groups in the United States Therefore, gaining new insights into anti-drug campaigns targeting Hispanics could be useful to combat illicit drug use among this group.

Moreover, research on the language of anti-drug campaigns targeting illicit hard drugs (MDMA, amphetamines, ecstasy, etc.) remains underrepresented within the public health communication domain. At the same time, these substances were the most consumed during music festivals in many European countries, e.g., Spain (Bijlsma et al., 2014; Bijlsma et al., 2020). That is why it would be interesting to investigate Spanish speakers from Spain as well. According to Hughes and colleagues (2017), the popularity of festivals has been increasing, whereas drug consumption is highly prevalent resulting in drug-related health concerns, and therefore, drug use behavior would be relevant for the examination of future drug prevention measures.

Currently, the World Health Organization (2023) stated that more than half a million deaths worldwide were caused by drugs. The addition of fentanyl is one of the main reasons of many deaths since this substance is often added by producers to increase the potency of their products or to sell as counterfeit drugs and medicines without the user being aware of the addition or the dangerous risks of fentanyl poisoning. Therefore, increasing the effectiveness of anti-drug campaigns could increase awareness of the negative consequences of drug use.

FLe and persuasion within public health communication

Previous research analyzed elements of the FLe, persuasion, and public health communication, but the combination of these fields remains undiscovered. As a matter of fact, the role of the FLe in persuasion through emotionality (Caldwell-Harris et al., 2010; Dillard & Nabi, 2006; Kahneman, 2003; Pavlenko, 2012; Puntoni et al., 2009) and rationality (Cipoletti et al., 2016; Harrington et al, 2003; Klesse et al., 2015; Petty & Caciopppo, 1886) has not been researched before within anti-drug campaigns, but it might bring useful insights for the public health domain. Also, Dillard and Nabi (2006) suggested investigating under what circumstances emotional or rational appeals would be more adequate to achieve persuasion. Moreover, the concept FLe has not been incorporated into the theories on public health communication language strategies before with the language combination of Spanish and English (Kelly et al., 2006; Ramirez et al., 2000). In addition, significant empirical evidence has been absent from previous articles on the language choice of anti-drug campaigns regarding the inclusion of Spanish and English within anti-drug campaigns (Ramirez et al., 2000). Finally, illicit hard drugs deserve more attention in public health communication research, considering that hard drug use has been prevalent within the festival scene in Spain (Bijlsma et al., 2014; Bijlsma et al., 2020).

The focus of the present research is to discover the role of the FLe in the persuasiveness of anti-drug campaigns targeting Hispanics (RQ1). Additionally, the main research question is structured into five sub-questions. Firstly, the present research investigates the potential differences in persuasion between L1-Spanish and L2-English anti-drug campaigns targeting Hispanics (RQ2). Secondly, the present research aims to compare the persuasiveness of emotional and rational appeals implemented in anti-drug campaigns for Hispanic participants (RQ3). Moreover, there might be an interaction effect between the FLe and emotional or rational appeals on persuasiveness since both might have a relationship with persuasion (RQ4). In addition, examining the influence of the FLe and type of appeal on emotionality might be useful to illustrate the potential underlying mechanism of the role of the FLe in persuasion (RQ5). Finally, the influence of FLE and type of appeal on rationality (RQ6) and on cognitive effect (RQ7) was investigated. Table 1 presents an overview of all research questions.

Table 1

Overview Research Questions

Nr.	Research question
RQ1	*What is the role of the FLe in the persuasiveness of anti-drug campaigns targeting Hispanics?*
RQ2	*What is the difference between the persuasiveness of Spanish and English anti-drug campaigns targeting Spanish native speakers?*
RQ3	*What is the difference between the persuasiveness of emotional and rational appeals in anti-drug campaigns targeting Spanish native speakers?*

RQ4 *What is the relation between the FLe and the type of appeal in anti-drug campaigns targeting Spanish native speakers?*

RQ5 *To what extent does FLe and type of appeal have a relationship with emotionality?*

RQ6 *To what extent does FLe and type of appeal have a relationship with rationality?*

RQ7 *To what extent does FLe and type of appeal have a relationship with cognitive effect?*

Methodology

Materials

The FLe carried the denomination language, and type of appeal became appeal. The independent variables language and appeal were operationalized in four different anti-drug campaign posters (Appendix 1.1, 1.2, 1.3, 1.4):

1. Anti-drug campaign poster with rational appeal in English.
2. Anti-drug campaign poster with rational appeal in Spanish.
3. Anti-drug campaign poster with emotional appeal in English.
4. Anti-drug campaign poster with emotional appeal in Spanish.

The conditions were assigned randomly. Each participant evaluated one of the four conditions, meaning the present research had a between-subject design. The Spanish and English advertisements had similar vocabulary, grammar, and meaning. The language of the posters was evaluated by two L1-Spanish speakers with English as their L2.

According to Petty and Cacioppo (1986, p. 126), examples of peripheral cues were "positive/ negative affects, attractive/expert sources, and number of arguments". That is why the emotional appeals included a negative effect and the Red Cross as expert source as emotional cues. An affect could be defined as "the body's way of preparing itself for action in a given circumstance by adding a quantitative dimension of intensity to the quality of an experience" (Massumi, 1987, as cited in Shouse, 2005). A fear appeal was included by transmitting a threat with the text "Drugs will destroy you!" for the English conditions and "¡Las drogas te destrozarán!" for the Spanish conditions. Also, an image of an unconscious drug user was added. Provoking fear tended to be suitable for alerting people to risks (Dillard & Nabi, 2006).

Moreover, a rational appeal was created by the stimulation of motivation of the receiver by emphasizing its personal relevance and personal responsibility with the text "With drugs…you decide" for the English conditions or "Con las drogas…tú decides" for the Spanish conditions, and by stimulating cognition by adding information on the negative consequences of drugs. According to Petty and Cacioppo (1986), central route processing could be activated by motivation and ability to process. "Personal relevance, need for cognition, and personal responsibility" were part of motivation, while "distraction, repetition, prior knowledge, message comprehensibility" were part of ability to process (Petty & Cacioppo, 1986, p. 126).

In addition, the Spanish poster with the rational appeal was inspired by an existing campaign of the Red Cross (Blackler, 2013). According to the mere-exposure effect hypothesis, an increase of exposure could lead to an increase in liking (Harrison, 1977). Therefore, the mere-exposure effect was tested with the item "I have seen this ad before" with a 7-point Likert scale with "Totally disagree" as the lowest endpoint and "Totally agree" as the highest endpoint. The most participants never encountered the rational ad before since 78.02% selected the lowest endpoint. However, 21.98% answered within the range of the second-lowest endpoint and the highest endpoint, implying that these participants recognize the rational anti-drug campaign of the Red Cross. A one-way analysis of variance showed no significant relation between ad familiarity and the four anti-drug campaign conditions (F (3, 169) = 1.87, p = .137).

Moreover, to examine whether the posters were indeed perceived as more emotional or rational, the following items were included in the questionnaire: "This ad was emotional", "This ad was informative", and "I have learned something from the ad", inspired by Cho and Boster (2008). The original Spanish translations are shown in Appendix B. There was a significant difference between the rational and emotional appeal regarding the perceived emotionality of the anti-drug campaigns (t (140.52) = 4.04, p < .001). The emotional appeal (M = 3.91, SD = 2.26) was perceived as more emotional than the rational appeal (M = 2.71 SD = 1.54). However, there was no significant difference between rational and emotional appeal regarding the informativeness of the anti-drug campaigns (t (170.23) = 1.32, p = .19). Thus, the emotional campaign was indeed perceived as emotional, while the rational campaign appeared to be insufficiently rational.

Participants

A total of 173 participants with Spanish as L1 between 18-30 years were included in the analysis. The age limit was set between 18-30, as festival attendees were most likely to belong to the age category 18-30 (Day et al., 2018). A total of 267 participants started the questionnaire. After removing incomplete entries and entries without consent, the data sample consisted of 212 participants. Subsequently, the researchers evaluated the participants on their L1, current age, Spanish AoA, and nationality. All participants without Spanish as their L1, outside the age range 18-30, and with an age of acquisition of Spanish above 5 years were removed from the sample. Non-Hispanic nationalities, in particular Dutch, were removed when the participant did not have Spanish as their L1 and acquired Spanish after the age of 5. Table 2 displays the distribution of participants per condition.

Table 2

Distribution of Participants per Condition

Condition	Participants
Rational appeal English	46
Rational appeal Spanish	45
Emotional appeal English	41
Emotional appeal Spanish	41
All conditions	173

Age. Participants' mean age was 22.37, (SD = 2.74). A one-way analysis of variance showed no significant difference in age between anti-drug campaign conditions (F (3, 169) < 1, p = .988).

Gender. The distribution of gender was as follows: 42.8% were male, 54.3% were female, 0.6% were non-binary, and 2.3% selected the option "other". A Chi-square test showed no significant difference in gender between anti-drug campaign conditions (χ_2 (9) = 8.01, p = .533).

Educational level. A university bachelor's degree (62.4%) was the most frequent educational level, followed by high school (17.3%), middle school (9.2%), university master's degree (9.2%), and college (1.7%). A Chi-square test showed no significant difference in educational level between anti-drug campaign conditions (χ_2 (12) = 8.57, p = .739).

Frequency of drug use. The mean of frequency of drug use age was 2.44, (SD = 1.97). A 7-point Likert scale was used to measure the frequency of drug use. The lowest endpoint with the value 1 was labeled "Nunca" (Never), while the highest endpoint with the valua 7 was labeled "Muchas Veces" (Many times). Participants rated their drug use with a relative low frequency. A one-way analysis of variance showed no significant difference in frequency of drug use between anti-drug campaign conditions (F (3, 169) < 1, p = .711).

Nationality. All Hispanic nationalities with Spanish as an official language were included in the sample group in order to obtain a high number of participants for the analysis of the FLe with the language combination of Spanish and English. Non-Hispanic nationalities were included if the L1 was Spanish and the AoA was under 5 years old. Most participants were Spanish (68.8%), followed by Mexican (9.8%), and Chilean (9.2%). A Chi-square test showed no significant difference in nationality between anti-drug campaign conditions (χ_2 (45) = 42.89, p = .562). Table 3 shows the total distribution of nationalities.

Table 3

Nationalities of Participants

Country	**Participants**	**Percentage**
Spain	119	68.8%
Mexico	17	9.8%
Chile	16	9.2%
Costa Rica	5	2.9%
The Netherlands	4	2.4%
Argentina	3	1.7%
Colombia	2	1.2%
Aruba	1	0.6%
Dominican Republic	1	0.6%
Ecuador	1	0.6%
Guatemala	1	0.6%
Peru	1	0.6%
Uruguay	1	0.6%
Venezuela	1	0.6%

LP. The LP was measured with a 7-point Likert scale. The lowest endpoint with 1 as value was labeled "Totally incompetent", while the highest endpoint with 7 as value was labeled "Totally competent". The mean for Spanish LP was 6.56, (SD = 1.01), while the mean for English LP was 5.27, (SD = 1.60). The participants evaluated themselves as more competent in Spanish than in English. A one-way analysis of variance showed no significant relation between Spanish LP and the four anti-drug campaign conditions (F (3, 169) = 1.23, p = .29). However, a one-way analysis of variance showed a significant relation between English LP and the four anti-drug campaign conditions (F (3, 169) = 3.67, p = .01). The group exposed to the Spanish rational campaign (M = 5.87, SD = 1.04) had a higher proficiency in English than the group exposed to the Spanish emotional campaign (p = .009, Bonferroni correction; M = 4.78, SD = 1.93). There was no statistically significant difference between the group exposed to the English rational campaign and group exposed to the Spanish rational campaign (p = .340, Bonferonni correction). Neither was there a statistically significant difference between the group exposed to the English rational campaign and the group exposed to the

English emotional campaign (p = 1.00, Bonferonni correction). Also, there was no statistically significant difference between the group exposed to the English rational campaign and the group exposed to the Spanish emotional campaign (p = 1.00, Bonferonni correction). Finally, there was no statistically significant difference between the group exposed to the English emotional campaign and the group exposed to the Spanish rational campaign (p = .17, Bonferonni correction).

AoA. The mean age of Spanish acquisition was 0.71 years old, (SD = 1.21), while the mean age of English acquisition was 7.22 years old, (SD = 4.28). The acquisition of English by the participants was later than the acquisition of Spanish. A one-way analysis of variance showed no significant relation between Spanish AoA and the four anti-drug campaign conditions (F (3, 168) < 1, p = .613), and no significant relation between the English AoA and the four anti-drug campaign conditions (F (3, 165) < 1, p = .950).

CoA. Most participants learned Spanish outside school (20.2%) or at both outside and inside school (55.5%), while the majority learned English in school (52%) or at both outside and inside school (41%). A Chi-square test showed no significant relation between Spanish CoA and the four anti-drug campaign conditions (χ_2 (12) = 13.97, p = .302), and no significant relation between English CoA and the four anti-drug campaign conditions (χ_2 (12) = 11.157, p = .515). Table X shows the distribution of CoA between Spanish and English.

Table 4

Context of Acquisition

Place	**Spanish**	**English**
At school	11.0%	52.0%
Outside school	20.2%	4.0%
Both	55.5%	41.%
Another place	10.4%	1.2%
Never learned the language	2.9%	1.7%

Design

The present study utilized a 2x2 design. The present study utilized a between-subject design with language (*L1-Spanish; L2-English*) and type of appeal (*emotional; rational*) as the independent variables, with persuasion, attitude towards ad, attitude towards drugs, behavioral intention, emotionality of ad, informativeness of ad, rationality, cognitive effect, and general emotionality of language as dependent variables. The background variables measured the general emotionality of language, AoA, CoA, LP for all participants irrespective of the independent variables.

Instruments

A questionnaire was used as an instrument to measure the dependent variables persuasiveness, emotionality, rationality, and cognitive effect. Emotionality was operationalized as emotionality of ad and general emotionality of language. In addition, the questionnaire included the background variables general emotionality of language, CoA LP, and demographic information (age, gender, nationality, country of residence, education level, L1, and frequency of drug use). For all variables for which Cronbach's alpha was acceptable, the mean of all items was used to calculate the compound variables, which were used in further analyses. All questions were offered in Spanish preventing a weaker emotional experience by the L1-Spanish-speaking participants than would have been the case if they answered questions written in L2-English (Puntoni et al., 2009; Caldwell-Harris et al., 2011). Appendix B shows all items including the original Spanish translation.

Persuasiveness. The questionnaire included the items attitude toward ad, attitude toward persuasion object, and behavioral intentions inspired by Hoeken and colleagues (2019). The reliability of all compound variables was measured with Cronbach's α. The reliability of persuasion consisting of 9 items was acceptable: $\alpha = .81$.

Attitude towards ad. Participants were asked to evaluate the persuasiveness, efficacy, and convincingness of the ad with a 7-point Likert scale (Cho & Boster, 2008). The lowest endpoint was labeled "Totally disagree" and the highest endpoint was labeled "Totally agree". The persuasiveness of the ad was measured as "This ad was persuasive". The efficacy of the ad was measured as "I think that the ad has been effective". The convincingness of the ad was measured as "I think that the ad has been convincing". The reliability of attitude towards ad consisting of three items was acceptable: $\alpha = .91$

Attitude toward drugs. Participants were asked to evaluate the goodness, pleasantness, harmfulness, interestingness, and wiseness of drug use with a 7-point Likert scale (Hoeken et al., 2019). All items started with introductory phrase was "Me taking hard drugs (XTC, MDMA, cocaine, 3MMC, etcetera) is…". The goodness was measured with "Bad" as the lowest endpoint and "Good" as the highest endpoint. The pleasantness was measured with "Unpleasant" as the lowest endpoint and "Pleasant" as the highest endpoint. The harmfulness was measured with “Beneficial” as the lowest endpoint and “Perjudicial” as the highest endpoint. This item was reversed to maintain the attention of the participant but got changed to “Perjudicial” as the lowest endpoint and “Beneficial” as the highest endpoint for the analysis. The interestingness was measured with “Boring” as the lowest endpoint and “Interesting” as the highest endpoint. The wisdom was measured with “Unwise” as the lowest endpoint and “Wise” as the highest endpoint. The reliability of attitude towards drugs consisting of five items was acceptable: α = .81.

Behavioral intention. This construct consisted of the item “I have the intention to consume hard drugs during the next 12 months”. This item was inspired by Hoeken et al. (2019). A 7-point Likert scale was used with “Absolutely no” as the lowest endpoint and “Absolutely yes” as the highest endpoint.

Emotionality of ad. The item “This ad was emotional” was used (Puntoni et al., 2009), which was measured with a 7-point Likert scale with “Totally disagree” as the lowest endpoint and “Totally agree” as the highest endpoint.

Informativeness of ad. Two items measured the perceived informativeness of the ad: “This ad was informative” and “I learned something from the ad” (Cho & Boster, 2008). Both items were measured with a 7-point Likert scale with “Totally disagree” as the lowest endpoint and “Totally agree as the highest endpoint. Informativeness could be considered part of rationality. The reliability of informativeness consisting of two items was acceptable: α = .74.

Cognitive effect. Four items measured the comprehensibility and thinking time of the ad. The comprehensibility was introduced with “I think the ad is…” followed by three items (Hoeken & van Enschot, 2015; Philips & Barbara, 2000) measured by a 7-point Likert scale. The first item was measured with “Difficult to understand” as the lowest endpoint and “Easy to understand” as highest endpoint. The second item was measured with “Confusing” as the lowest endpoint and “Straightforward” as the highest endpoint. The third item was measured with “Incomprehensible” as the lowest endpoint and “Comprehensible” as the highest endpoint. Moreover, the thinking time was measured with the item “To understand the ad, I need…” with “A lot of time” as the lowest endpoint and “Little time” as the highest endpoint. The reliability of cognitive effect consisting of four items was acceptable: α = .88.

Rationality. Three self-created items measured the degree of thinking and degree of long-term thinking after exposure to the ad. All items were measured with a 7-point Likert scale with “Totally disagree” as the lowest endpoint and “Totally agree” as the highest endpoint. The degree of thinking was measured with the item “I have to think a lot about this ad”. The first item of degree of long-term thinking was “After seeing this ad, I have been thinking about the long-term effects of hard drugs”. The second item of degree of long-term thinking was “After seeing this ad, I have weighed the disadvantages of hard drugs”. The reliability of rationality consisting of three items was acceptable: α = .692.

General emotionality of language. Two items, inspired by the RER-LX questionnaire of Toivo, Scheepers and Dewaele (2023), were used for the measurement of perceived emotional resonance of the advertisements, including two items measured with a 7-point Likert scale, comparing the perceived emotional experience between Spanish and English. The first item was “I feel less emotional when I use English than when I use Spanish” with “Totally disagree” as lowest endpoint and “Totally agree” as highest endpoint. The second item was “Compared to Spanish, I feel more emotional distance when I use English” with “Totally disagree” as lowest endpoint and “Totally agree” as highest endpoint. The reliability of emotionality of language consisting of two items was acceptable: α = .81

LP. The item “How would you rate yourself when speaking Spanish” was used for Spanish LP. The item “How would you rate yourself when speaking English” was used for English LP. Both items were measured with a 7-point Likert scale with “Totally incompetent” as the lowest endpoint and “Totally competent” as the highest endpoint. Both items were inspired by Dewaele (2004) and were not combined into a compound variable.

AoA. The self-created item “When did you start learning Spanish?” was used for Spanish CoA. The self-created item “When did you start learning English” was used for English AoA. Both items were not combined into a compound variable. The items were measured through an open question.

CoA. The item “Where did you learn Spanish” was used for Spanish CoA. The item “Where did you learn English?” was used for Spanish CoA. was used for English LP. The items could be answered with the multiple-choice answer options “At school”, “Outside school”, “Both”, “Other place”, “I never have learned Spanish/English”. Both items were inspired by Dewaele (2004) and were not combined into a compound variable.

Demographics. Information on age, gender, educational level, nationality, L1, and frequency of drug use were collected. All constructs include self-created items. Age was measured with the item “What is your age?” followed by an open answer option. Gender was measured with the item “What is your gender?” followed by the answer options “Male”, “Female”, “Non-binary”, “Other”. Educational level was measured with the item “What is your current level or highest completed level of education?” with the answer options “Elementary school", "Middle school", "High school", "College", "bachelor's degree at university", "master's degree at university", and "PhD". Nationality was measured with the item "What is your nationality?" followed by an open answer option. L1 was measured with the item "What is your first language?" with the answer options "Spanish", "Catalan", "Basque", "Galician", "English", and "Other". Spanish was noted as Castilian to adapt to the regional language differences in Spain. Frequency of drug use was measured with the item "I have used hard drugs before" with a 7-point Likert scale with "Never" as the lowest endpoint and "Often" as the highest endpoint.

Procedure

The participants were invited by the researchers with a link leading to the online questionnaire through a snowball network strategy by contacting acquaintances and requesting them to further spread the questionnaire to their environment. Connections were contacted through the social media platforms WhatsApp, Instagram, Facebook, 9GAG, Tinder, Bumble, Hinge, e-mail, and Survey Circle. The participants were informed that the subject was anti-drug campaigns. No reward was promised to the participants.

The first page of the Qualtrics questionnaire started with a briefing and a consent form. The participants were told that the questionnaire was about public health advertisements and that the duration would be around five minutes. By accepting the terms and conditions, the participants consented to have read the consent form, to participate voluntarily in the study described in the consent form, to understand the storage and use of the data, and to be older than 16 years old. Afterward, participants were presented with one of the four conditions, followed by questionnaires on the dependent variables and the background variables. The conditions were presented on the same page as the questions on attitude toward ad, attitude toward drugs, behavioral intention, emotionality, rationality, and cognitive effect. The order of the questionnaire was as follows: three items on attitude towards ad, one item on familiarity, one item on emotionality of ad, two items on informativeness of ad, one item on attitude towards drugs, one item on behavioral intention, one item on comprehensibility, one item on thinking time, one item on amount of thinking, two items on long-term thinking, two items on emotionality of language, one item on Spanish LP, one item on Spanish AoA, one item on Spanish CoA, one item on English LP, one item on English AoA, one item on English CoA, six items on demographics. At last, the questionnaire ended with a debriefing including a thank you note. The mean of duration for 173 participants was 5270.03 seconds or 87.83 minutes, *(SD* = 46981.34). The high number of minutes was likely caused by participants taking breaks while filling in the questionnaire. After removing entries that took more than 1800 second or 30 minutes, the mean of duration for 168 participants was 274.15 seconds or 4.57 minutes, *(SD* = 156.46).

Statistical test

A two-way ANOVA was conducted with language and appeal as factors for the dependent variables persuasion, attitude towards ad, attitude towards drugs, behavioral intention, emotionality of ad, informativeness of ad, cognitive effect, and rationality. Moreover, a two-way ANOVA was used to measure the interaction effect between language and appeal for the dependent variables persuasion, attitude towards ad, attitude towards drugs, behavioral intention, emotionality of ad, informativeness of ad, cognitive effect, and rationality. Furthermore, a one-way ANOVA with language and appeal as factors for the measurement of age, frequency of drug use, LP, and AoA. Moreover, a Chi-square test was utilized to measure the relation between the four anti-drug campaign conditions and CoA, age, gender, education, and nationality. In addition, an independent samples t-test was applied for the measurement of the relation between appeal and perceived emotionality of ad, but also for the measurement of the relation between appeal and perceived informativeness of ad. Finally, a one-sample t-test was conducted for the general emotionality of language.

Results

Table 5 displays the means and standard deviations of the dependent variables persuasiveness, attitude toward ad, attitude toward drugs, behavioral intention, emotionality of ad, informativeness of ad, cognitive effect, and rationality.

Table 5

Means and Standard Deviations of Dependent Variables

	English		Spanish	
	Rational n = 46 *M (SD)*	Emotional n = 41 *M (SD)*	Rational n = 45 *M (SD)*	Emotional n = 41 *M (SD)*
Persuasiveness	3.02 (1.11)	3.48 (1.43)	3.14 (1.14)	3.22 (1.22)
Attitude toward ad	4.38 (1.75)	4.68 (1.78)	4.29 (1.96)	4.65 (1.53)
Attitude toward drugs	2.28 (1.37)	2.90 (1.69)	2.57 (1.35)	2.59 (1.47)
Behavioral intention	2.63 (2.26)	2.80 (2.35)	2.58 (2.20)	2.07 (1.78)
Emotionality of ad	2.76 (1.66)	3.39 (2.32)	2.67 (1.41)	4.44 (2.10)
Informativeness of ad	4.15 (2.01)	3.48 (2.00)	3.87 (2.15)	3.78 (1.50)
Cognitive effect	4.90 (1.71)	5.87 (1.44)	4.49 (2.00)	6.46 (.91)
Rationality	4.04 (1.71)	3.36 (1.88)	3.67 (1.84)	3.77 (1.34)

Persuasiveness

A two-way analysis of variance with language and type of appeal as factors revealed a non-significant main effect of language (F (1,169) < 1) on persuasion, and a non-significant main effect of type of appeal on persuasion (F (1, 169) = 2.06, p = .153). The interaction effect between language and type of appeal was not statistically significant (F (1, 169) = 1.09, p = .299).

Attitude toward ad

A two-way analysis of variance with language and type of appeal as factors revealed a non-significant main effect of language (F (1,169) < 1) on attitude towards ad, and a non-significant main effect of type of appeal on attitude towards ad (F (1, 169) = 1.54, p = .216). The interaction effect between language and type of appeal was not statistically significant (F (1, 169) < 1).

Attitude toward drugs

A two-way analysis of variance with language and type of appeal as factors revealed a non-significant main effect of language (F (1,169) < 1) on attitude towards drugs, and a non-significant main effect of type of appeal on attitude towards drugs (F (1, 169) = 1.99, p = .160). The interaction effect between language and type of appeal was not statistically significant (F (1, 169) = 1.79, p = .183).

Behavioral intention

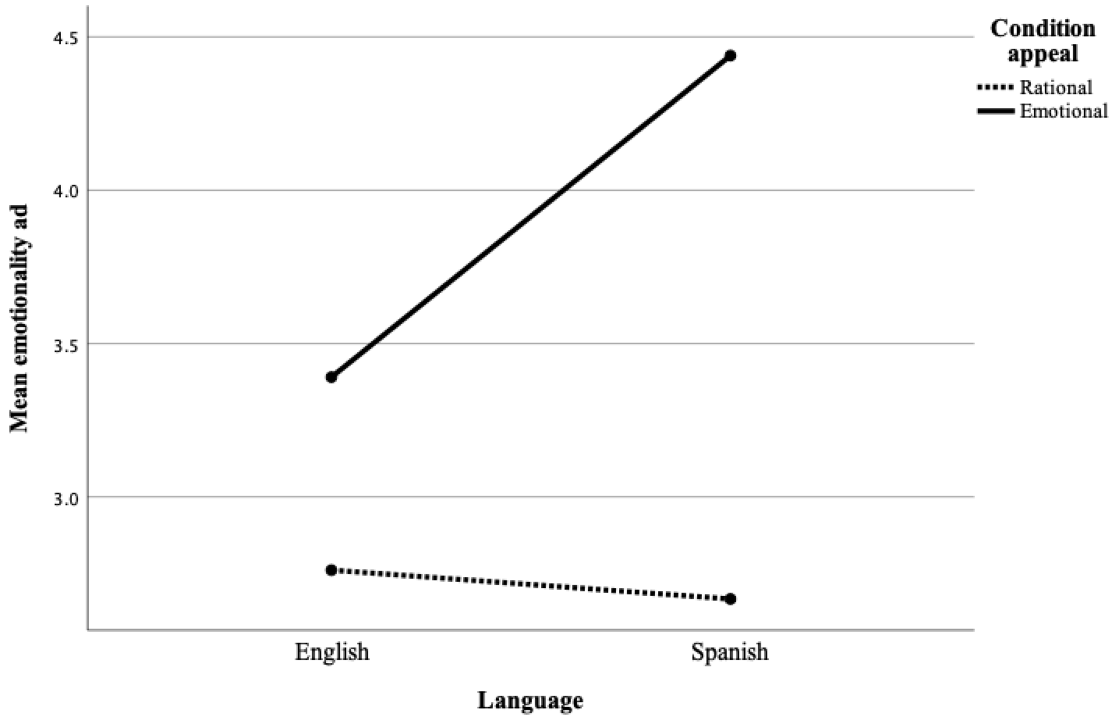
A two-way analysis of variance with language and type of appeal as factors revealed a no significant main effect of language (F (1,169) = 1.42, p = .235) on behavioral intention, and a no significant main effect of appeal on behavioral intention (F (1, 169) < 1). The interaction effect between language and type of appeal was not statistically significant (F (1, 169) = 1.06, p = .304).

Emotionality of ad

A two-way analysis of variance with language and type of appeal as factors revealed a non-significant main effect of language (F (1,169) = 2.75, p = .099) on emotionality of ad, but a significant main effect of appeal on emotionality of ad (F (1, 169) = 17.40, p < .001). The interaction effect between language and type of appeal was statistically significant (F (1, 169) = 3.94, p = .049). The Spanish emotional campaign (M = 4.44, SD = 2.10) was perceived as more emotional than the English emotional campaign (M = 3.39, SD = 2.32). Also, the English rational campaign (M = 2.76, SD = 1.66) was perceived as less emotional than Spanish rational campaign (M = 2.67 SD = 1.41). Figure 1 displays the interaction effect between language and appeal for emotionality of ad.

Figure 1

Interaction Effect for Emotionality of Ad



Informativeness of ad

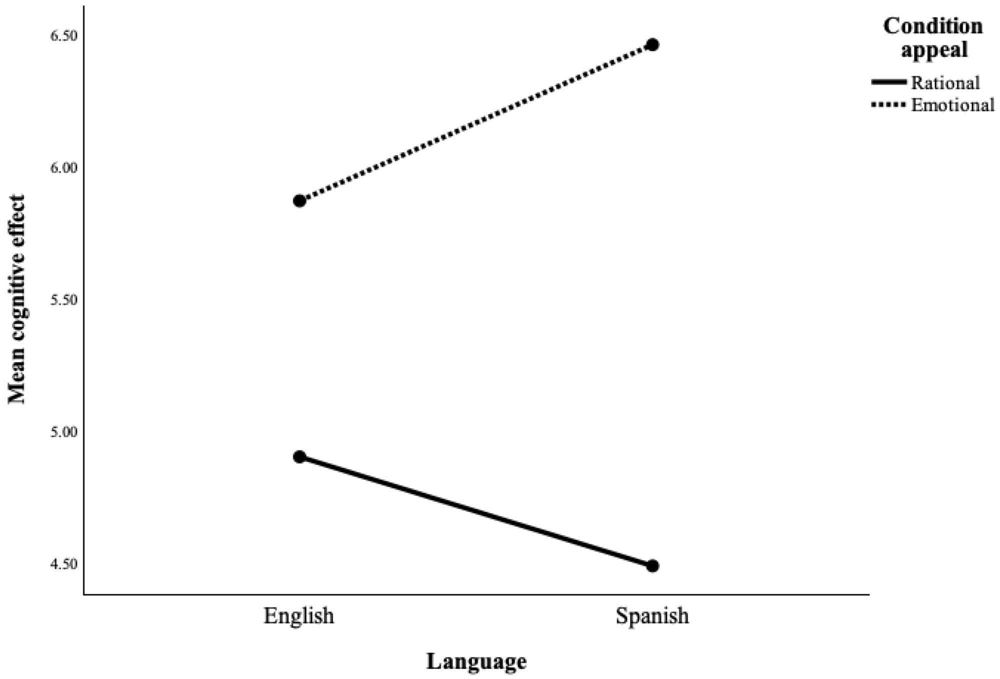
A two-way analysis of variance with language and type of appeal as factors revealed a no significant main effect of language (F (1,169) < 1) on emotionality of ad, and a no significant main effect of appeal on emotionality of ad (F (1, 169) = 1.68, p = .197). The interaction effect between language and type of appeal was not statistically significant (F (1, 169) = 1.01 p = .317).

Cognitive effect

A two-way analysis of variance with language and type of appeal as factors revealed a non-significant main effect of language (F (1,169) < 1) on cognitive effect, but a significant main effect of type of appeal on cognitive effect (F (1, 169) = 37.34, p < .001). The interaction effect between language and type of appeal was statistically significant (F (1, 169) = 4.35, p = .039). The Spanish emotional campaign (M = 6.46, SD = .909) scored higher on cognitive effect than the English emotional campaign (M = 5.87, SD = 1.44). Moreover, the English rational campaign (M = 4.90, SD =1.71) scored higher on cognitive effect than the Spanish rational campaign (M = 4.49, SD = 2.00). Figure 2 shows the interaction effect between language and appeal for cognitive effect.

Figure 2

Interaction Effect for Cognitive Effect



Rationality

A two-way analysis of variance with language and type of appeal as factors revealed a non-significant main effect of language (F (1,169) < 1) on rationality, and a non-significant main effect of type of appeal on rationality (F (1, 169) = 1.2, p = .269). The interaction effect between language and type of appeal was not statistically significant (F (1, 169) = 2.03, p = .140).

General emotionality of language

A one sample t-test showed a significant difference between general emotionality of language and the median of the 7-point Likert scale (t (172) = 8.18, p < .001). The general emotionality of language (M = 5.17, SD = 1.88) was higher than the median of the 7-point Likert scale. The median was set at the value "4" and expressed neither agreement nor disagreement to the two items of general emotionality of language.

Conclusion

The present study aimed to investigate the influence of the FLe on the persuasiveness of anti-drug campaigns targeting Hispanics. The questions (RQ2-7) deserved attention first answering the main research question on the role of the FLe on persuasiveness. Table 6 displays an overview of the results.

Table 6

Overview Results

Nr.	Research question	Significant effect
RQ1	*Role of FLe in persuasiveness*	Yes, see RQ5 and RQ7.
RQ2	*Role of language in persuasiveness*	No.
RQ3	*Role of appeal in persuasiveness*	No.
RQ4	*Interaction effect between language and appeal*	No.
RQ5	*Role of language and appeal in emotionality*	Yes, interaction emotionality ad. Yes, general emotionality.
RQ6	*Role of language and appeal in rationality*	No.
RQ7	*Role of language and appeal in cognitive effect*	Yes, interaction effect.

The influence of language on the persuasiveness of anti-drug campaigns (RQ2) appeared to be non-significant, as no significant difference in persuasiveness was found between Spanish and English anti-drug campaigns. To be more specific, there was no significant effect of language on attitude toward ad, attitude toward drugs, and behavioral intention. The influence of appeal on the persuasiveness of anti-drug campaigns (RQ3) was non-significant as well since no significant difference in persuasiveness was found between rational and emotional anti-drug campaigns. Neither was there a significant effect of appeal on attitude toward ad, attitude toward drugs, and behavioral intention. Moreover, the interaction between FLe and appeal on persuasiveness (RQ4) was tested to be non-significant. There was no significant interaction between FLe and appeal on attitude toward ad, attitude toward drugs, and behavioral intention.

Furthermore, the question on the role of FLe and appeal in emotionality (RQ5) could be answered with significant results. First, there was a significant interaction effect between language and appeal for emotionality of ad. For emotional campaigns, the inclusion of Spanish led to a higher perceived emotionality than English. For rational campaigns, the inclusion of English led to a higher perceived emotionality than Spanish. Second, there was a significant effect of general emotionality on language, implying that the Spanish language was perceived as more emotional than the English language in general.

Moreover, the investigation of the influence of FLe and appeal on rationality (RQ6) led to no significant results. Neither had language a significant effect on the perceived informativeness of the ad, nor of language and appeal on the perceived rationality of the ad.

Finally, the investigation on the role of FLe and appeal on cognitive effect (RQ7) led to a significant interaction between language and appeal. Emotional campaigns in combination with Spanish were better and faster comprehensible than with English. Rational campaigns in combination with English were better and faster comprehensible than with Spanish.

In conclusion, the FLe plays a role in the persuasiveness of anti-drug campaigns (RQ1) regarding perceived emotionality of the ad and the cognitive effect. The application of Spanish resulted in a stronger emotional experience for emotional appeals, while English led to a stronger emotional experience for rational appeals. Moreover, emotional appeals combined with Spanish resulted in better and faster comprehensibility than combined with English, while rational appeals had a higher cognitive effect when combined with English rather than Spanish.

Discussion

Comparison to previous theories

Language had no effect on persuasiveness for anti-drug campaigns targeting Hispanics. This result is in contrast with Kelly et al. (2006), which demonstrated a more positive attitude toward ad and a higher behavioral intention for English ads compared to Spanish ads. The absence of FLe for persuasiveness might result from the relative high proficiency of the participants in English, as the mean for English LP was higher than the median of the 7-point Likert scale. A higher LP in L2 was likely to lead to a stronger emotional experience of L2 (Degner, Doycheva & Wentura, 2011), which could decrease the strength of the FLe.

Moreover, appeal had no effect on persuasiveness for anti-drug campaigns targeting Hispanics, which was not in line with previous findings. Petty and Cacioppo (1986) stated that persuasion could be achieved by stimulating peripheral processing through emotional appeals. Moreover, Dillard and Nabi (2006) proved that fear appeals were effective for alerting on health risks, but the present study failed to replicate this effect.

The interaction effect between language and appeal on emotionality of the ad was partly in line with previous theories on the FLe, which proved that L1 was experienced as more emotional than L2 (Puntoni et al., 2009; Caldwell-Harris et al., 2011; Caldwell-Harris & Aycicegi-Dinn, 2009). The present study demonstrated a stronger emotional experience when Spanish was combined with an emotional appeal than when English was combined with an emotional appeal. However, the Spanish rational appeal was experienced as less emotional than the English rational appeal, which contradicts the assumption that L1 was perceived as more emotional than L2 (Puntoni et al., 2009; Caldwell-Harris et al., 2011; Caldwell-Harris & Aycicegi-Dinn, 2009). In addition, the result of general emotionality of language was in accordance with the FLe (Puntoni et al., 2009; Caldwell-Harris et al., 2011; Caldwell-Harris & Aycicegi-Dinn, 2009), since L1 Spanish was perceived as more emotional than L2 English.

No effect of language on rationality was found, contradicting the assumption of Cipoletti et al. (2016) that a FL could activate systematic processing, which was considered as rationality in the present investigation. Neither was there an effect of language on cognitive effect defined by cognition, thouthtfulness, ability to process, and message comprehensibility (Klesse et al., 2015; Petty & Cacioppo, 1986). This result disagreed with Klesse et al. (2015), which found that L1 German had a greater impact on cognition than L2 English. However, there was a significant interaction between language and appeal for cognitive effect, as Spanish emotional appeals were understood better and faster than the English emotional appeals. This result could be explained by Harrington et al. (2003), which claimed that relatively simple inferences were likely to occur when activating the peripheral processing route of the ELM. The combination of Spanish with emotional appeals might resulted in peripheral processing leading to less experienced effort in information processing (Harrington et al., 2003).

Limitations and suggestions for future research

The first limitation was that the rational appeal did not appear to be sufficiently rational, as there was no significant difference between the rational and emotional appeals for informativeness, despite the stimulation of the motivation and cognition of the reader. According to Petty and Cacioppo (1986), the central route of the ELM could be stimulated by focusing on personal relevance and personal responsibility. The present study followed these guidelines of Petty and Cacioppo (1986) by adding the text “You decide” and information on consequences related to drugs. The text of the rational campaigns might have provoked feelings of fear as these included the damaging consequences of drug consumption, which could have reduced the degree of rationality. In addition, the number of arguments could serve as an emotional cue (Petty and Cacioppo, 1986). Therefore, changing the text and reducing the number of arguments might lead to a higher degree of rationality.

Secondly, 21.98% of the sample already encountered the existing rational ad of the Red Cross (Blackler, 2013). The analysis of the rational appeal might be affected by the mere-exposure effect. This limitation could lead to a higher liking of the rationality ad, given that familiarity is likely to increase liking (Harrison, 1977). An original, non-existing rational campaign could be created in the future to prevent the mere-exposure effect.

Third, the proficiency in English was relatively high. The strength of the FLe could be weakened if the LP in L2 was high, as a higher LP in L2 could lead to a stronger emotional experience in L2. (Degner, Doycheva & Wentura, 2011). Future sample could be filtered from proficient L2 speakers.

Fourth, the present investigation included a variety of nationalities with the goal to analyze a large sample considering the limited resources. However, selecting a single nationality or ethnic group could increase the homogeneity of the sample. A relevant suggestion would be the replication of FLe towards undiscovered language combinations or to include local languages, i.e., Catalan and Castilian Spanish. The sample of 212 participants was not filtered with the L1, age, Spanish AoA, and nationality, but consisted of 22 participants selecting Catalan as their L1. For the sample of 173 participants, after filtering on L1, age, Spanish AoA, and nationality, 15 participants remained that both selected Spanish and Catalan as their L1.

Fifth, the materials mentioned *drugs* since the intention was to adapt to an existing campaign, while the instruments measured *hard drugs*. Consequently, the experiment did not entirely match with the measurement. Future campaigns could examine a certain type of drug instead of all drugs or hard drugs to determine potential differences. For example, XTC, MDMA, or amphetamines were the most consumed drugs during European festivals (Bijlsma et al., 2014; Bijlsma et al., 2020), but research on campaigns targeting these substances remain underrepresented in the academic field compared to the societal urgency.

Sixth, the sample could be adapted more adequately to the target group of anti-drug campaigns, namely (frequent) drug users, given that majority (56.1%) of the present sample never used drugs before.

Finally, to limit the completion time of the questionnaire, constructs were reduced to less items than in the original source. For example, the general emotionality of language was measured with two items of the RER-LX scale of Toivo, Scheepers and Dewaele (2023), which measured the emotional resonance of L2 compared to L1. However, the original questionnaire of Toivo, Scheepers and Dewaele (2023), consisted of 22 items. Future research could include more items of the RER-LX to match the original version more accurately.

Contribution of the present investigation

In conclusion, the present study demonstrated that the FLe could occur for Spanish native speakers with English as a foreign language given that Spanish was perceived as more emotional than English, which confirmed the FLe theory stating that bilinguals perceive their native language as more emotional than other languages (Puntoni et al., 2009; Caldwell-Harris et al., 2011; Caldwell-Harris & Aycicegi-Dinn, 2009). Previous research has not investigated the interaction effect between language and appeal before. The present study added significant interaction effect between language and appeal on emotionality of ad and cognitive effect to earlier knowledge on anti-drug campaigns. Spanish emotional appeals were perceived as more emotional and easier to comprehend than English emotional appeals, while English rational appeals were rated as more emotional and easier to comprehend than Spanish emotional appeals. The interaction between language and appeal could be relevant for future public health communication to increase emotionality and comprehensibility of messages. Depending on the goals of public health institutions, Spanish emotional appeals were the most effective for increasing the emotionality and comprehensibility of a message directed to Spanish native speakers with English as a foreign language.

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Appendix

Appendix A.1

English Anti-Drugs Campaign with Rational Appeal

Appendix A.2

Spanish Anti-Drugs Campaign with Rational Appeal

Appendix A.3

English Anti-Drugs Campaign with Emotional Appeal

Appendix A.1

Spanish Anti-Drugs Campaign with Rational Appeal

Appendix B

Questionnaire on the Persuasiveness of Anti-Drug Campaigns

Nr.	**Variable**	**Construct**	**Items**	**Source**
1	Persuasiveness	Attitude toward ad	Este anuncio fue persuasivo. *This ad was persuasive.*	Cho & Boster (2008)
2	Persuasiveness	Attitude toward ad	Creo que el anuncio ha sido eficaz. *I think that the ad has been effective.*	Cho & Boster (2008)
3	Persuasiveness	Attitude toward ad	Creo que el anuncio ha sido convincente. *I think that the ad has been convincing.*	Cho & Boster (2008)
4	Control variable	Familiarity	He visto este anuncio antes. *I have seen this ad before.*	Own item
5	Persuasiveness	Emotionality ad	Este anuncio era emotivo. *This ad was emotional.*	Puntoni, De Langhe & Van Osselaer (2009)
6	Persuasiveness	Informativeness ad	Este anuncio era informativo. *This ad was informative.*	Cho & Boster (2008)
7	Persuasiveness	Informativeness ad	He aprendido algo del anuncio. *I learned something from the ad.*	Cho & Boster (2008)
8	Persuasiveness	Attitude toward drugs	Que yo tome drogas duras (XTC, MDMA, cocaína, 3MMC, etcétera) es… - Malo / Bueno - Desagradable / Agradable - Beneficioso / Perjudicial - Aburrido / Interesante - Imprudente / Prudente *Me taking hard drugs (XTC, MDMA, cocaine, 3MMC, etcetera) is…* - *Bad / Good*	Hoeken, Hornikx & Hustinx (2019)

			- *Unpleasant / Pleasant* - *Beneficial / Perjudicial* - *Boring / Interesting* - *Unwise / Wise*	
9	Persuasiveness	Behavioral intention	Tengo intención de consumir drogas duras en los próximos 12 meses. *I have the intention to consume hard drugs during the next 12 months.*	Hoeken, Hornikx & Hustinx (2019)
10	Cognitive effect	Comprehensibility	El anuncio me parece… - Difícil de entender / Fácil de entender - Confuso / Claro - Incomprensible / Comprensible *I think the ad is…* - Difficult to understand / Easy to understand - Confusing / Straightforward - Incomprehensible / Comprehensible	Hoeken & van Enschot (2015); Phillips & Barbara (2000)
11	Cognitive effect	Thinking time	Para entender el anuncio, necesito… - Mucho tiempo / Poco tiempo *To understand the ad, I need…* - A lot of time / Little time	Own item
12	Rationality	Amount of thinking	Debo pensar mucho sobre este anuncio. *I have to think a lot about this ad.*	Own item
13	Rationality	Long-term thinking	Después de ver este anuncio, he estado pensando en los efectos a largo plazo de las drogas duras. *After seeing this ad, I have been thinking about the long-term effects of hard drugs.*	Own item

14	Rationality	Long-term thinking	Después de ver este anuncio, he sopesado las desventajas de las drogas duras. *After seeing this ad, I have weighed the disadvantages of hard drugs.*	Own item
15	Emotionality	Emotionality language	Me siento menos emocional cuando uso inglés que cuando uso castellano. *I feel less emotional when I use English than when I use Spanish.*	Toivo, Scheepers & Dewaele (2023)
16	Emotionality	Emotionality language	En comparación con el castellano, siento que hay más distancia emocional cuando utilizo inglés. *Compared to Spanish, I feel more emotional distance when I use English.*	Toivo, Scheepers & Dewaele (2023)
17	LP	Self-estimated proficiency Spanish	¿Cómo se califica a sí mismo al hablar castellano? *How would you rate yourself when speaking Spanish?*	Dewaele (2004)
18	AoA	Age of acquisition Spanish	¿Cuándo empezaste a aprender castellano? *When did you start learning Spanish?*	Own item
19	CoA	Place of acquisition Spanish	¿Dónde aprendiste castellano? *Where did you learn Spanish?*	Dewaele (2010)
20	LP	Self-estimated proficiency English	¿Cómo se califica a sí mismo al hablar inglés? *How would you rate yourself when speaking English?*	Dewaele (2004)
21	AoA	Age of acquisition English	¿Cuándo empezaste a aprender inglés? *When did you start learning English?*	Own item
22	CoA	Place of acquisition English	¿Dónde aprendiste inglés? *Where did you learn English?*	Dewaele (2010)

23	Demographics	Age	¿Cuál es tu edad? *What is your age?*	Own item
24	Demographics	Gender	¿Cuál es tu género? *What is your gender?*	Own item
25	Demographics	Educational level	¿Cuál es tu nivel de educación actual o completado más alto? *What is your current level or highest completed level of education?*	Own item
26	Demographics	Nationality	¿Cuál es tu nacionalidad? *What is your nationality?*	Own item
27	Demographics	L1	¿Cuál es tu primer idioma? *What is your first language?*	Own item
28	Demographics	Drug use	He usado drogas duras antes. *I have used hard drugs before.*	Own item

Appendix C

Statement of Own Work

Statement of own work – BA thesis

By signing this declaration, the undersigned
[first name, surname and student number],

Linda Fong, s1017301

Bachelor's student at the Radboud University Faculty of Arts,

declares that the submitted BA thesis is entirely original and was written exclusively by himself/herself, and without the use of AI tools, such as ChatGPT. The undersigned has indicated explicitly and in detail where all the information and ideas derived from other sources can be found by referencing all sources used, both in the text and in the bibliography.

By signing this declaration, the undersigned also declares that the research data presented in this thesis were collected by the undersigned himself/herself using the methods described in this thesis.

Place and date:

June 9, 2023

Signature: