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Linguistic Intergroup Bias in Political Communication

LUIGI ANOLLI
VALENTINO ZURLONI
University of Milan-Bicocca

GIUSEPPE RIVA
Catholic University

ABSTRACT. The Linguistic Intergroup Bias (LIB) illustrates the disposition to communicate positive in-group and negative out-group behaviors more abstractly than negative in-group and positive out-group behaviors. The present research examined the function of language in reinforcing this bias in political communication. To illustrate the LIB, the Linguistic Category Model (LCM) was used, including a nouns category. Because social stereotypes are usually conveyed by nominal terms, the aim was to observe the relationship between stereotypes and language in political communication. Moreover, we were interested in analyzing the psychological processes that drive the LIB. Therefore, we verified whether the LIB is more related to language abstractness than to agent–patient causality. Several political debates and interviews, which took place before the latest Italian provincial elections, were analyzed. Results suggested that the language politicians use in communicating about political groups are conceptualized as stereotypes rather than as trait-based categories. Moreover, it seems that the LIB could not be explained only at a lexical level. Social implications of the present findings in interpersonal relations and causal attribution were discussed.

Key words: causal attribution; discourse analysis; linguistic intergroup bias; persuasion; political communication

SOCIAL PSYCHOLOGISTS HAVE RECENTLY INVESTIGATED a wide range of processes by which in-group members are evaluated in a favorable light in comparison to members of the out-group (Brewer, 1979; Tajfel, 1970). Many scholars have observed this *in-group bias* (or favoritism) in a variety of forms: trait ratings (Doise & Sinclair, 1973), overestimation of task performance (Sherif, 1967), positive associations attached to in-group labels (Perdue, Dovidio, Gurt-

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Address correspondence to Luigi Anolli, Faculty of Science Education, University of Milan-Bicocca, piazza dell'Ateneo Nuovo 1, U6 4th Floor, 20126 Milan, Italy; luigi.anolli@unimib.it (e-mail.)

man, & Tyler, 1990), allocation of resources (Brewer & Kramer, 1986; Tajfel, 1982; Turner, 1978) and group-serving attributions (Pettigrew, 1979).

The Linguistic Intergroup Bias Model

In particular, Maass, Salvi, Arcuri, and Semin (1989) and Maass and Arcuri (1992) have highlighted that the distinguishing disposition of in-group and out-group members could be carried out by subtle linguistic variations that favor in-group members. According to the *linguistic intergroup bias* (LIB) model, biased language use may be a subtle way of conveying positive in-group and negative out-group evaluation (Maass & Arcuri; Maass et al., 1989). In particular, such a model asserts that positive behaviors will be described in more abstract language terms when those behaviors are performed by an in-group member than when they are performed by an out-group member. The opposite holds for negative episodes, which will be described more thorough terms when they are performed by an in-group member than when they are performed by an out-group member. For instance, an in-group member offering help to a needy person may be described as "helpful" or "altruistic," whereas an out-group member engaging in exactly the same behavior may be described as "helping." In the case of negative behaviors, the in-group member may be described as "hurting somebody," whereas the out-group member may be described as "aggressive."

The LIB has since been confirmed in a wide range of competitive intergroup settings, including competing schools, sport teams, nations (Arcuri, Maass & Portelli, 1993; Maass et al., 1989; Schmid, 1999; Werkman, Wigboldus, & Semin, 1999), gender (Fiedler, Semin, & Finkenauer, 1993), and political and interest groups (Semin & Rubini, 1994; for an overview, see Maass & Arcuri, 1992). Biased language use consistent with the LIB model has also emerged from content analysis of several mass media reports (Maass, Corvino, & Arcuri, 1994). Converging evidence for the LIB in a wide range of social groups has been obtained both in controlled experiments and in analyses of naturally occurring language production (Fiedler, Semin, & Koppetsch, 1991; Franco & Maass 1996), suggesting that such a bias may be a powerful and pervasive phenomenon.

The central focus of these studies has been uncovering the psychological processes that drive such linguistic biases. In particular, researchers have shown that distinctive motivational and cognitive processes are responsible for the observed linguistic differences in how people talk about friends and foes.

The Linguistic Category Model

The continuum from abstract to concrete terms, on which the LIB took place, stemmed from Semin and Fiedler's (1988, 1991, 1992) *linguistic category model* (LCM). As Semin (2004) sketched out, the LCM is not a psychological model but a model of interpersonal language that has been designed to analyze

communicative acts. However, the model should be useful when used in a communication context that analytically distinguishes among speakers, messages, and addressees, and between psychological processes of message production and comprehension. Conceptualizing these processes in terms of interdependent communicative agents introduces analytic assumptions that can lead to innovative psychological theories that are socially informed.

According to the LCM, speakers can describe or represent the actions of self or others along four categories of verbs or adjectives that vary in terms of their concreteness, situational orientation, objectivity, and evaluative nature. A description of the basic features of each word class including examples follows:

1. *Descriptive Action Verbs* (DAVs). These verbs describe a single observable action with a clear beginning and end. They are characterized by at least one physically invariant feature. Their peculiarity is concreteness. Very often DAV-sentences include adverbial references to the situational context (e.g., time, place, social situation). Because they describe very closely actual behavioral occurrences, their objectivity is high and there is small leeway for interpretation. Example: John *hits* Paul.
2. *Interpretive Action Verbs* (IAVs). IAVs refer to clusters of behavioral episodes. Usually, it takes an interpretative act to categorize an observed behavior under the heading of a more general behavior or, rather, of a type of behavior. Different than DAVs, IAVs usually include evaluative accent. In common with the descriptive action verbs, though, their meaning is connected with the context. Example: John *hurts* Paul.
3. *State Verbs* (SVs). These verbs describe a subjective state or the change of a subjective state (emotional, motivational or cognitive one) and the underlying behavior is therefore not directly noticeable. They are detached from the single actions and make reference to enduring states rather than to discrete behavioral episodes. Example: John *hates* Paul.
4. *Adjectives* (ADJs). Adjectives are the highest level of abstractness, in that they not only abstract from specific actions and situations but also from the sentence object. Example: John is *aggressive*.

The LCM looks at adjectives as the category at the highest level of abstractness. Nevertheless, when thinking and communicating about groups our thought and speech often pertain to categories rather than to features of categories. Rather than interpreting John's behavior as implying that he is aggressive, the perceiver might simply conclude that "John is a fascist," which would carry with it a whole new set of meanings.

Language and Stereotypes

The research on the LIB has mainly focused on the interplay between intrapersonal processes (cognitive and motivational) and the linguistic structure of

messages in the context of stereotype maintenance and "transmission."

As Hamilton, Gibbons, Stroessner, and Sherman (1992) pointed out, social stereotypes are widely shared assumptions about certain types of people that are represented cognitively as extensive, well-organized schemata. However, Andersen and Klatzky (1987) have proposed that social stereotypes are rather well-articulated conceptions, consisting of many diverse attributes, suggesting that stereotypes are likely to permit extensive inferences about categorized persons.

On this basis, Andersen, Klatzky and Murray (1990) defined a stereotype as "a social category labeled by a nominal term [...] that functions to summarize a wide array of features of categorized persons." Therefore, important linguistic effects of stereotyping may be captured in nouns rather than in verbs or adjectives (Hamilton, Gibbons, Stroessner, & Sherman, 1992). Assigning a person to a noun category invokes an abstract concept that immediately and simultaneously conveys an entire organized cluster of descriptive features, and activates a strong affective component as well. The concepts we use in thinking about types of people are stereotypes (e.g., *fascist, nerd, housewife*) rather than trait-based categories (e.g., *aggressive, funny, feminine*) (Anderson & Klatzky, 1987; Anderson et al.; Klatzky & Anderson, 1988). These two kinds of categories are different in that stereotypes are identified by nouns, whereas trait-based categories are identified by adjectives. The studies of Andersen and colleagues (Murray was also involved) have shown that, compared to adjectives, these noun categories are richer, more imaginative, more distinctive, and function more efficiently in information processing tasks. Describing a person with a noun category in communication thus conveys a rich characterization. However, it is clear that even nominally labeled social categories vary in their power to convey personal attributes. For example, the occupational label *physician* presumably conveys more descriptive weight than *fascist*. Therefore, the term *stereotype* should be reserved for labels conveying particular consensual weight and meaning.

Implicit Verb Causality

Furthermore, differential employment of action verbs versus state verbs corresponds to a second attributional dimension, causality (Fiedler & Semin, 1988). Therefore, the tendency to provide attributions to manage the social and physical world is reflected in a pervasive tendency toward abstract levels of language use, at least in description of other people's behavior (Semin & Fiedler, 1992).

The use of certain linguistic categories is associated with attributional knowledge by the well-known phenomenon of implicit verb causality (Abelson & Kanouse, 1966; Brown & Fish, 1983; Fiedler & Semin, 1988; Garvey & Caramazza, 1974; Hoffman & Tchir, 1990). According to this paradigm, certain verbs suggest that the cause of the behavior described by the verb itself lies in

the sentence subject (e.g., *help, cheat invite*), whereas other verbs convey the feeling that the sentence object holds the causal information (e.g., *like, hate, respect*).

The *psychological causality implicit in language* model (Brown & Fish, 1983) lead to the idea of a discourse grammar, linking interpersonal actions and antecedent as well as subsequent emotions (Au, 1986). In particular, it highlights the different cognitive schemata activated by action verbs and state verbs. As Brown and Fish sketched out with their attributional model, these schemata bring the causal information. Brown and Fish differentiated between interpersonal verbs by examining the semantic function (cf. Chafe, 1970; Fillmore, 1968, 1971) associated with noun predicates (subject and object) in sentences constructed with these verbs. Thus, essential semantic functions are fulfilled by an *agent* and a *patient* for a specific group of verbs, namely, verbs of action. The former refers to the role taken by someone who causes or instigates an action and the latter to someone undergoing a change. In the case of state verbs, essential semantic functions are fulfilled by a *stimulus* and an *experiencer*. The former is the start of a given experience and the latter is someone having a specific experience. Brown and Fish suggest that implicit causality is located in the agent of *subject-verb-object* (SVO) sentences constructed with action verbs, and in the stimulus of sentences with state verbs.

Thus, the sentence "John hurts Paul" is readily generalized to other patients (objects), so that the agent (subject) is prominent, and, therefore, people point to John as the cause. Conversely, sentences with a state verb are more readily generalized across subjects, or experiencers, rather than across objects or stimuli. From the sentence "John hates Paul," people are likely to infer that others hate Paul, because he appears to be unlikable. As a consequence, Paul is prominent and identified as the dispositional cause. To sum up, such a model predicts that the causality is likely to be located in the subject with action verbs (John in "John hurts Paul") and in the object with state verbs (Paul in "John hates Paul").

As Rudolph and Försterling (1997) observed, the LCM refers to semantic criteria similar to implicit causality in differentiating action verbs and state verbs. However, Rudolph and Försterling emphasized only LCM's contributions to implicit causality. In particular, many scholars have highlighted that the taxonomy proposed by the LCM is rather different from the continuum of situational-to-personal causation implied by the attributional perspective (Arcuri et al., 1993; Maass et al., 1989; Schmid, 1999; Semin & Fiedler, 1991; Semin & Marsman, 1994). Moving from DAVs to ADJs, there is no linear increase in implicit personal causation, and low levels of abstraction do not necessarily imply situational causation. DAVs generally do not refer to the concept of causation but simply provide a noncausal description of behavioral information (Semin & Fiedler, 1991).

Differences between the LCM and the attributional model could be hypoth-

esized when considering the two intermediate levels of abstraction. Moving from IAVs to SVs, the latter produce an increase in abstraction level and, at the same time, a decline in personal causation (Au, 1986; Voster, 1985). Since the pioneering researches on implicit causality (Brown & Fish, 1983; Garvey & Caramazza, 1974), several studies involving different natural languages (e.g., Chinese, Italian, Afrikaans, and English) have investigated the implicit causality of verbs embedded in SVO sentences (e.g., Brown & Fish; Garvey & Caramazza, 1974; Van Kleeck, Hillger, & Brown, 1988). Such studies have generally found that the causality is regularly attributed to the subject when the verb is an IAV, but to the object when the verb is an SV. Thus, implicit causality foresees that people should use IAVs (subject attribution) more frequently, and SVs (object attribution) less frequently when describing desirable episodes of in-group members and undesirable episodes of out-group members. Conversely, the LCM predicts that people should use more frequently SVs (more abstract verbs) than IAVs (more concrete verbs) in describing positive in-group and negative out-group behaviors. Considering our example, if John hits Paul, and if John is a member of out-group and Paul is a member of in-group, from an implicit causality perspective John's behavior is likely to be described as if "John hurts Paul"; conversely, LCM predicts that John's behavior is likely to be described as if "John hates Paul."

However, as Semin (2000, 2004) has recently sketched out, a great amount of research has shown that interpersonal predicates systematically mediate inferences about *agency, salience,* and *induced emotionality,* as well as *volition* and *responsibility.* These inferences are carried by the different linguistic categories and constitute a second dimension (agency–volition dimension) that is orthogonal to the abstraction–concreteness one (Semin & Fiedler, 1991). As has been previously shown in studies in the legal field (Schmid & Fiedler, 1996, 1998) or in news-media reports (Maass et al., 1994), out-group antagonism and in-group favoritism can be antecedent as well as subsequent of abstractness and valence combined (Schmid, 1999).

Psychological Processes Conveyed in Language

Although there is now substantial evidence to support the LIB and the LCM, the psychological processes underlying such distinguishing language use in intergroup framework are less clear (Maass, Ceccarelli, & Rudin, 1996; Semin & Marsman, 1994). The initial interpretation of the LIB was in terms of an in-group-serving bias in line with Tajfel and Turner's (1986) perspective. However, a different interpretation was soon proposed, based on the merely informational distinction between expected and unexpected behaviours (Hamilton et al., 1992). Thus, it may be more appropriate to refer to a *linguistic expectancy bias* (LEB) rather than to an LIB (Wigboldus, Semin, & Spears, 2000; Wigboldus, Spears, & Semin, 1999). In particular, Fiedler, Bluemke, Friese, and Hofmann (2003) have pointed out that, when the interaction goal is to convey unshared information, it may be worthy to

express controversial ideas or deviant attitudes in abstract, interpretive terms.

Semin, de Montes, and Valencia (2003) have recently argued that a message fulfills a specific design in a communicative framework, and that the psychological processes observed in the LIB research are limited by a contingent communicative aim. According to Semin et al., the planning of a message in a communicative interaction influences whether specific psychological processes will be activated and, therefore, how a message will be formulated.

Objectives and Hypothesis

Semin and Fiedler (1991) added a nouns category to the LCM. In particular, they suggested treating nouns as adjectives. However, as Semin, Görts, Nandram, and Semin-Goossens (2002) observed: in English a participant could list "love, hate, joke" in reference to either a verb or a noun. As such, the analysis of grammatical category could be somewhat difficult. For this reason, it is hard to apply the extended version of the LCM to English language. In contrast, the grammatical category analysis is much more self-evident in Italian than in English.

The central focus of our research is been twofold. First, we were interested in observing the relationship between stereotypes and language in the context of political communication. In the present study, we proposed and test the validity of a new version of the LCM, extended to a NOUNS category on Italian language. Following Hamilton et al. (1992), we describe a framework for thinking about the relationship between language and interpersonal behaviors. The framework consists of three major linguistic categories –verbs, adjectives, and nouns– each of which is different from the others in terms of concreteness or abstractness (e.g., there is a decreasing of concreteness and, conversely, an increasing in abstractness from verbs to nouns). Moreover, adopting the Semin and Fiedler (1988) differentiation, verbs were categorized in three types. Using the previous example, an action might be described as "John hits Paul" (DAV), "John hurts Paul" (IAV), or "John hates Paul" (SV)– three alternative construals that convey different meanings of the action.

Second, we analyzed the psychological processes that drive the LIB. Thereby, we investigated the differences between the LCM and the attributional model, and shed light on possible interpretations of in-group bias phenomenon and its linguistic expression. In particular, we sought to verify whether the LIB is more related to language abstractness level (abstraction–concreteness dimension) than to agent–patient causality (agency–volition dimension) in political communication.

According to the LCM, politicians should use SVs (more abstract verbs) more frequently than IAVs (more concrete verbs) when describing desirable episodes of in-group members and undesirable episodes of out-group members. Conversely, if implicit causality settles on different linguistic choices, politicians should use IAVs (subject attribution) more frequently, and SVs (object attribution) less frequently in describing positive in-group and negative out-group behaviors.

Method

Procedure

Television stations recorded the political debates and interviews during electoral campaigns of the Italian administrative election on May 12 and 13, 2004. We conducted the study using discourse analysis approach. The term "discourse analysis" is herein interpreted as referring to detailed analysis of language-in-use.

We collected a corpus of political discourse excerpts (30 hrs of audio-visual material) that we considered relevant to the current research issues, following the guidelines proposed by Biber, Conrad, and Reppen (1998). In a preliminary stage of analysis, such corpus was observed by three political communication experts to select discourse samples in which participants directly referred to political groups (in-group or out-group). A sample of in-group discourse is the following quotation: Berlusconi (head of the right-wing coalition) said: "Previti [a member of his coalition] *asked* the Rome judge for a suggestion." Referring to the same event, a sample of out-group discourse followed: Rutelli (head of the left-wing coalition) said: "When Previti intended to *bribe* the Rome judge, he invited him in[to] his office."

We included samples that were selected by at least two experts (total sample size = 8 hs, 12 ms, 00 s). These samples referred to speeches of 26 politicians who took part in the political debates. They were equally distributed between the two major political coalitions (right-wing coalition politicians = 13; left-wing coalition politicians = 13). Among them, 26 referred to the in-group in their discourse, and 20 referred to the out-group, while 18 referred to both in-groups and out-groups. Samples were then divided (in-group = 4 hs, 25 ms, 20 ss; out-group = 3 hs, 46 ms, 40 ss) and recorded verbatim.

To analyze the collected samples, we first created a grid including the 5 LCM's categories (1 = DAVs; 2 = IAVs; 3 = SVs; 4 = ADJs; 5 = NOUNs), 2 reference groups (in-group; out-group), and 2 values (positive; negative). We then applied these categories to our protocols (political debates and interviews), a procedure conducted by two human coders. We then calculated category interrater reliability on 100% of written samples. Reliability consisted of verifying how the different categories were applied to the text. Agreement of the application of LCM's categories was 92%; agreement of assigning reference groups was 97%; agreement of attribution of value was 98%. When disagreements were found, we discussed the perspectives until we reached an agreement. We also calculated intrarater reliability on 20% of the samples. The overall agreement in attributing the categories was 98%.

To achieve more comprehensive and more complex code-and-retrieve tasks, we used a Computer Assisted Qualitative Data Analysis Software (CAQDAS). The objective of this computer-based approach was manifold. It facilitated the

attachment of selected codes to the strips of data, it allowed retrieval of all occurrences in the data that shared a code, and it processed and organized multiple and overlapping codes. As such, it conducted multiple searches using more than one codeword simultaneously (Coffey, Holbrook & Atkinson, 1996).

For the nature of the present material and variables, we used an ATLAS.ti software package (for a detailed description, see Barry, 1998; see also ATLAS.ti's internet homepage: http://www.atlasti.de). ATLAS.ti's output was exposed in terms of quotations. In the present study, each quotation corresponds to a term (code) categorized in one of the five LCM categories, in one of the two reference groups, and in one of the two values above mentioned. This output (N = 697 categorized terms) was then, subjected to log-linear model analysis.

Results

We applied log-linear models for data analysis. The purpose of log-linear analysis is to allow the analysis of chi-square-type data using regression-like models. As in chi-square analysis, log-linear models deal with frequency tables in which several categorical variables categorize the data. Log-linear models are essentially multiple linear regression models in which the classification variables (and their interaction terms) are the independent (predictor) variables, and the dependent variable is the natural logarithm of the frequency of cases in a cell of the frequency tables.

Word frequencies for in-group and out-group behaviors are reported in

TABLE 1. Linguistic Category Model Frequencies for In-Group Behaviors

	In-group				
Word frequency	**dav**	**iav**	**sv**	**adj**	**noun**
Positive	**26**	**139**	**28**	**42**	**109**
Negative	**5**	**16**	**3**	**7**	**5**

TABLE 2. Linguistic Category Model Frequencies for Out-Group Behaviors

	Out-group				
Word frequency	**dav**	**iav**	**sv**	**adj**	**noun**
Positive	**6**	**6**	**2**	**5**	**5**
Negative	**23**	**121**	**6**	**30**	**113**

Tables 1 and 2. From such data, the current log-linear analysis was carried out.

First, we tested the validity of the extended version of the LCM. We verified a null hypothesis of independence between variables for the model Reference Group × Categories (1–5: descriptive action verbs, DAVs; interpretive action verbs, IAVs; state verbs, SVs; adjectives, ADJs; nouns, NOUNs) × Value, described by a 2 × 5 × 2 table (see Table 3).

One-way effects [LR is the customary symbol for likelihood ratio] ($LR = 356$, $p < .001$), two-way effects ($LR = 572.47$, $p < .001$), and also a three-way effect ($LR = 17.34$, $p < .01$) were significant. The presence of a third-order effect was confirmed by backward elimination (looking at the chi-square text, Reference Group × Categories × Value appears to be the model that fits the data best).

Then, we examined *parameter estimates* for the saturated model. If these *standardized* parameter estimates are small, then we presumed they probably do not contribute much to the model and should be considered for removal. Large z-values (greater than 1.96 or less than –1.96) imply that parameters are significant. As *post hoc* tests, the parameter estimates perform multiple comparisons to determine which levels (categories) differ. Significant estimates were the In-group × DAVs × Negative (.31, $z = 2.11$), the Out-group × DAVs × Positive (.31, $z = 2.11$), the In-group × IAVs × Positive (.24, $z = 2.04$), the Out-group × IAVs × Negative (.24, $z = 2.04$), the In-group × NOUNs × Positive (.49, $z = 2.53$), and the Out-group × NOUNs × Negative (.49, z = 2.53) parameters, while the In-group × DAVs × Positive (–.31, $z = –2.11$), the Out-group × DAVs × Negative (–.31, $z = –2.11$), the In-group × IAVs × Negative (–.24, $z = 2.04$), the Out-group × IAVs × Positive (–.24, $z = 2.04$), the In-group × NOUNs × Negative (.49, $z = 2.53$), and the Out-group × NOUNs × Positive (–.49, $z = 2.53$) parameters were negative and significant. Other parameters had a negative (In-group × SVs × Positive; Out-group × SVs × Negative; In-group × ADJs × Positive; Out-group × ADJs × Negative) or a positive (In-group × SVs × Negative; Out-group × SVs × Positive; In-group × ADJs × Negative; Out-group × ADJs ×

TABLE 3. Significant Likelihood-Ratio Chi-Square Value (L^2) Estimates for Analyzed Models

Model	n[a]	df	L^2	p
Reference Group × In Full Categories × Value (2 × 5 × 2)	**697**	**4**	**17.34**	**< .01**
Reference Group × Value (2 × 2)	**321**	**1**	**258.97**	**< .01**
Intermediate Categories × Value (2 × 2)	**321**	**1**	**9.53**	**< .01**

[a]n = number of categorized terms.

Positive) correlation, but they were not significant.

To verify whether people use more frequently state verbs (SVs, more abstract verbs) than interpretive action verbs (IAVs, more concrete verbs) in describing positive in-group and negative out-group behaviors, we focused our interest on effects related to the In-group × IAVs × Positive parameter, and the In-group × SVs × Positive parameter. Significant differences would reveal whether the LIB is linked more to language abstractness level, as predicted by the LCM, than to agent–patient causality, as predicted by Brown and Fish (1983). In the first case, parameter estimates proposed a positive correlation (.24, $z = 2.04$), while In-group × SVs × Positive parameter gave a negative correlation (–0.26, $z = –1.32$) (see Table 4).

From the analysis of Reference Group × Intermediate Categories (1 IAVs; 2 SVs) × Value model's parameter (2 × 2 × 2), *goodness-of-fit test* statistic (*LR*) indicates that the present model does not fit the data well ($p = 0.13$). One-way effects were found to be significant, ($LR = 218.29$, $p < 0.001$), as were two-way effects, ($LR = 269.2$, $p < 0.001$), but the three-way effect was not significant, ($LR = 2.3$, $p = 0.13$). However, when comparing only two middle LCM's categories (IAVs and SVs), positive correlations for In-group × IAVs × Positive (0.25, $z = 1.91$) and for Out-group × IAVs × Negative (.25, $z = 1.91$) (see Table 5) were found, but they were not significant.

Backward elimination shows that Reference Group × Value ($LR = 258.97$, $p < 0.001$), and Intermediate Categories × Value ($LR = 9.53$, $p < 0.01$) contribute significantly to the model's fit (see Table 3). Moreover, partial chi-square values indicate that there are main effects of Intermediate Categories (IAVs = .88, $z = 6.68$).

Discussion

We sought to analyze the psychological processes that drive the LIB. First, it is noticeable that participants used mainly positive labels to describe members of the in-group ($N = 344$), and negative labels to describe members of the out-group ($N = 293$). Conversely, the number of negative terms used to describe in-group ($N = 36$), and of positive terms to describe out-group ($N = 24$), was not relevant. Such results go beyond LIB's predictions. Indeed, it seems that participants do not refer to negative in-group behavior or to positive out-group behavior with concrete labels. This result is coherent with the nature of political debate, to persuade the audience rather than describe all the features of specific situations.

In particular, our results show that political candidates use highly concrete terms (descriptive action verbs, DAVs) to describe positive out-group behaviors (that is, Out-group × DAVs × Positive parameter) and negative in-group behaviors (that is, In-group × DAVs × Negative parameter), whereas they used expressive verbs (interpretive action verbs, IAVs) and highly abstract terms (NOUNs) to describe positive in-group behaviors (that is, In-group × IAVs × Positive and In-group × NOUNs × Positive parameters) and negative out-group behaviors (that

TABLE 4. Log-Linear Parameter estimates for Reference Group × Full Categories × Value (2 × 5 × 2) Model

Word frequency	In-group dav	iav	sv	adj	noun	Sum	Out-group dav	iav	sv	adj	noun	Sum
Positive	−.31[a]	.24[a]	−.26	−.16	.49[a]	0	.31[a]	−.24[a]	.26	.16	−.49[a]	0
Negative	.31[a]	−.24[a]	.26	.16	−.49[a]	0	−.31[a]	.24[a]	−.26	−.16	.49[a]	0
Sum	0	0	0	0	0	0	0	0	0	0	0	0

[a] $z > |1.96|$.

TABLE 5. Log-Linear Parameter Estimates for Reference Group × Intermediate Categories × Value (2 × 2 × 2) Model

Word	In-group			Out-group		
frequency	iav	sv	Sum	iav	sv	Sum
Positive	.25	–.25	0	–.25	.25	0
Negative	–.25	.25	0	.25	–.25	0
Sum	0	0	0	0	0	0

is, Out-group × IAVs × Negative and Out-group × NOUNs × Negative parameters). However, considering the other categories, our results do not prove the presence of a constant and progressive increase of positive terms in association with abstractness level increase for positive in-group behaviors.

Analyzing interpretive action verbs (IAVs) and state verbs (SVs) categories, we observed a positive correlation between positive IAVs and in-group (e.g., In-group × IAVs × Positive parameter), and a negative correlation between positive SVs and in-group (e.g., In-group × SVs × Positive parameter). It seems that political candidates more frequently employ IAVs than SVs to describe positive in–group behaviors and negative out-group behaviors. Our results suggest the presence of an agency–volition dimension, which fits the values of the LCM's intermediate categories, and which is orthogonal to the abstraction–concreteness dimension.

Furthermore, we proposed a new version of the LCM, extended to a NOUNs category, on Italian language. Results supported the validity of the model. In particular, to describe positive in-group behaviors and negative out-group behaviors, politicians frequently reverted to NOUNs (e.g., In-group × NOUNs × Positive and Out-group × NOUNs × Negative parameters) and to IAVs (that is, In-group × IAVs × Positive and Out-group × IAVs × Negative parameters) categories than to other categories. Focusing on the difference between ADJs and nouns occurrences, it seems that the language politicians use in discussing political groups is conceptualized as stereotype rather than as trait-based categories. Stereotypes based on a person's group membership can be particularly influential in social perception, guiding not only the processing and use of information, but also the course of one's actions based on that information. As Andersen and colleagues outlined in their studies (Anderson & Klatzky, 1987; Andersen et al., 1990; Klatzky & Andersen, 1988), it seems that noun categories are richer, more imaginable, more distinctive, and function more efficiently in information processing tasks (Hamilton et al., 1992) than do adjective categories. In fact, assigning a person to a noun category entails an abstract mental representation that immediately and simultaneously conveys an entire organized cluster of

descriptive features. Results of the present research, therefore, call for an expansion of LCM to a nouns category, at least in languages that allow a self-evident grammatical category analysis. In particular, analyses of the effects of stereotypes on language use should not be limited exclusively to the study of subjects' use of trait terms. Analyses of nouns may provide insight on the content of stereotypes and on the rules governing perceivers' use of language in their characterizations of and interactions with group members.

Limitations

Although the results of the present research lend some support to our hypothesis and general line of argument, there are limitations of the study that should be addressed in future research. First, the current data cannot be extended to all natural languages, since our linguistic analysis is bound to Italian language. As Semin and Fiedler (1988) observed, the frequency of usage of each category of the LCM should be different according to various natural languages. For instance, the authors emphasized that, in English, IAVs are more frequently used than SVs, whereas the opposite may be true in other languages.

Second, as Au (1986) observed, implicit causality in action verbs is not necessarily directed toward an agent (i.e., "John cannot *avoid* Paul" entails that Paul is unavoidable). Some of these verbs provide for cases in which the patient gives to the agent the occasion to start an event (Van Kleeck et al., 1988). Actually, action verbs used by Brown and Fish (1983) were selected only if they had subject-derived adjectives. As such, implicit causality implied by the selected action verbs was always directed toward the agent. Conversely, to gain reliability from the our results—as per studies comparing the LCM to attributional perspective (Franco & Arcuri, 1990; Hoffman & Tchir, 1990; Mannetti & De Grada, 1991)— interpretive action verbs used in the service of behavioral description were taken without any other selective process.

Third, the linguistic samples selected from the electoral campaign—though not spontaneous by their political nature—could have been influenced by some variables (e.g., TV setting, audience effect, topics of discussion), the prospective impact of which is difficult to gauge. However, the political debate follows a communicative format that is highly regulated. From this perspective, the political debate adhered to a format standard based on the acknowledgement and acceptance of a shared system of rules. Usually, words and other communicative devices are anchored to a format standard that makes their meaning definable and foreseeable.

Conclusion

The current results, and in particular the use of stereotypes rather than trait-based categories, suggest that the LIB cannot be explained at a linguistic level

only. In such a case, we may run the risk of reducing a useful model considering only one interpretive level and ignoring other important variables, such as psychological processes. Brown and Fish (1983) had already pointed out the importance of agent–patient causality as social interaction by examining the semantic function of noun predicates in sentences constructed with these verbs. According to Semin (2000, 2004), different linguistic categories carry inferences about agency, salience, induced emotionality, volition and responsibility. It constitutes a second dimension (agency–volition dimension) that is orthogonal to the abstraction–concreteness one. Therefore, out-group antagonism and in-group favoritism can be a consequence of abstractness and valence combined (Schmid, 1999). Results of the current research are consistent with this recent perspective regarding the in-group bias; that is, the range of processes by which in-group members are evaluated in a favorable light in comparison to members of out-group (Brewer, 1979; Tajfel, 1970). To examine such a bias, we considered some linguistic variations because as they were expected by the linguistic intergroup bias model (Maass & Arcuri, 1992; Maass et al., 1989). In particular, we proposed and tested the validity of a new version of the LCM, extended to a nouns category. The LCM's categories vary in terms of their concreteness, situational orientation, objectivity, and evaluative nature. The presence of a significant interaction between the LCM, value of terms (positive or negative) and in-group rather than out-group belongings was generally focused in the current study. Yet it seems that the validity of the LCM's previsions (Maass et al., 1989) fits the opposite end of the concreteness–abstractness continuum, which is at the base of categories arrangement.

Even if there is now strong evidence of the LCM, one of the possible artifacts of the studies that followed the LCM perspective (see Maass et al., 1989; Schmid, 1999; Werkman et al., 1999), concerns ecological validity. The findings about individuals' attributional reasoning may be unnatural, unspontaneous, and produced by asking them to make causal inferences that they might not otherwise have made, or in a form that they may not have freely chosen (Edwards & Potter, 1993). By presenting people with decontextualized sentences, devoid of stake and interest, invented by the experimenter and lacking any discursive-action context, people are invited to simply confirm intrasentential semantics. These studies could be interesting at a psycholinguistic level, as they investigate the concept of language as a primary device for expressing causal ideas, and, subsequently, that participants are competent speakers of a natural language that allows them to do that. However, their relevance for the attribution theory and its relation to linguistic abstractness level is not clear. Conversely, we analyzed causal inferences ecologically produced by politicians. To investigate the function of language in how people account for interpersonal actions and events, it is useful to resort to an approach that examines situated discourse and considers the nature of discourse as a domain of social interaction, not simply cognitive process. Causal attribution, both inside and outside the laboratory, can be studied as social actions performed

in discourse, and not merely as cognitive representation of social actions which happen to be expressed within conversation (Edwards & Potter, 1993).

NOTES

1. ATLAS.ti (ATLAS Project, Technical University of Berlin, 1989-1992) is a powerful workbench for the qualitative analysis of large bodies of textual, graphical and audio data. It offers a variety of tools for accomplishing the tasks associated with any systematic approach to "soft" data, (e.g., material that cannot be analyzed by formal, statistical approaches in meaningful ways). In the course of such a qualitative analysis, ATLAS.ti helps to uncover the complex phenomena hidden in the data in an exploratory way. For coping with the inherent complexity of the tasks and the data, ATLAS.ti offers a powerful and intuitive environment that focuses on the analyzed materials. It offers tools to manage, extract, compare, explore, and reassemble meaningful pieces from an extensive amount of data in a creative, flexible, yet systematic way. ATLAS.ti imposes virtually no restrictions on the size of data, the number of entities created, or the complexity of the structures and theories derived.
Therefore, ATLAS.ti offers the possibility of facilitating many of the activities involved in text analysis and interpretation, particularly selecting, coding, annotating, and comparing noteworthy segments. In the course of a qualitative analysis, it creates a visual connection of selected passages, memos, and codes by means of diagrams. This feature is useful to the construction of concepts and theories based on visible relations, producing additional text from linear, textual data.
In particular, the present research used two instruments of ATLAS.ti: the Hermeneutic Unit Editor, and the Query Tool. The first is a sort of container, an organizational data structure that contains the basic project components (primary documents, quotations, and codes). In the course of text analysis, the text is broken into relevant text passages called *quotations* (that is, continuous pieces of text created in the process of coding), connected to *codes* (or "keywords," most of which were used as variables in the following log-linear analysis. For example, "DAVs," "in-group," "positive"). Codes were grouped into families ("LCM's categories," "reference group," and "value"). The Query Tool offered support for retrieving text segments through combinations of codes. In particular, it has been useful in supporting the construction of queries with a wide range of operators, such as Boolean operators (*and, or, not, xor*–exclusive or), semantic operators (*sub, up, siblings*), and proximity operators (*within, encloses, overlaps, follows, co-occurs*). The output of the Query Tool was organized in terms of occurrences of categorized terms ($N = 697$).
2. SPSS, version 10.1, provides three primary techniques in assisting with model selection. All three techniques were used in the present study: (a) examining parameter estimates. If the standardized parameter estimates for the saturated model are small, then they probably do not contribute very much to the model and might be considered for removal. Large z-values (greater than 1.96 or less than –1.96) imply that parameters are significant; (b) Partitioning the chi-square statistic indicates how well the model fits the data. This chi-square value may also be subdivided and may be useful in selecting a model. SPSS can test whether all one-way and higher effects are non-significant, whether all two-way and higher effects are non-significant, and so on. Likelihood ratio for chi-square (*LR*) examines the fit of the model. Large chi-square values and small p-values ($p < .05$) indicate that the model fits the data well; (c) Performing backward elimination is very similar to backward elimination in multiple regression analysis. As such, log-linear models start with a saturated model and remove effects that are contributing to the model significantly. This model-building technique is subject to the constraints of hierarchical log-linear modeling. Third-order effects are not examined as candidates for exclusion if fourth-order effects are present, because if they were removed, the assumptions of hierarchical models would be violated. The model is considered to fit best when all remaining effects contribute significantly to the model's fit.

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