The inferential properties of linguistic categories: approaching the linguistic bias from a different angle[1]

Ana-Maria ȚEPORDEI[2]
Alexandru Ioan Cuza" University of Iaşi

Abstract*:* The goal of this present study was to verify the convergence or equivalency of the linguistic bias and its consequent interpretation based on a double analysis of the linguistic variations in the free descriptions of concrete behaviors: linguistic abstraction levels vs. the frequencies of each linguistic category use. Participants were presented with cartoons depicting a female / male protagonist engaged in a single positive / negative, stereotype- / -incongruent behavior and were asked to shortly describe the scenes in their words. Analyzing the most frequently used linguistic categories and their specific inferential properties as proposed by the Linguistic Categories Model (LCM; Semin & Fiedler, 1988), our intention was to go beyond the mere mean of abstraction level and see if the final interpretations were similar. The results support our general hypothesis: the two types of analysis may lead us to draw quite different conclusions regarding the linguistic bias present in the participants' free responses.

Key-words*:* linguistic bias, linguistic categories, implicit causality, gender stereotypes

Starting with the '60s the direct measures of social attitudes and stereotypes began to be criticized due to their susceptibility of eliciting artificial responses generated by individuals' desire of keeping a favorable impression, by their fear of negative evaluation or by the particularities of formulating the research questions (Greenwald et al., 2002). In order to avoid this "willing and able" problem (von Hippel et al., 1997), social psychologists began to develop new indirect, nonintrusive and nonreactive techniques for measuring prejudice and stereotypical beliefs (for a review, also see Cernat, 2005; Boza, 2010).

One such implicit measure is also found at a linguistic level, by analyzing the structural properties of the predicates that individuals use in describing social events or social targets. Research on the linguistic bias revealed the presence of two partially superposed biases: the linguistic intergroup bias (LIB; Maass et al., 1989, 1995, 1996; von Hippel et al., 1997) and the linguistic expectancy bias (LEB; Maass et al., 1995; Wigboldus et al., 2000, 2005). The first bias reflects the tendency to favor one's group by describing both the in-group positive behaviors and the negative out-group behaviors in more abstract terms than the in-group

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[2] ana.tepordei@uaic.ro

negative behaviors and the out-group positive behaviors. The second bias reveals a greater general tendency to use more abstract predicates when describing stereotype-congruent behaviors and more concrete predicates for describing the stereotype-incongruent ones. In this way the linguistic bias may facilitate both the transmission and the maintenance of the stereotypical beliefs and negative social attitudes towards certain social targets.

On one side, the linguistic abstraction may reflect the speakers' implicit beliefs and attitudes; on the other side, it is mediated by communication goals, even if it is highly unlikely that speakers are aware of their biased language use (e.g. Maass et al., 1996; Gil de Montes et al., 2003; Semin et al., 2003). As social actors we are highly skilled in monitoring our verbal communication especially in public contexts; we are very good at controlling the propositional and semantic characteristics of a verbal message, but we usually fail to control its structural properties (Semin, 2004). Previous studies have shown that LIB may be an implicit indicator of prejudice as individuals aren't aware of the different implications of the abstraction level of their language (von Hippel et al., 1997; Franco & Maass, 1999). Even if we don't want to intentionally communicate our attitudes, the lexical choices we make can betray us (Maass et al., 1998; Douglas & Sutton, 2006).

At the core of all studies investigating both the LIB and the LEB effects lies Semin & Fiedler's (1988) Linguistic Categories Model (LCM) used as the basic instrument for the lexical analysis of the respondents' verbal descriptions of a certain social target or event. Exploring and refining the previous research on the implicit causality of interpersonal verbs (Garvey & Caramazza, 1974; Brown & Fish, 1983; cf. Kasof & Lee, 1993), Semin & Fiedler (1988) proposed a continuum distinguishing four different linguistic categories that could be used in describing others' behaviors. According to this model, the same act could be encoded at four different levels of abstraction, each category having specific structural and inferential properties. We may use a *descriptive action verb* (DAV; e.g., A hits B) which is the most concrete category, referring to an objective description of an observable behavior with a clear beginning and end; or we may use an *interpretative action verb* (IAV; e.g., A hurts B) that describes a more general class of behaviors, implies a primary evaluation and has a positive or negative connotation. Moving further on the continuum, we may use a *state verb* (SV; e.g., A hates B) referring to an enduring state without a clear beginning or end; or we may use an *adjective* (ADJ; e.g., A is violent) which is the most abstract category, describing a personal disposition or trait.

The abstraction level of the linguistic codification has major implications. Extensive initial studies (Semin & Fiedler, 1988; Semin & Marsman, 1994) showed that, in general, abstract predicates as opposed to concrete ones are perceived to reveal more about the person and less about the situation, that they imply greater stability over time and are less verifiable. But there are also some

exceptions from this general rule, so the proposed continuum is not a perfect linear crescendo on all these criteria. The "deviating" category is the SVs: although they are more abstract than IAVs, they reveal less about the grammatical subject and imply weaker inferences in terms of agency and dispositional attributions than IAVs. As Brown & Fish (1983; cf. Semin & Fiedler, 1988) argued, in a sentence containing a state verb, the direction of implicit causality is towards the grammatical object (*the stimulus*) and not towards the subject (*the experiencer*).

Therefore we must keep in mind that the abstraction level is not the only differentiating characteristic of these four linguistic categories and that each of them has specific inferential properties that can influence the implicit message in our response.

Starting from this last idea, the goal of the present study was to overcome what we consider to be an important methodological shortcoming of the previous research. All the studies investigating the linguistic bias used the LCM following the general rule of the mean linguistic abstraction level and its implications, ignoring or overlooking the specific different inferential properties of each type of predicates. But in the research area of social attitudes and stereotypes the causal inferences are very important, therefore we must go beyond the mere level of abstraction and analyze in detail the linguistic categories most frequently used when describing different types of behavior of different types of social targets. Let us consider the following example: according to the linguistic intergroup bias (Maass et al., 1989), individuals tend to favor their own group by describing the in-group positive actions in more abstract terms (e.g., SVs) and the negative actions in more concrete terms (e.g., IAVs). Statistically, the mean level of abstraction is higher for positive actions than for the negative ones. But if we further analyze the most frequently used categories and their specific inferential properties, we might draw a different conclusion. By using more IAVs we imply responsibility and agency for the negative behaviors and by using more SVs we imply exoneration and contextualization of the positive behaviors, therefore generating a less positive image of our group.

In a similar vein, the lack of a statistical difference between the mean levels of abstraction is not the equivalent of a lack of inferential difference. A statement like "A hates B" (SV=3) is not inferentially congruent with a statement like "A is violent and hurts B" (ADJ=4, IAV=2, mean=3). But without analyzing the frequencies of each linguistic category used in describing different types of behaviors we lose these inferential nuances and we might draw some wrong conclusions.

Objective

The main objective of this small study was to go beyond the classical analysis of the linguistic abstraction as the measure of the linguistic bias, by taking a closer look at the implicit inferences elicited by the linguistic categories most frequently used in respondents' verbal descriptions. We hypothesized that these two different ways of operationalizing and analyzing the linguistic variations might influence the interpretations and conclusions drawn from the participants' verbal responses.

Method

Participants. Initially, sixty-four female students voluntarily participated in our study, receiving one bonus point for their final grade for the seminar activity. But the responses of 27 were unclassifiable and therefore removed from the analysis.

In-group vs. out-group category. We used the gender categories and their associated stereotypic characteristics in the present study. Since all our participants were female students, we simply manipulated the gender of the social targets whose actions were to be evaluated. Our choice was based on two main arguments: 1. gender categories are natural and highly salient, categorization on this dimension being spontaneous and likely to automatically activate the associated stereotypes (Skowronski et al., 1993; cf. Cernat, 2005); 2. The stereotypes held by the two genders contain both positive and negative characteristics. In relation with the investigation of the linguistic bias, we might see which factors are more important: the valence and category membership (as in LIB) or the congruency with stereotypical expectancies (as in LEB).

Procedure. The students participated at the study in small groups during one hour of the seminar activity. They were presented with eight cartoons, each depicting a male / female protagonist engaging in one positive / negative, stereotypic-congruent / stereotypic-incongruent behavior. Participants were asked to look at each cartoon and briefly describe it in their own words. To ensure that they would refer to the protagonist, a sentence completion task was used starting with the protagonist as the subject. Thus, the design was a 2 (female vs. male protagonist) x 2 (stereotype-congruent vs. stereotype-incongruent behavior) x 2 (positive vs. negative behavior) repeated measures factorial design.

Pilot testing of the stimulus materials. In order to select the typically male and female final characteristics to be illustrated, we started from the list proposed by the Bem Sex Roles Inventory (BSRI; Bem, 1974). 131 students participating at this phase were randomly assigned into two groups. All of them received the same two lists, one with the 19 masculine traits and one with the 19 feminine traits (varying the order of presentation and the order of the traits in the lists). The first group had to evaluate how specific it was for the majority of men each of the masculine traits and how specific it was for the majority of women each of the feminine traits. The second group had the reverse task: to evaluate how specific it was for the majority of men each of the feminine traits and vice versa. The evaluations were made using

a 4-point scale, from *not at all specific* to *very specific.* We considered an attribute to be stereotypical for a gender category if the mean evaluation was higher than 3 in the first group and lower than 2 in the second group.

In order to select the attributes according to their valence, 71 other students received a list with all the characteristics proposed by BSRI (varying the order of presentations) and were asked to evaluate how desirable each of these traits was, using a 4-point scale. We considered an attribute to be positive if the mean evaluation was higher than 3 and negative if the mean evaluation was lower than 2.

Corroborating these criteria, a group of experts chose the final attributes and operationalized them in concrete behaviors to be graphically illustrated. The eight final cartoons were again pretested. 64 other students were asked and presented with these images; for each cartoon they had to write down the characteristic depicted, to evaluate its valence using the same 4-point scale and to evaluate how frequently women and men, respectively, display it, using the same 4-point scale. The statistical analyses showed that the evaluations based on the images were convergent with the previous evaluations of the traits (see Table 1).

Table 1. Means (standard deviations) of the frequency of the attribute for men and women. Means of attribute valence
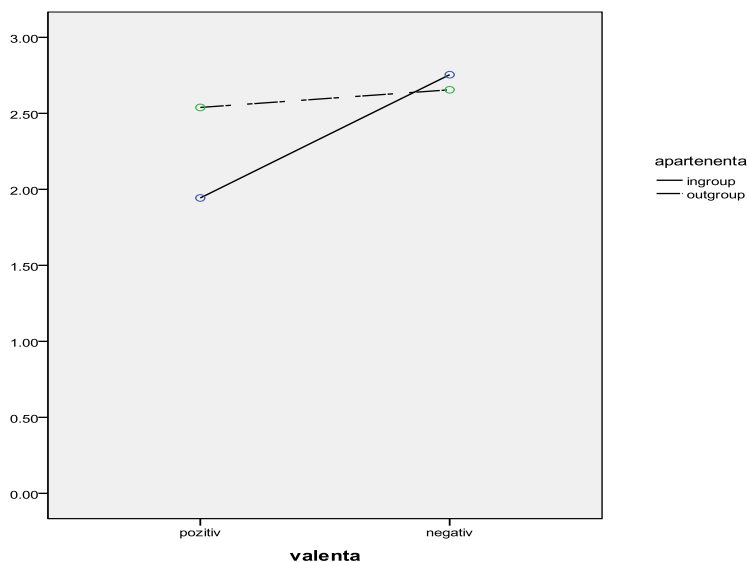
Attribute	$M_{frecv\ b}$	$M_{frecv\ f}$	t (df)	$M_{valence}$
Independent	3.01 (0.71)	2.59 (0.68)	t(53)=3.31[**]	3.12
Dominant	3.34 (0.59)	2.57 (0.64)	t(62)=8.23[**]	1.66
Gentle	2.40 (0.55)	3.20 (0.54)	t(59)= -7.76[**]	3.46
Shy	2.49 (0.61)	2.90 (0.66)	t(62)= -4.11[**]	1.95
Affectionate	2.09 (0.58)	3.29 (0.60)	t(63)= -12.33[**]	3.35
Submissive	1.91 (0.59)	3.08 (0.63)	t(44)= -9.80[**]	1.82
Assertive	3.08 (0.60)	2.82 (0.62)	t(49)=2.22[*]	3.18
Aggressive	3.11 (0.70)	2.64 (0.67)	t(61)=3.93[**]	1.38

Scoring. As mentioned, the linguistic variations of the participants' free responses were measured in two different ways: through the level of abstraction and through the frequencies of each linguistic category. Responses were encoded and scored by two independent raters (kappa=0.816) according to LCM scoring criteria: DAVs=1, IAVs=2, SVs=3, ADJs=4. Sentences with more than one predicate referring to the protagonist received the correspondent scores for each predicate then averaged to an overall score. There were some adjectival forms that were encoded as SVs, as they were implying an emotional state than a personal disposition or trait (e.g., upset). For the second measure, the raters encoded the predicates and simply counted the number of times a certain category was used in a description. In line with the inferential properties of the linguistic categories DAVs and IAVs in passive voice were not scored and were removed from future analyses (the same problem was also reported by Schmid, 1999).

Results

Level of linguistic abstraction.

An initial 2 (female vs. male protagonist) x 2 (stereotype-congruent vs. stereotype-incongruent behavior) x 2 (positive vs. negative behavior) analysis of variance (ANOVA) with repeated measures was conducted. Results showed a significant main effect of *valence* on the abstraction level ($F(1,36) = 22.45$ $p<0.01$), the negative behaviors being described at higher levels of abstraction than the positive ones. *Category membership* also had a significant main effect on the abstraction level ($F(1,36) = 5.50$, $p <0.05$), but there was also a significant interaction effect between the two variables ($F(1,36) = 12.41$, $p <0.01$) as seen in the graph below. *Stereotype congruency* has neither a significant main effect on the abstraction level nor a significant interaction effect with the other variables.

Graph 1: Interaction effect between *Valence* and *Category membership* on the abstraction level

Paired-sample t-tests were used to further analyze the interaction effect. Comparing the mean abstraction levels of the descriptions of the eight behaviors (see Table 2), results showed the following significant differences: only for the female protagonist (in-group member) negative behaviors were described at a significantly higher level of abstraction than the positive ones, regardless of their stereotype-congruency (stereotype-congruent: $t(36)= 3.10$, $p<0.01$; stereotype-incongruent: $t(36)= 5.18$, $p<0.01$). Levels of abstraction of the descriptions of male

protagonists' behaviors are not significantly different, either in terms of valence or stereotype-congruency.

Comparative analyses revealed only one more significant difference: feminine stereotype-congruent positive behaviors were described in more concrete terms than the masculine analogue ones (t(36)= -3.51, p<0.01).

Table 2. Means (standard deviations) of *abstraction levels* in relation with *category membership*, *valence* and *stereotype congruency*.

	Stereotype-congruent		Stereotype-incongruent	
	Positive	**Negative**	**Positive**	**Negative**
In-group	2.09 (0.70)	2.57 (0.88)	1.79 (0.95)	2.93 (0.95)
Out-group	2.69 (1.004)	2.83 (1.12)	2.37 (0.89)	2.47 (1.03)

These results do not support the hypothesized presence of the linguistic expectancy bias (LEB), but they do not validate the presence of the linguistic intergroup bias either. Moreover, this pattern of variations of the abstraction level seems to reveal what we could call an "anti-LIB" effect, the in-group positive behaviors being described in significantly more concrete terms than the negative ones and also more concrete than the positive out-group behaviors. It seems that the in-group negative actions weigh significantly more than the positive ones, whereas the out-group actions are undifferentiated, their descriptions having similar levels of abstraction regardless of valence or typicality.

Frequencies of every linguistic category use

As mentioned before, our main purpose was to see if this complementary analysis would bring out additional or different information as compared with the results of the previous classical analysis. Statistical analyses were conducted in two directions: a. "horizontally" or within categories – analysis of the influence that the three independent variables might have on the frequency of every category use; b. "vertically" or between categories – analysis of the different use of all four categories in relation with the description of the same behavior. Results and their interpretation were contrasted with those obtained by analyzing the level of abstraction.

a. Four 2 (category membership: in-group vs. out-group) x 2 (valence: positive vs. negative) x 2 (stereotype-congruency: stereotype-congruent vs. stereotype-incongruent) factorial ANOVAs with repeated measures were conducted in order to verify the influence of the three independent variables on the frequencies of every category use: DAVs, IAVs, SVs and ADJs, respectively. Results showed a significant interaction effect of the three factors on the frequencies of each linguistic category use: DAVs ($F(1,36) = 9.48$, $p < 0.01$), IAVs ($F(1,36) = 15.48$, $p < 0.01$), SVs ($F(1,36) = 5.67$, $p < 0.05$) and ADJs, respectively ($F(1,36) = 4.51$, $p < 0.05$).

To further analyze these interaction effects, paired sample t-tests were used to compare the mean frequencies of each linguistic category (see Table 3) in the verbal descriptions of the eight different behaviors. We took into consideration only those differences with a significance level equal or lower than .01.

Table 3. Means (standard deviations) of the *frequencies of every linguistic category used* in relation with *group membership, valence* and *stereotype-congruency.*

Behavior	DAVs	IAVs	SVs	ADJs
Feminine positive stereotype-congruent	0.18 (0.39)	0.54 (0.55)	0.16 (0.37)	0.10 (0.45)
Feminine positive stereotype-incongruent	0.54 (0.60)	0.10 (0.31)	0.21 (0.41)	0.10 (0.39)
Feminine negative stereotype-congruent	0.29 (0.46)	0.08 (0.27)	0.54 (0.60)	0.13 (0.34)
Feminine negative stereotype-incongruent	0.08 (0.27)	0.32 (0.52)	0.27 (0.50)	0.40 (0.55)
Masculine positive stereotype-congruent	0.24 (0.43)	0.24 (0.49)	0.24 (0.43)	0.45 (0.73)
Masculine positive stereotype-incongruent	0.21 (0.41)	0.32 (0.47)	0.24 (0.43)	0.13 (0.34)
Masculine negative stereotype-congruent	0.27 (0.56)	0.18 (0.39)	0.27 (0.50)	0.59 (0.68)
Masculine negative stereotype-incongruent	0.45 (0.69)	0.08 (0.27)	0.56 (0.64)	0.18 (0.39)

Results showed that *descriptive actions verbs* (DAVs) were significantly more frequently used when describing in-group positive stereotype-incongruent behaviors as compared with the descriptions of in-group negative stereotype-incongruent behaviors ($t(36)= 4.61$, $p<0.01$), of in-group positive stereotype-congruent behaviors ($t(36)= 2.98$, $p<0.01$) and of out-group positive stereotype-incongruent behaviors, respectively ($t(36)= 3.15$, $p<0.01$). DAVs were also more frequently used in describing masculine negative stereotype-incongruent actions than in the descriptions of the feminine negative stereotype-incongruent ones ($t(36)= 3.19$, $p<0.01$).

The frequencies of the *interpretative action verbs* (IAVs) were significantly higher in depicting the feminine positive stereotype-congruent behavior than in the verbal descriptions of the feminine positive stereotype-incongruent behavior ($t(36)= 4.06$, $p<0.01$) and of the feminine negative stereotypic behavior ($t(36)= 5.01$, $p<0.01$). There was also a significant difference related to the masculine stereotype-incongruent actions, IAVs being more frequently used when describing the positive behavior than the negative one ($t(36)= 2.70$, $p=0.010$).

As for the frequencies of *state verbs* (SVs) use, results showed a single significant difference: these were significantly higher in the descriptions of the in-group negative stereotype-congruent behavior in comparison with the descriptions of the out-group negative stereotypic action (t(36)= 3.60, p<0.01).

The most statistical differences were related to the frequencies of *adjective* (ADJs) use. Thus, ADJs were more frequently used in depicting the out-group stereotype-congruent behaviors than in the descriptions of the in-group stereotypic ones, regardless of their valence (positive: t(36)= 3.97, p<0.01; negative: t(36)= 4.30, p<0.01). With regard to the out-group actions, the frequencies of ADJs were significantly higher in the descriptions of the stereotypical behaviors than in those of the stereotype-incongruent behaviors, regardless of their valence (positive: t(36)= 2.94, p<0.01; negative: t(36)= 3.83, p<0.01). As for the in-group actions, ADJs were significantly more frequently used only for describing the negative stereotype-incongruent action when compared with the negative stereotypic one (t(36)= 3.23, p<0.01).

b. For completing the analysis, we checked the differences between the frequencies of the four categories related to the descriptions of each type of behavior. Means and standard deviations are the same ones presented in Table 3. Similarly, paired-sample t-tests were used, only those differences with a significance level equal or lower than .01 being taken into consideration.

For the descriptions of the out-group behaviors, significant differences were related only with the negative stereotype-incongruent action where DAVs were more frequently used than IAVs (t(36)= 3.03, p<0.01), and SVs appeared more frequently than IAVs (t(36)= 3.85, p<0.01) and ADJs, respectively (t(36)= 2.77, p<0.01). When depicting the other types of out-group behaviors, the four categories were more homogeneously used, with no statistically significant differences.

Linguistic variations within the descriptions of the in-group actions were more nuanced. Thus, when depicting the negative stereotype-congruent behavior, SVs are significantly predominant when compared to IAVs (t(36)= 3.82, p<0.01) and ADJs (t(36)= 3.23, p<0.01), while IAVs are most frequently used when describing the positive stereotype-congruent behavior in comparison with SVs (t(36)= 2.89, p<0.01) and ADJs (t(36)= 3.61, p<0.01). As for the in-group stereotype-incongruent behaviors, significant differences appeared only in relation with the descriptions of the positive one where DAVs were more frequently used than IAVs (t(36)= 3.43, p<0.01) and ADJs (t(36)= 3.43, p<0.01).

Results of this second type of analyses reveal a different pattern of linguistic variations than the one drawn from the analysis of abstraction levels. Beyond the abstraction level, the inferential pattern is very similar to the one exemplified in the theoretical part of this paper. The female targets are held responsible for the typical positive actions, while their negative behavior is contextualized or depleted of

intention by the use of DAVs and SVs. For the male protagonists' actions, the inferential direction is reversed. The linguistic bias here is one favoring the participants' in-group by creating a more nuanced and positive image of the feminine protagonists and their actions, together with a more negative and stereotyped image of the masculine targets and their behaviors.

Discussion

The goal of the present study was to verify the convergence or the equivalency of the linguistic bias and its consequent interpretation based on a double analysis of the linguistic variations in the free descriptions of concrete behaviors: abstraction levels and the frequencies of each type of predicate's use. Analyzing the most frequently used linguistic categories and their inferential properties as proposed by the Linguistic Categories Models (LCM; Semin & Fiedler, 1988), our intention was to go beyond the mere means of abstraction level and see if the final interpretations are similar. The results presented so far seem to support our general hypothesis, the two data sets leading us to draw quite different conclusions regarding the linguistic bias present in our participants' free responses.

If we approach the data in the usual manner of abstraction level, the most influential factor seems to be the *valence* of protagonists' behaviors, the negative actions being in general described in more abstract terms than the positive ones. This *negativity effect* was mentioned by Semin et al. (1995), indicating that people tend to infer and generalize more from observing a negative behavior than from a positive one. One possible explanation could be in terms of the confirmation asymmetry between positive and negative traits (Rothbart & Park, 1986): for example, observing a single instance of someone lying is often enough for labeling that person a "liar", but we need more concrete "proof" in order to call him/her "honest". An alternative explanation could be the fact that engaging in a negative behavior often implies transgressing situational or social norms, increasing the probability of making internal stable attributions (Semin et al., 1995). Similar to the situations in our study, this negativity effect is more visible when the social target to be evaluated is a single individual rather than a group.

What strikes us as a somewhat paradoxical result is that the effect of *valence* is mediated by the protagonists' *category membership*, but in the opposite direction than that shown by previous research on the linguistic intergroup bias (LIB; Maass et al., 1989, 1995, 1996). The negative actions are described at a significantly higher level of abstraction than the positive ones and this difference is most visible for the in-group protagonists' actions, whereas the levels of abstraction in the descriptions of the out-group behaviors do not differ significantly. This pattern of linguistic variations on the abstraction level reveals something more like an "anti-LIB" effect where all negative in-group actions are depicted in more abstract terms, leading to greater generalization and temporal stability (if one follows the general logic of the abstraction continuum proposed by LCM).

If we analyze the participants' free descriptions from a different angle, the results convey a quite different interpretation. What seemed so far to be a paradoxical pattern of linguistic variations becomes more coherent if we look beyond the mean levels of abstraction and analyze the inferential properties of the most frequently used linguistic categories for each behavior.

Considering the out-group actions, results show the respondents' tendency to describe them in a manner consistent with the stereotypical expectancies. ADJs represent the most abstract linguistic category eliciting the most powerful inferences in terms of dispositional attribution, temporal stability and generalization. This is precisely the most frequently used category when depicting the out-group stereotypic behaviors regardless of their valence and that is why the abstraction levels of these descriptions did not differ significantly. In describing the out-group negative stereotype-incongruent action, SVs were more frequently used than IAVs or ADJs. According to the inferential properties of SVs (as detailed in the theoretical introduction), the descriptions are still at a high level of abstraction, but revealing a tendency to contextualize this action or to treat it as an exception from the rule. Statistical data also showed less frequency variations among the four categories use in the descriptions of the out-group actions, which may be interpreted as a more heuristic cognitive processing, more anchored in the stereotypical expectancies.

As for the descriptions of the in-group actions, this second type of analysis reveals a different inferential pattern. First, the results showed that ADJs are not a significant presence in the descriptions of the in-group actions, which may indicate a more concrete, yet more subtle way of communicating information about one's group. Analyzing the frequencies of each category use we have a first confirmation of the intuitive reasoning exemplified in the theoretical introduction: strategic use of IAVs and SVs may be a more subtle and less ostensible manner of creating a favorable image for the in-group. Statistical data showed that SVs were the most frequently used for depicting the in-group negative stereotypical behavior in comparison with all the other actions. These predicates are indeed at a higher abstraction level, but they also imply the tendency to absolve the protagonist by holding the stimulus or the context as the main responsible for the negative action. On the other hand, IAVs were the most frequently used in the descriptions of the in-group positive stereotypic behavior (hence the significant difference of abstraction levels); these are more concrete predicates than the SVs, but have been demonstrated to imply stronger internal inferences in terms of agency and dispositional attribution (Semin & Fiedler, 1988; Semin & Marsman, 1994). In short, these variations may reflect the fact that when the protagonist is an in-group member, respondents tend to hold him/her responsible for the positive actions and contextualize the negative ones (the inferential pattern proposed by the LIB; Maass et al., 1989). When describing the in-group stereotype-incongruent behaviors, the DAVs are the most frequently used category in relation with the positive ones.

There is a tendency (though not significant) to use more IAVs than DAVs for depicting the negative actions, which may be explained by the *negativity effect* already mentioned.

As a general conclusion, the results of the present study indicate that investigating only the abstraction level of free descriptions is not always enough. Considering that each linguistic category has specific inferential properties, which do not always follow the general linear inferential rule of the abstraction continuum, a closer look at the categories behind the statistical mean of abstraction level could reveal additional or even different information leading to different interpretations of linguistic variations as a mark of the linguistic intergroup bias.

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