# Language use depending on news frame and immigrant origin

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*T*he purpose of this study was to analyze the effect of the media on individuals' specific language use in relation to a news story on immigration: the influence of the news frame and group cue. Abstraction, complexity of language use, and negative affective language were evaluated. The 523 participants were randomly distributed to each of the four experimental conditions: news frame (crime versus economic contribution) by group cue (geographical origin of the immigrants involved: Moroccans versus Latin Americans). Through content analysis of the ideas and reflections that arose after the participants read the different news stories, using the *Linguistic Category Model* (LCM; Semin & Fiedler, 1991) to measure abstract language and the *Linguistic Inquiry and Word Count* (LIWC; Pennebaker, Booth, & Francis, 2007) to analyze complex language and negative affective language, it emerged that abstract language and negative affective language were more frequent in the participants assigned to the news frame on crime. Complex language was more commonly used when the news frame referred to the economic contribution of immigrants. Regression analyses showed the mediating role of attitude to immigration in the effects of news frame on negative affective language. The bootstrap method was used to assess the magnitude of the indirect effect. A significant mediator effect was also found through structural equation modeling. Analyses of covariance showed one interaction between news frame and group cue: Among those who read the news story in a frame linking immigration to crime and Moroccan origin, abstract language was more characteristic. The results are discussed from the theoretical perspective of framing.

*Keywords:* Immigration; News frame; Group cue; LCM; LIWC.

*L*e but de cette étude était d'analyser les effets des médias sur l'utilisation du langage spécifique des individus en relation à une histoire de nouvelles sur l'immigration : l'influence du contexte des nouvelles et l'indicateur du groupe. L'abstraction, la complexité de l'utilisation du langage et le langage affectif négatif ont été évalués. Les 523 participants ont été distribués aléatoirement dans chacune des quatre conditions expérimentales [contexte des nouvelles (crime versus contribution économique) par indicateur du groupe (origine géographique des immigrants impliqués: Marocains versus Latino-Américains)]. À travers une analyse de contenu des idées et des réflexions qui ont émergées après que les participants aient lu les différentes histoires de nouvelles, en utilisant le *Linguistic Category Model* (LCM; Semin & Fiedler, 1991) pour mesurer le langage abstrait, et le *Linguistic Inquiry and Word Count* (LIWC; Pennebaker, Booth, & Francis, 2007) pour analyser la complexité du langage et le langage affectif négatif, il est apparu que le langage abstrait et le langage affectif négatif étaient plus fréquents chez les participants assignés au contexte des nouvelles sur le crime. Le langage complexe était plus communément utilisé quand le contexte des nouvelles référait à la contribution économique des immigrants. Des analyses de régression ont révélé le rôle médiateur de l'attitude envers l'immigration dans les effets du contexte des nouvelles sur le langage affectif négatif. La méthode bootstrap a été utilisée pour évaluer la magnitude de l'effet indirect. Un effet médiateur significatif a aussi été trouvé à travers une modélisation par

équations structurelles. Les analyses de covariance ont montré une interaction entre le contexte des nouvelles et l'indicateur du groupe : les participants ayant lu une histoire de nouvelles dans un contexte liant l'immigration au crime et étant d'origine marocaine ont utilisé davantage un langage abstrait. Les résultats sont discutés à partir de la perspective théorique du contexte.

*E*l propósito de este estudio fue analizar el efecto de los medios de comunicación sobre el uso específico que los individuos hacen del lenguaje en relación a una noticia sobre inmigración: la influencia del encuadre noticioso y la referencia al grupo. Se evaluó la abstracción, la complejidad del uso del lenguaje y el lenguaje afectivo negativo. Se distribuyó aleatoriamente a los 523 participantes a cada una de las cuatro condiciones experimentales: encuadre noticioso (crimen versus contribución económica) por referencia al grupo (origen geográfico de los inmigrantes involucrados: marroquíes versus latinoamericanos). Mediante el análisis de contenido de las ideas y reflexiones que surgieron luego de que los participantes leyeron las diferentes noticias, usando el Modelo de categoría lingüística (LCM; Semin & Fiedler, 1991) para medir el lenguaje abstracto y la Encuesta lingüística y cuenta de palabras (LIWC; Pennebaker, Booth, & Francis, 2007) para analizar el lenguaje complejo y el lenguaje afectivo negativo, resultó que el lenguaje abstracto y el lenguaje afectivo negativo fueron más frecuentes entre los participantes asignados al encuadre noticioso relacionado con el crimen. El lenguaje complejo se usó más comúnmente cuando el encuadre noticioso se refirió a la contribución económica de los inmigrantes. Los análisis de regresión mostraron el papel mediador de la actitud hacia la inmigración entre el encuadre noticioso y el lenguaje afectivo negativo. Se usó el método de muestreo con reemplazo para evaluar la magnitud del efecto indirecto. También se encontró un efecto mediador significativo por medio del modelado de ecuaciones estructurales. Los análisis de covarianza mostraron una interacción entre el encuadre noticioso y la referencia al grupo: entre aquellos que leyeron la noticia en un encuadre que vinculaba la inmigración con el crimen y el origen marroquí, el lenguaje abstracto fue más característico. Se discute los resultados desde la perspectiva teórica del encuadre.

When we listen to the radio, read a newspaper, watch television, or use the Internet, it is likely that some of the news stories will be about immigration. The present research focuses on the roles played by news frame and immigrants' geographical origin in people's emotional and cognitive reactions, which often involve prejudices and stereotypes. News items of this kind frequently appear today in the mass media: for example, news that a group of people have been rescued from a boat coming from Africa, or about women immigrants from Latin America who work in domestic service. Moreover, media reports of crimes often refer to the fact that the perpetrators were of foreign origin. We might ask ourselves, indeed, what is more common: news stories that refer to the negative aspects of immigration or those that highlight the benefits people from abroad have brought to the receptor countries? Unfortunately, it is well known that the mass media emphasizes the negative over the positive. In this regard, research on what is called the *framing effect* clearly reveals that the way social issues are approached in the news affects the interpretations and attitudes of people exposed to them (see Scheufele, 1999; Tankard, 2001). From this theoretical perspective, frames consist of a schema of interpretation, a collection of stereotypes, that individuals rely on to understand and respond to events. They use these filters to make sense of the world. The choices they then make are influenced by their creation of a frame (D'Angelo & Kuypers, 2010).

The concept of the news frame refers to a process involving two operations: *selecting* and *emphasizing* words, expressions and images in order to give the information a point of view, focus or angle (Scheufele, 1999; Tankard, 2001). Thus, news frames are used by the mass media to select certain aspects, emphasizing the connections between them, and thus give the information a certain perspective (Tankard, 2001). With regard to immigration we usually find two parallel discourses, that of threat and that of economic contribution. Through the mass media, different political parties try to associate immigration with very different consequences: in general, right-wing parties have attempted to link immigration to an increase in civil insecurity, promoting an image of immigrants as criminals and fostering the perception of threat; the left wing, on the other hand, have tried to associate immigration with economic progress, showing more positive positions toward it. In Spain, the rise in the foreign-born population has been accompanied by an increase in the perception of immigration as a problem, and in attitudes of rejection. In 1995, 51% of Spaniards claimed to be tolerant toward immigration, but in 2006 the figure had fallen to 28% (Cea D'Ancona, 2007). One of the factors that can help us understand this change is the high frequency of negative discourse about immigration in the

Spanish media (Igartua, Muñiz, Otero, & de la Fuente, 2007).

Igartua et al. (2007), during the first half of 2004, carried out a content analysis with the aim of exploring the way immigration was treated in the press (*El País*, *El Mundo*, *ABC*, and *La Razón*) and on television (*TVE1*, *Tele 5*, and *Antena 3*), concluding that the media focused on the most negative, dramatic, and conflictive aspects of immigration, avoiding frames that highlighted the positive aspects. Moreover, they found that during the Aznar premiership (centre-right government) the treatment was more prejudicial than during the Zapatero era (centre-left government).

These previous findings suggest that variables such as self-positioning, media consumption. and news following must be included as control variables in order to avoid explanations unrelated to news frame or immigrants' origin (the independent variables we manipulated). Nor should we overlook other variables, such as the fact that in Spain the increase in density of the immigrant population has occurred over a short period (Cea D'Ancona, 2007), has affected some cities (e.g., Málaga) more than others (e.g., Salamanca), and that the new forms of prejudice are more subtle and indirect. Thus, most commonly, and to a greater or lesser extent, people express mistrust and avoid contact with members of the outgroup, rather than actually acting against them (Gaertner & Dovidio, 1986).

Research into the effects of group cues in the news is also relevant in this context (Brader, Valentino, & Suhay, 2008; Gardikiotis, 2003; Igartua, Muñiz, & Cheng, 2005; van Dijk, 1989; Van Gorp, 2005). It has been shown that in news items about immigrants, reference to their origin is common (Van Gorp, 2005). Cho, Gil de Zuniga, Shah, & McLeod (2006) demonstrated the strong impact of the cues used to characterize Arabs, such that the combination of the "immigrant" and "extremist" labels, which activated the stereotype of Arabs as a threatening group, reinforced the association between a negative assessment of Arabs and a rejection of immigration. Igartua and Cheng (2009) found that the incidental inclusion of information on the geographical origin of immigrants with a poorer image in public opinion (Moroccans, as opposed to Latin Americans) meant that the news story reinforced negative attitudes and beliefs. This finding corroborates the idea that in the Spanish context there is greater prejudice toward immigrants of Moroccan origin (see Cea D'Ancona, 2007; Ramos, Techio, Páez, & Herranz, 2005), and this prejudice, in turn, translates into a greater number of self-reported

negative emotions (Ramos et al., 2005). Finally, Richardson (2005) observed that news frame can be effective in activating different social identities, and this would be an explanation of their impact. Thus, the reference to Moroccan immigrants (with a different language) in the news story can activate the polarization between "them" (the disparaged outgroup) and "us" (the ingroup), and can lead to an increase in the negative impact of immigration. The common language between Spaniards and Latin Americans could reduce the distance between the two social identities and would deactivate the polarization between "out" and "in."

Since news frame and the geographical origin of immigrants are important factors that can influence cognitive and affective reactions, we decided to test this influence by analyzing people's *language use*. The present study presents negative (i.e., crime) versus positive (i.e., economic contribution) consequences of immigration and their association with the geographical origin of immigrants prominently featured in the news (Moroccans versus Latin Americans). We focused on the language used by participants to show how the *way* people talk about social issues provides a good indirect measure of prejudices and stereotypes.

## WHY LANGUAGE USE? HOW ABSTRACTION, COMPLEXITY AND NEGATIVE EMOTIONAL WORDS HELP US TO EVALUATE PREJUDICES AND STEREOTYPES

The use of language, when not subject to conscious control, provides interesting examples of the forms of prejudice and how information about outgroups is processed (Gómez Berrocal, 2008; Semin, 2007). There is empirical evidence demonstrating that the type of frame used to write a news story has a significant impact on its audience's cognitive responses (e.g., D'Angelo & Kuypers, 2010; de Vreese, Boomgaarden, & Semetko, 2011; Schemer, Wirth, & Matthes, 2012). Previous research has found that news frames affect attitudes, beliefs, and the level of cognitive complexity with which individuals reflect on social issues (e.g., Boyle et al., 2006). Domke, McCoy, and Torres (1999) manipulated a newspaper article in which three political candidates expressed their points of view on immigration, creating two versions depending on the dominant type of news frame (economic consequences vs. a moral focus). It was observed that the news frames on immigration not only channeled the cognitive responses (*frame-setting*),

but also contributed indirectly to the formation of judgments on the topic. Similarly, Brader et al. (2008) observed that a news story focusing on the negative consequences of immigration, as opposed to one highlighting its positive aspects, stimulated more negative emotions toward immigrants, greater reactions of anxiety about increased immigration, and a greater perception of threat.

There are many studies about the use of language to present a story from a point of view, but there are not so many about the impact of news frames on the use of language by receivers when they interpret the information or process it. Gorham (2006) examined the *linguistic intergroup bias* (LIB) shown by television viewers on watching news about crime. In his study, which manipulated the race of a suspect (African-American vs. White), he found that negative behaviours consistent with the stereotype of the outgroup members (in this case, African-Americans) were described in abstract terms. In a similar way, Geschke, Sassenberg, Ruhrmann and Sommer (2010) analyzed the effects of LIB in newspaper articles on readers' attitudes to migrants. They concluded that the degree of linguistic abstraction of the news influenced stereotypes and prejudice. As regards receivers' perspectives, LIB has revealed that members of ingroups and outgroups adopt specific linguistic strategies to communicate about positive and negative behaviors performed by members of their own ingroup and by the outgroup. It has been shown that when outgroup members perform negative behaviours (e.g., hitting somebody), messages relating the event are constructed with the use of abstract predicates (e.g., adjectives such as "aggressive"). Further, when ingroup members perform negative behaviors and outgroup members perform positive behaviors, these are more likely to be represented by the use of concrete predicates, e.g., verbs of action such as "help" or "hit" (Maass & Arcuri, 1992; Maass, Salvi, Arcuri, & Semin, 1989). These differences reflect biases in attribution: when adjectives (abstract terms) are used to describe a behavior, people focus on personal and permanent personality traits (i.e., internal attribution) to explain it; but when concrete language is used to describe the same action, people emphasize the role played by the situation in the event (i.e., external attribution).

To examine how the news frame affects linguistic abstraction level, we shall use the linguistic category model (LCM; Semin & Fiedler, 1991). The LCM is a model of interpersonal language that provides the means to investigate, among other things, the types of linguistic devices that are used to represent social events. In this model a distinction is made between four different categories of interpersonal terms. Descriptive-action verbs are the most concrete terms (e.g., "A punches B"). Similarly, the second category (interpretive-action verbs) describes specific observable events. However, these verbs are more abstract in that they refer to a general class of behaviors and do not preserve the perceptual features of an action (e.g., "A hurts B"). The next category (state verbs) typically describes an unobservable emotional state and not a specific event (e.g., "A hates B"). Finally, adjectives (e.g., "A is aggressive") constitute the most abstract category (see the degree of linguistic abstraction of the LCM in the section on dependent variables below).

In relation to linguistic complexity, previous studies (see Tausczik & Pennebaker, 2010) have shown that words of more than six letters that are not repeated in the discourse on a topic would connote greater complexity in language use. Moreover, prepositions (e.g., to, with, above) signal that the speaker is providing more complex information about a topic. Within published journal articles, authors use more prepositions in the discussion than in the introduction (Hartley, Pennebaker, & Fox, 2003). Discussions are often the most complex part of an article, because the results must be integrated (Tausczik & Pennebaker, 2010).

Language complexity is also reflected in the use of the cognitive categories "understanding" and "cause and effect." In this sense, some linguists, such as Graesser, Gernsbacher, and Goldman (2000), point out that language reveals information about the structure of thought, and stops being complex when the news story is consistent with the stereotype. Thus, in this research we expected to find reduced language complexity, manifested in the use of a smaller number of words with more than six letters, as well as the use of fewer words employed once only, among those participants assigned to a news story with the news frame linking immigration and crime. In this vein, it is possible that presenting information on group cue (Moroccans vs. Latin Americans, in this case) can lead to specific language use (prepositions, adjectives, verbs, adverbs, etc.). For example, the study by Gómez, Mena, Sedeño, and Turci (2000) showed that the adverbs represented stereotyped and redundant language.

To measure complex language level we shall use computer software for analyzing texts by counting words, the LIWC (Pennebaker, Booth, & Francis, 2007). Because the LIWC also analyzes the percentage of negative affective language,

the information will permit us to examine the emotional charge and impact of news stories that refer to immigrants' geographical origin. Moreover, it will be possible to explore whether news stories that link immigration with crime generate less linguistic complexity and more negative affective language.

Up to now, research has looked at how news items on immigration influence abstract language (see Geschke et al., 2010), complex language (see Graesser et al., 2000) and negative emotions (see Ramos et al., 2005), but there have been no studies on these three processes together. Therefore, in the present research the participants were exposed to written news stories containing information on immigration in Spain in which both the news frame (crime vs. economic contribution—reflecting a comparison between a problematic frame and one which stresses the positive aspects) and origin of the immigrants (Moroccans vs. Latin Americans) were manipulated. Participants were required to write about their thoughts, ideas, and reflections after reading the news items. In this context, the following hypotheses were proposed.

- *H1:* Participants assigned to the frame linking immigration with crime will generate a higher level of abstraction, characterized by the use of adjectives and state verbs, as well as a greater number of negative emotions (such as fear, hate and anxiety) than those exposed to the news item with a frame emphasizing more positive aspects, i.e., the economic contribution of immigrants.
- *H2:* The frame referring to the economic contribution of immigrants, versus that which links immigration and crime, will generate more complex language – more elaborate, with words of more than six letters, prepositions, and reflecting more cognitive processes.
- *H3:* Participants assigned to the condition in which the immigrants concerned are Moroccan will display more abstract language, and reflecting a greater number of negative emotions, than those in the condition in which the immigrants are Latin Americans.
- *H4:* Participants exposed to the condition in which the immigrants in the news item are of Moroccan origin and the frame is related to crime will display more use of abstract language and a greater number of negative emotions than those in the other three experimental conditions (crime × Latin Americans, economic contribution × Moroccans, and economic contribution × Latin Americans).

## METHOD

### Participants

Participants in the present research were 523 individuals from Salamanca ($n = 255$) and Málaga ($n = 268$), 67.6% of whom were women. Mean age was 19.02 years ($SD = 2.4$). All were university students in the first and second year of degrees in Communication Sciences (University of Málaga) and Human Sciences (University of Salamanca).

### Design

The study involved a factor design of $2 \times 2$ independent measures. Factors manipulated were news frame (crime vs. economic contribution) and immigrants' origin (Moroccans vs. Latin Americans). Participants were randomly assigned to each of the four experimental conditions, and the confidentiality of their responses was guaranteed.

### Procedure

The split-ballot questionnaire was applied in the university lecture rooms. The field work was carried out in the week of November 5 to 9, 2007. Participants were randomized in each room. Thus, we obtained between 134 and 143 questionnaires in each experimental condition. Total time devoted to reading the news items and filling out the questionnaire was 20 to 25 min.

The news stories used in the experimental study were constructed taking as a reference previous research studies on content analysis (see Igartua, Muñiz, & Cheng, 2005; Igartua et al., 2007). The news appeared with the same title in all four experimental conditions: *Five Million Foreigners Bring Spain's Population Up to 45 Million.*

On the cover of the questionnaire, information was provided about the objectives of the study. The experimental news stories were on the second page. The following pages included the dependent variables, the control variables, and the variables corresponding to the checking of the experimental manipulation (*recall of information*).

### Variables

#### Dependent variables

The dependent variables in this study are related to the language use generated after reading the news story. Specifically, we examined the set of

words obtained from a task in which participants had to list their thoughts after reading the news story they were given. They were asked to "write down all your thoughts, ideas or reflections on reading the news story, your impressions."

### Linguistic abstraction index

The abstraction level was coded according to the LCM. This index is calculated based on the sum of descriptive action verbs, the sum of interpretive action verbs multiplied by 2, the sum of state verbs multiplied by 3, and the sum of adjectives multiplied by 4. The result was divided by the total number of terms used (see Semin & Fiedler, 1991). Inter-rater reliability between two independent coders was high (Cohen's kappa = .80). The score ranged from 1 (concrete language) to 4 (abstract language). Mean for the total sample was 2.65 ($SD = 1.19$).

### Complex language

This variable was based, for each participant, on the percentages of: [cognitive processes] "insight" (knowing, thinking, considering) and "cause and effect" (because, effect, why); [prepositions, e.g., from, to, with, on]; [unique words] that is, words not repeated; [words of more than 6 letters]; and [number of words per sentence]. The terms in square brackets refer to LIWC categories. Cronbach's alpha was ($\alpha = .78$). The variable shows a range of variation of 18 to 30, with $M = 25.42$ ($SD = 2.69$). The higher the score, the greater was the use of complex language.

### Negative affective language

The LIWC gives a hierarchical structure to the negative emotions linked to anxiety, anger, and sadness, with an index of negative affects (fear, hate, annoyance, crying, anxiety, nervousness, and sadness). Cronbach's alpha in previous studies (see Pennebaker et al., 2007) was highly satisfactory ($\alpha = .97$). In this research it was $\alpha = .79$. This indicator had $M = 1.48$ ($SD = 2.04$), range of variation 0 to 20.

The analysis of correlations between the dependent variables showed a significant association between the indicator of linguistic abstraction and complex language, $r(523) = .10$; $p < .05$). However, there was no association between negative affective language and the two linguistic categories for the total sample. Moreover, taking account of the experimental conditions, we calculated correlations for the different subsamples.

The results revealed a similar pattern of associations between abstract and complex language for the conditions crime, $r(261) = .14$; $p < .05$, and Latin Americans, $r(258) = .14$; $p < .05$, as well as for the interaction of crime with Latin Americans, $r(130) = .24$; $p < .01$. The analyses were also significant in the economic contributions condition for the relation between abstract language and negative affective language, $r(260) = -.13$; $p < .05$).

The LIWC also has categories related to the topic of the news frames: "money and financial matters" and "death/violence." These measures were taken into account in order to analyze the internal validity of the experimental manipulation. In this regard, the analyses of covariance (ANCOVAs) showed that the participants assigned to the news story about crime wrote more words related to the "death/violence" category ($M = 0.17$, $SD = 0.02$) than those students who had read the news story about immigrants' economic contribution ($M = 0.01$, $SD = 0.02$), $F_{frame}(1, 497) = 21.19$, $p < .001$, $\eta_p^2 = .04$. And, as expected, the reverse occurred on analyzing the "money and financial matters" category; that is, the participants assigned to the news frame about economic contribution wrote more words in this category ($M = 0.92$, $SD = 0.07$) than those who read the news story with a crime frame ($M = 0.20$, $SD = 0.06$), $F_{frame}(1, 497) = 55.01$, $p < .001$, $\eta_p^2 = .10$.

## Control variables

### Political self-positioning

Participants had to answer the following question: "When you talk about politics you usually use the terms 'left' and 'right'. On the following scale, which number best represents your political stance?" A 10-point scale was used, ranging from 1 (left) to 10 (right) ($M = 4.34$, $SD = 2.29$).

### Media consumption

Participants were asked: "In general, on a normal day, how many minutes of television do you watch? Do you listen to the radio? Do you read the general information press? Do you surf the Internet?" An indicator of "overall consumption of exposure to the mass media" was created by simply adding together the four variables considered ($\alpha = .68$) ($M = 381.06$ min per day, $SD = 319.23$).

### News following

Participants were asked: "To what extent do you usually follow the news through the different media mentioned below?" (radio, television, written press, the Internet). A five-point scale was used for each medium, ranging from 1 (not at all) to 5 (a lot). An indicator called "News consumption in the mass media" was created from the simple sum of the four variables in question ($M = 12.28$, $SD = 2.29$, range of 4 to 20).

### Involvement with the topic of immigration

Two questions were posed. The first was: "How interested are you in the topic of immigration?", with participants answering on a five-point intensity scale ranging from 1 (not at all) to 5 (a lot) ($M = 3.63$, $SD = 0.73$). The second question was "Have you ever actively participated in conversations or discussions about immigration, in which you gave your opinion?" The response options for this question were "no, never" (1), "a few times" (2), "sometimes" (3), "quite often" (4) and "very often" (5) ($M = 3.15$, $SD = 1.03$). An index called "involvement with the topic of immigration" was created using a simple sum of the two variables ($M = 3.39$, $SD = 0.72$), $r_{(552)} = .32$, $p < .001$.

### Level of contact with immigrants

The participants were asked if they had now, or had had in the past (1 = yes, 0 = no), any type of relation with immigrants, as family, friends, coworkers, classmates, or neighbors. An index of personal contact with immigrants was created using the simple sum of the five dichotomous variables considered (theoretical range of scores from 0 to 5) ($M = 2.47$, $SD = 1.25$).

### Attitude to immigration

Subjects were asked the following: "As you know, all developed countries receive immigrants. Do you think, in general, immigration is more positive or more negative for Spain?" Participants indicated their opinion on an 11-point scale (0 = very negative, 10 = very positive). Analysis of variance (ANOVA) revealed significant differences, $F(3, 550) = 3.76$, $p < .01$, $M_{\text{Crime} \times \text{Latin Americans}} = 5.71$, $SD = 2.03$; $M_{\text{Economic contribution} \times \text{Latin Americans}} = 6.40$, $SD = 1.92$; $M_{\text{Crime} \times \text{Moroccans}} = 5.70$, $SD = 2.05$, and $M_{\text{Economic contribution} \times \text{Moroccans}} = 5.90$, $SD = 1.91$.

### Density of immigration population

Half of the participants were from Salamanca and the other half from Málaga. Salamanca is a city with a low density of immigrants (3.46%), while Málaga is characterized by a high immigrant population (14.38%) (INE, 2007). Participants from Salamanca and Málaga differed in their perception of the density of immigrant population, both in Spain (range of 0 to 100%) ($M_{\text{Salamanca}} = 21.32$, $SD = 13.14$ vs. $M_{\text{Málaga}} = 25.78$, $SD = 14.52$), $F(1, 552) = 14.40$; $p < .001$, and in their region of usual residence (range from 0 to 100) ($M_{\text{Salamanca}} = 13.88$, $SD = 12.21$ vs. $M_{\text{Málaga}} = 20.14$, $SD = 15.62$), $F(1,552) = 27.73$; $p < .001$, as well as in level of contact with the immigrant population (range from 0 to 5) ($M_{\text{Salamanca}} = 2.16$, $SD = 1.20$ vs. $M_{\text{Málaga}} = 2.79$, $SD = 1.23$), $F(1, 551) = 37.33$; $p < .001$.

## RESULTS

### Manipulation checks

### Checking for similarity of the experimental groups

No statistically significant differences were found between the four experimental conditions in the variables sex, $\chi^2(3, 540) = 1.12$, ns; age, $F(3, 549) = 0.94$, ns; political self-positioning, $F(3, 537) = 0.83$, ns; involvement with the topic of immigration (interest in the issue, $F(3, 550) = 0.98$, ns and participation in conversations, $F(3, 550) = 1.88$, ns), or level of contact with immigrants, $F(3, 529) = 0.59$, ns. Nor were there any significant differences in media consumption, $F(3, 529) = 0.29$, ns, or news following, $F(3, 549) = 0.61$, ns. Therefore, these results support the randomization procedure and suggest that the experimental manipulation was effective.

### Recall of information

We analyzed participants' level of recall with regard to key information that referred to the elements manipulated in the news story: the frame and the geographical origin of the immigrants mentioned. The results reveal that there were statistically significant differences in recall of the principal topic of the news item, $\chi^2(3) = 435.18$, $p < .001$, and in the geographical origin of the immigrants mentioned in it, $\chi^2(3) = 453.31$, $p < .001$. The differences observed in the two variables were coherent with the type of news story read by the participants in each condition.

**TABLE 1**
Effect of frame type and group cue on language use

| Main and interaction effects | Abstract language | | Complex language | | Negative affective | |
|---|---|---|---|---|---|---|
| | M | SD | M | SD | M | SD |
| *News frame* | | | | | | |
| Crime | 2.76 | 1.16 | 25.18 | 2.82 | 1.81 | 2.08 |
| Economic contribution | 2.55 | 1.22 | 25.65 | 2.55 | 1.17 | 1.97 |
| $F_{frame}(1, 520)$ | 3.53* | | 4.51* | | 10.76*** | |
| $\eta_p^2$ | .007 | | .009 | | .020 | |
| *Group cue* | | | | | | |
| Latin Americans | 2.63 | 1.19 | 25.45 | 2.71 | 1.59 | 2.10 |
| Moroccans | 2.68 | 1.20 | 25.37 | 2.69 | 1.40 | 2.00 |
| $F_{group\ cue}(1, 520)$ | 0.26 | | 0.14 | | 1.44 | |
| $\eta_p^2 =$ | .001 | | .000 | | .003 | |
| *News frame × group cue* | | | | | | |
| Crime, Latin Americans | 2.63 | 1.18 | 25.38 | 2.89 | 1.90 | 2.34 |
| Crime, Moroccans | 2.89 | 1.12 | 24.97 | 2.75 | 1.72 | 1.80 |
| Econ. contrib., Latin Americans | 2.63 | 1.20 | 25.52 | 2.53 | 1.27 | 1.78 |
| Econ. contrib., Moroccans | 2.48 | 1.24 | 25.77 | 2.57 | 1.08 | 2.14 |
| $F_{frame \times group\ cue}(1, 520)$ | 3.70* | | 1.75 | | 0.03 | |
| $\eta_p^2$ | .007 | | .003 | | .000 | |

ANCOVA controlling for gender, age, political self-positioning, index of personal contact with immigrants, involvement with the topic of immigration, index of overall consumption of exposure to the mass media, index of news consumption in the mass media, attitude to immigration, and the place where the field work was carried out (density of the immigrant population in Salamanca and Málaga). Dependent variables: Abstract language = the linguistic abstraction index, complex language, and negative affective = negative affective language. $*|p| < .05$; $***|p| < .001$.

The majority of participants exposed to an item that stressed the relation between immigration and crime (99.1% and 98.6%) recalled that this was the main topic of the story, while the majority of those exposed to an item highlighting the positive contribution of immigration to the country's economy (88.1% and 91.8%) recalled that that was the main element in the news item. Likewise, the majority of those who had read a story that mentioned Latin American immigrants recalled that they were its protagonists (97.6% and 96.9%), while a majority of those who read a story referring to Moroccan immigrants recalled that they were the main characters in the news story (99.2% and 96.9%).

In general, participants assigned to the Moroccan and Latin American conditions showed adequate recall of the cultural origin of the news item's main characters, $F_{group\ cue}(1, 496) = 4817.22$; $p < .001$; there was no significant effect of news frame (crime and economic contribution) on recall of nationality, $F_{frame}(1, 496) = 0.29$; *ns*; and nor did we find significant differences for the interaction, $F_{frame \times group\ cue}(1, 496) = 1.26$; *ns*. These results show that the two factors are independent of one another.

In order to test the hypotheses posed, the ANCOVAs were run on the dependent variables

of the study. In the analyses we took account of the list of control variables (see above) as covariables.

## Hypotheses 1 and 2: Effects of news frames on language use

The results showed that the news frame variable had effects on the different categories related to language use. As can be seen in Table 1, the dependent variables abstract language and negative affective language were more characteristic of the participants who read the news story relating immigration and crime, thus confirming the news framing effect.

Furthermore, the results corroborate H2, which postulates that the economic contribution condition generates more complex language, and that the language is no longer complex when it is consistent with the stereotype. In this case, the thoughts provoked by the news story related to crime led to the use of less complex language than when the news story was framed in relation to immigrants' economic contribution. We should bear in mind that there is a stereotyped image linking crime and immigration, and this stereotype would produce less complex language, whereby the
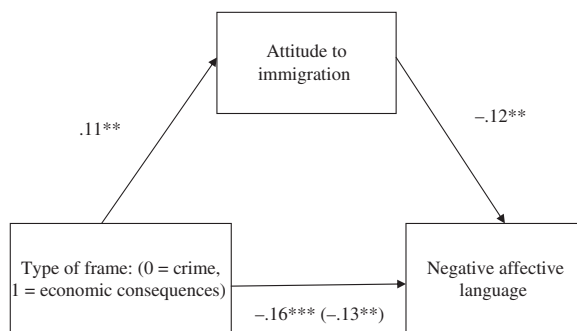
**Figure 1.** Mediation of attitude to immigration for predicting news frames on negative affective language. The numbers denote β (standardized regression coefficients). **$|p| < .01$; ***$|p| < .001$.

## Hypothesis 3: Effects of group cue on language use

The experimental manipulation of the origin of the immigrants in question yielded no significant results for any of the dependent variables proposed.

As could be seen in the cases of H1 and H2, the framing generates different uses of language, but the group cue has no influence (H3). For this reason, we set out to ascertain whether the use of language is mediated by other indicators, such as attitude to immigration, since this is a variable that displayed significant differences for the experimental conditions proposed, and an indicator that influences news frame and group cue (Igartua & Cheng, 2009).

## Mediating role of attitude to immigration

The statistical analyses were carried out taking account of the proposals of Baron and Kenny (1986). Dependent variable was type of news frame (0 = crime, 1 = economic contribution), mediating variable was attitude to immigration, and dependent variables those that had a significant main effect on type of news frame (see Table 1). Finally, we applied the bootstrap method to check the statistical significance with regard to the role of the variable "attitude toward immigration".

News frame had a significant effect on abstract language (β = −.09, $p < .05$), and it also had an effect on attitude to immigration (β = .11, $p < .01$). However, this latter effect was significant (β = −.09, $p < .05$), and did not decrease on taking account of the effect of attitude to

immigration itself. These results confirm that attitude to immigration does not play a mediating role in the explanation of the effect of framing on abstract language.

As far as the role of complex language is concerned, the regression analyses revealed that there was no mediating effect of attitude to immigration. Although there was indeed an effect of news frame on complex language (β = .09, $p < .05$) and also on attitude to immigration (β = .11, $p < .01$), this effect remained significant and did not decrease (β = .09, $p < .05$) on taking account of the effect of attitude to immigration.

News frame had a significant effect on negative affective language (β = −.16, $p < .001$) and also on attitude to immigration (β = .11, $p < .01$). This effect decreased (β = −.13, $p < .01$) on taking account of the effect of attitude to immigration on negative affective language (β = −.12, $p < .01$) (see Figure 1).

We also calculated bias-corrected bootstrap confidence intervals. Following the recommendations of Cheung and Lau (2008) and Hayes (2009), we created 1000 bootstrap samples from the original dataset through AMOS (version 19). Next, we made an estimate of the indirect effect of news frame on negative emotional processes by multiplying 1000 pairs of path coefficients from (a) news frame to attitude to immigration and (b) attitude to immigration to negative emotional processes. The results indicated that the indirect effect for news frame on negative emotional processes was −.15, which was significantly greater than zero, $t(999) = 131.82$, $p < .001$; the 95% CI ranged from −.14 to −.19. The direct effect from news frame to negative emotional processes was −.17, which was also significant, $t(999) = 21.64$, $p < .01$; the 95% CI ranged from −.16 to −.20; thus confirming the partial mediation of attitude to immigration in the explanation of the effect of news frame on negative affective language.
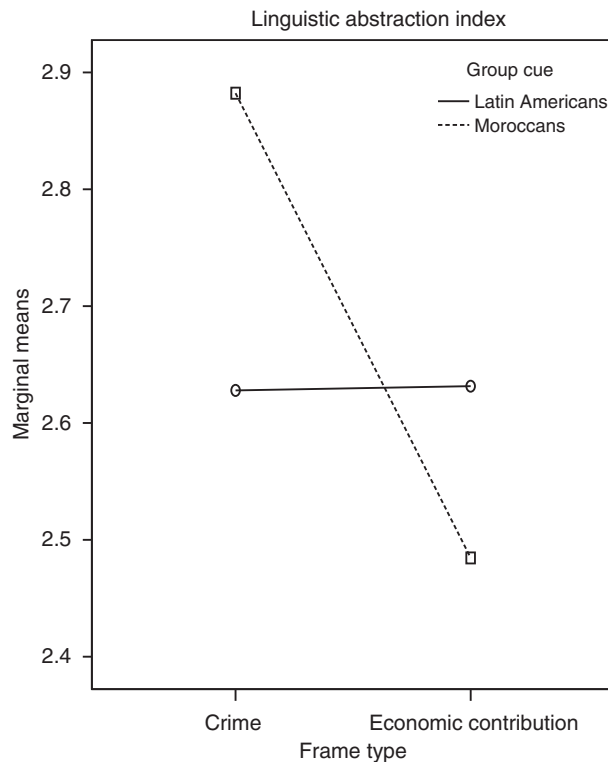
**Figure 2.** Effect of frame type and group cue on linguistic abstraction index.

## Hypothesis 4: Effects of news frames by group cue on language use

Partial support was obtained for the hypothesis postulating a differential effect of news frames according to inclusion or not of information on national origin of the immigrants referred to in the story. Thus, the news item with the frame linking crime and immigrants of Moroccan origin (compared to the other three experimental conditions) generated the use of more abstract language (see Figure 2). However, analysis of the interaction did not reveal that participants in this condition (crime and Moroccans) displayed more negative affective language than those assigned to the other news stories.

It should be borne in mind that in the Pearson correlations analysis (see above), abstract language was negatively associated with negative affective language, but only for the economic contribution condition, and not for any of the interactions in the 2 × 2 design.

## DISCUSSION

In the light of these results, it can be concluded that the news frames on immigration have a decisive influence on the use of language.

When the news story suggested that immigration produces crime and a breakdown in law and order, the resulting receiver's language was characterized by greater negative affective language and higher abstraction, both characteristics associated with prejudice (Geschke et al., 2010).

The results obtained on emotions confirm previous findings (Brader et al., 2008; Domke et al., 1999; Gorham, 2006; Igartua, Moral, & Fernández, 2011), since they show how a news story relating immigration and crime activates negative emotions in relation to the outgroup. As regards the findings on abstract language, the data follow the same pattern as found in negative emotions: a higher abstraction index when news frames associate immigration with crime, supporting the results of Geschke et al.'s (2010) research. It should not be overlooked that news stories framed with an emphasis on conflict are usually given a higher profile in the mass media, so that it is typical to find news stories in which immigrants appear in contexts of irregular behaviors, involving aspects such as drug trafficking and prostitution, thus giving a biased view of reality.

Complex language was used most when the receiver of the news story was informed that immigration contributes to the economy of the receiving country. One possible explanation for

this is that this link (immigration–economic contribution) does not form part of the stereotype of the outgroup, so that it gives rise to greater use of cognitive processes, which in turn makes the language used more complex, since it is necessary to express ideas about immigration that are not stereotyped and prejudiced. These results are in line with the postulates of Graesser et al. (2000), who found that complex language is more likely to be generated when the stereotype is broken.

As regards the effect of group cue (Moroccans and Latin Americans), the language used was similar. However, previous studies had noted an effect on the geographical origin of the immigrants. For example, Cho et al. (2006) observed in a North-American population that reading a news story in which Arab citizens were described as immigrants and extremists reinforced the association between a negative assessment of Arabs and rejection of immigration.

Two explanations can be put forward in this regard. The first is that participants may not have processed correctly the group cue information presented in the news item. However, analyses showed that participants did correctly recall the geographical origin of the immigrants mentioned in the story. The second possibility concerns the short geographical distance between Spain and Morocco: They do not share language or religion, but there are many other bonds between them (economic, historical, touristic, gastronomic, etc.). Nevertheless, future studies must corroborate these outcomes, analyze other factors of framing theory that may be interfering with language use, and employ a stronger group cue manipulation (e.g., in our cultural context, comparing Japanese and Moroccans).

In this study, and with the aim of shedding light on the psychosocial processes that may be influencing language use, we carried out mediation analyses. The results revealed that attitude to immigration explains the relation between the effect of the news frame related to crime and negative affective language. These findings are in line with those of Brader et al. (2008). As an important limitation we point out the need to measure attitudes before reading the news, and future research should address this problem. Moreover, it is important to point out that the percentage of words in participants' responses reflecting the negative affective language is relatively low, so that future studies should check whether or not this pattern is maintained.

The interaction effect between news frame and group cue emerges only in the use of abstract language, and this effect is in line with the

hypothesis proposed. Thus, the news stories in the crime-related frame, if involving Moroccan immigrants, generate greater use of abstract language, and this highlights the importance of considering both variables (see Igartua & Cheng, 2009; Richardson, 2005).

One of the limitations of the present study is that the participants were asked to write a list of thoughts, ideas or reflections about the news story, with instructions to write in complete sentences and not to use just single words. In future studies, participants should be asked to write about these thoughts, ideas, and reflections for at least 15 min (Smyth & Pennebaker, 2008), since that would give them time to produce sufficient material to give us a clearer and more specific indication of their language use.

Another limitation is related to the sample. In future studies it would be advisable to work with samples representing the general population (which would guarantee a variety of levels of involvement with the topic of immigration) or to manipulate experimentally the participants' involvement in the topic (for example, by situating the action of the news story in a context that is close to or far removed from the participants' own context), with a view to testing the interaction effect between news frame and immigrants' origin in contexts of high and low elaboration likelihood.

In conclusion, this research was intended to be a first approach to how framing influences, at an unconscious level, the use of language. Although not all the hypotheses were confirmed, the results provide interesting information on the abstract and complex language, as well as the emotional reactions, generated by news frames and group cues in relation to immigrants.

## REFERENCES

Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic and statistical considerations. *Journal of Personality and Social Psychology, 51*, 1173–1182.

Boyle, M. P., Schmierbach, M., Armstrong, C. L., Cho, J., McCluskey, M., McLeod, D. M., et al. (2006). Expressive responses to news stories about extremist groups: A framing experiment. *Journal of Communication, 56*, 271–288.

Brader, T., Valentino, N. A., & Suhay, E. (2008). What triggers public opposition to immigration? Anxiety, group cues, and immigration threat. *American Journal of Political Science, 52*, 959–978.

Cea D'Ancona, M. A. (2007). *Inmigración, racismo y xenofobia en la España del nuevo contexto europeo* [Immigration, racism and xenophobia in Spain in the new European context]. Madrid, Spain: Ministerio de Trabajo y Asuntos Sociales, Observatorio Español de Racismo y Xenofobia.

Cheung, G. W., & Lau, R. S. (2008). Testing mediation and suppression effects of latent variables: Bootstrapping with structural equation models. *Organizational Research Methods, 11*, 296–325.

Cho, J., Gil de Zuniga, H., Shah, D. V., & McLeod, D. M. (2006). Cue convergence: Associative effects on social intolerance. *Communication Research, 33*, 136–154.

D'Angelo, P., & Kuypers, J. A. (2010). *Doing news framing analysis: Empirical and theoretical perspectives*. New York, NY: Routledge.

de Vreese, C. H., Boomgaarden, H. G., & Semetko, H. A. (2011). (In)direct framing effects: The effects of news media framing on public support for Turkish membership in the European Union. *Communication Research, 38*, 179–205.

Domke, D., McCoy, K., & Torres, M. (1999). News media, racial perceptions and political cognition. *Communication Research, 26*, 570–607.

Gaertner, S. L., & Dovidio, J. F. (1986). The aversive form of racism. In J. F. Dovidio, & S. L. Gaertner (Eds.), *Prejudice, discrimination and racism* (pp. 61–89). San Diego, CA: Academic Press.

Gardikiotis, A. (2003). Minorities and crime in the Greek press: Employing content and discourse analytic approaches. *Communications: The European Journal of Communication Research, 28*, 339–350.

Geschke, D., Sassenberg, K., Ruhrmann, G., & Sommer, D. (2010). Effects of linguistic abstractness in the mass media. *Journal of Media Psychology, 22*, 99–104.

Gómez Berrocal, C. (2008). Psicología social, lenguaje y comunicación [Social psychology, language and communication]. In J. F. Morales, C. Huici, E. Gaviria, & A. Gómez (Coords.), *Método, teoría e investigación en Psicología social* [Method, theory and research in social psychology] (pp. 263–279). Madrid, Spain: Pearson/Prentice Hall.

Gómez, S., Mena, E., Sedeño, A., & Turci, I. (2000). Análisis de contenido aplicado a prensa semanal [Content analysis applied to the weekly press]. *Psicothema, 12*, 261–266.

Gorham, B. W. (2006). News media's relationship with stereotyping: The linguistic intergroup bias in response to crime news. *Journal of Communication, 56*, 289–308.

Graesser, A. C., Gernsbacher, M. A., & Goldman, S. (2000). Cognición [Cognition]. In T. A. van Dijk (Ed.), *El discurso como estructura y proceso: Estudios del discurso. Introducción multidisciplinaria* [Discourse as structure and process: Studies of discourse. Multidisciplinary introduction] (Vol. 1, pp. 417–452). Barcelona, Spain: Editorial Gedisa.

Hartley, J., Pennebaker, J. W., & Fox, C. (2003). Abstracts, introductions and discussions: How far do they differ in style? *Scientometrics, 57*, 389–398.

Hayes, A. F. (2009). Beyond Baron and Kenny: Statistical mediation analysis in the new millennium. *Communication Monographs, 76*, 408–420.

Igartua, J. J., & Cheng, L. (2009). Moderating effect of group cue while processing news on immigration: Is the framing effect a heuristic process? *Journal of Communication, 59*, 726–749.

Igartua, J. J., Moral, F., & Fernández, I. (2011). Cognitive, attitudinal and emotional effects of the news frame and group cues on processing news about immigration. *Journal of Media Psychology, 23*, 174–185.

Igartua, J. J., Muñiz, C., & Cheng, L. (2005). La inmigración en la prensa española. Aportaciones empíricas y metodológicas desde la teoría del encuadre noticioso [Immigration in the Spanish press: Empirical and methodological contributions from news framing theory]. *Migraciones, 17*, 143–181.

Igartua, J. J., Muñiz, C., Otero, J. A., & de la Fuente, M. (2007). El tratamiento informativo de la inmigración en los medios de comunicación españoles. Un análisis de contenido desde la Teoría del Framing. [Informational treatment of immigration in the Spanish mass media: A content analysis from framing theory]. *Estudios sobre el Mensaje Periodístico, 13*, 91–110.

INE (2007). *Avance del padrón municipal a 1 de enero de (2007). Datos provisionales. Nota de prensa.* [Preliminary population register report on January 1, (2007). Provisional data. Press release]. Madrid, Spain: Instituto Nacional de Estadística.

Maass, A., & Arcuri, L. (1992). The role of language in the persistence of stereotypes. In G. R. Semin, & K. Fiedler (Eds.), *Language, interaction and cognition* (pp. 129–143). London, UK: Sage.

Maass, A., Salvi, D., Arcuri, L., & Semin, G. R. (1989). Language use in intergroup contexts: The linguistic intergroup bias. *Journal of Personality and Social Psychology, 57*, 981–993.

Pennebaker, J. W., Booth, R. E., & Francis, M. E. (2007). *Linguistic Inquiry and Word Count: LIWC(2007) – Operator's manual*. Austin, TX: LIWC.net.

Ramos, D., Techio, E. M., Páez, D., & Herranz, K. (2005). Factores predictores de las actitudes ante la inmigración [Predictive factors of attitudes to immigration]. *Revista de Psicología Social, 20*, 19–37.

Richardson, J. D. (2005). Switching social identities: The influence of editorial framing on reader attitudes toward affirmative action and African Americans. *Communication Research, 32*, 503–528.

Schemer, Ch., Wirth, W., & Matthes, J. (2012). Value resonance und value framing effects on voting intentions in direct-democratic campaigns. *American Behavioral Scientist, 56*, 334–352.

Scheufele, D. A. (1999). Framing as a theory of media effects. *Journal of Communication, 49*, 103–122.

Semin, G. R. (2007). Linguistic markers of social distance of linguistic categories in describing persons: Social cognition and language. *Journal of Personality and Social Psychology, 54*, 558–568.

Semin, G. R., & Fiedler, K. (1991). The linguistic category model, its bases, applications and range. In W. Stroebe, & M. Hewstone (Eds.), *European review of social psychology* (Vol. 2, pp. 1–50). Chichester, UK: Wiley.

Smyth, J. M., & Pennebaker, J. W. (2008). Exploring the boundary conditions of expressive writing. *British Journal of Health Psychology, 13*, 1–7.

Tankard, J. W. (2001). The empirical approach to the study of media framing. In S. D. Reese, O. H. Gandy,

& A. E. Grant (Eds.), *Framing public life: Perspectives on media and our understanding of the social world* (pp. 95–106). Mahwah, NJ: Lawrence Erlbaum Associates.

Tausczik, Y. R., & Pennebaker, J. W. (2010). The psychological meaning of words: LIWC and computerized text analysis methods. *Journal of Language and Social Psychology, 29*, 24–54.

van Dijk, T. A. (1989). Race, riots and the press: An analysis of editorials in the British press about the (1985) disorders. *Gazette, 43*, 229–253.

Van Gorp, B. (2005). Where is the frame? Victims and intruders in the Belgian press coverage on the asylum issue. *European Journal of Communication, 20*, 484–507.