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Essentialism and the Expression of Social Stereotypes: A Comparative Study of Spain, Brasil and England

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Over the past few years, one of the most productive directions in the study of the activation and application of stereotypes has been provided by the essentialist concept of categorization. The research presented here studied the impact of two dimensions of essentialist beliefs - naturalism and entitativity- by using data collected from Brazil, Spain and England. The aim was to test whether there was a greater degree of essentialization among the naturalizable categories (sex, age and race) than among the entitative categories (economic condition, religion, political orientation, nationality and social condition). The results not only showed that participants hold more essentialist beliefs with regard to naturalistic categories but also showed the differences in the degree of essentialization across the three cultures. A discussion is conducted on the implications of the present findings, and on the heuristic value of the theoretical model (of the bidimensional nature of essentialism) adopted by this research.

Keywords: essentialism, stereotypes, naturalization, entitativity.

En los últimos años, la concepción esencialista de la categorización se ha consolidado como una de las orientaciones teóricas más fecundas para el estudio de la activación y aplicación de los estereotipos. La presente investigación transcultural realizada en Brasil, España e Inglaterra estudió el impacto de dos dimensiones de las creencias esencialistas –el naturalismo y la entitatividad- sobre la expresión de los estereotipos sociales y comprobó si se produce una mayor esencialización de las categorías naturalizables de sexo, edad y raza, en comparación con el grado de esencialización de las categorías entitativas relativas a la condición económica, la religión, la orientación política, la nacionalidad y la condición social. Los resultados obtenidos mostraron que en las diferentes dimensiones comparativas las categorías naturalizables fueron esencializadas con mayor intensidad que las categorías entitativas. Asimismo, se observaron diferencias entre los tres países en el grado de esencialización. Se discuten las implicaciones de los resultados, así como el valor heurístico del modelo teórico adoptado en la presente investigación sobre la naturaleza bidimensional del esencialismo.

Palabras clave: esencialismo, estereotipos, naturalización, entitatividad.

Social psychologists have been particularly interested in the study of social categorization ever since Allport (1962) emphasized its importance in understanding stereotypes and prejudices. Although there have been many classic and contemporary theories that have dealt with aspects of this phenomenon, it is only recently that implicit actor theories have been considered vital in the study of social categorization.

In recent years, the essentialist conception of categorization has come to be one of the most productive areas in the study of the activation and application of stereotypes. In its broadest sense, essentialism attempts to shed light on how people develop perceptions of themselves and of members of their social group, as well as members of other social groups. One of the central ideas of essentialism is that social categorization depends as much on similarity (clearly seen in appearances) as it does on belief (expressed by whoever is making the categorization). According to this idea, members of the same group share a deep structure and, in the process, distinguish themselves from members of other social groups (Gelman & Wellman, 1991; Yzerbyt, Rocher & Schadron, 1997).

Those characteristics which are assumed as shared by the group impose a series of predicates upon whatever it is that constitutes the 'essence' of the group. Although it may be impossible to speak of essences which are inherent to the group, people do believe that they exist (Demoulin, Leyens & Yzerbyt, 2006; Denson, Lickel, Curtis, Stenstrom & Ames, 2006; Estrada, Yzerbyt & Seron, 2004; Prentice & Miller, 2006). The power of essentialist reasoning is reflected in a variety of popular expressions (such as "spare the rod and spoil the child" or "some things never change") and deeply-held social beliefs (such as the impossibility of reforming certain types of delinquents). According to Yzerbyt and Rogier (2001), essentialism may be understood as a subtle form of the accentuation effect. First proposed by Tajfel and Wilkes in the Seventies, this effect provides the necessary basis for increasing the perception of similarity among members of the same group, as well as accentuating differences with members of other groups.

Essentialism may be thus defined as the tendency to act as if there were an essence to things or as if there were an underlying structure that makes things the way they are. There is one fundamental difference, however, that distinguishes it from classic theories of categorization; while classic theories hold that similarity is the cause of categorization, essentialism assumes that similarity between objects is a result of categorization (Medin, 1989; Medin, Goldstone & Gentner, 1993). For essentialists, interpersonal similarities contribute to the process of social categorization; people are not only included in a social category as a result of their likeness or similarity to others who belong to this category but also as a result of speculation made regarding these people's 'deeper' qualities and on the causes of their behavior.

What is it that causes natural objects, people and human groups to be essentialized? According to Campbell (1958), a human group is perceived as an entity not only because of the similarities and proximity of its members but also because of the structural organization of this group. Such attributes thus provide the elements necessary to develop inferences upon the stable disposition of the members of the same social category.

While Campbell's hypothesis regarded essentialism as a one-dimensional concept, subsequent authors such as Haslam (1998) have held that essentialism has two basic dimensions. The first of these refers to the existence of beliefs that have to do with the naturalization of objects, the immutability of things, the lack of historical variation and the existence of firmly established limits between groups. This dimension offers the basis for categorizing groups according to factors such as age, sex and race. The second dimension of essentialization is entitative and is based on a reified concept of social groups in which these groups are perceived as homogenous and as having a particular identity. The groups' foundations may be observed in their inherent properties; this enables a categorization based on characteristics such as religious beliefs, nationality, political orientation or social status.

Whether by means of naturalization or entitativity, the results of essentialist thought are clear: although people may change their external appearance (the superficial structure), once they are essentialized, these same people will continue to be perceived as members of the group that they originally joined. This makes it impossible for them ever to be perceived as anything but members of the same category. Entitative reasoning is furthermore based upon the assumption of similarity between group members, which means that a strong inductive potential is developed regarding the members of the same group.

The study of essentialization is important for the impact it has had upon the study of categorization and for the analysis it has provided of essentialism's role in establishing a system of social differentiation. According to Haslam, Bastian, Bain and Kashima (2006), essentialism has had immediate effects on theories of social categorization. Firstly, by simply including an individual in this social category, essentialism opens the way to a type of inductive reasoning that includes a series of inferences regarding the attributes and qualities of the group (Betancour, Rodríguez, Quiles & Rodríguez, 2005). Secondly, and as a result of naturalization, essentialism means that social categories are perceived as immutable, rigid and unaffected by the passing of time. According to Mahalingam (2003b), essentialism is not only a heuristic shortcut that helps to survive in a complex world; it can also be interpreted as a social mechanism that facilitates the maintenance of political, economical and social power. In causing social categories to be perceived as immutable, essentialism legitimates both inequality and the maintenance of political and social power of one group over another.

From the perspective of social relevance, it can also be pointed out that *categorical essentialist reasoning* enables negative judgments to be made in relation to groups. Basically, such judgments are made by intensifying prejudices, accentuating perceptions of intergroup differences, infra-humanizing the outgroup, and promoting an attributive internal style and justifying social inequalities (Gelman, 2004; Haslam, Bain, Douge, Lee & Bastian, 2005; Haslam, Bastian & Bisset, 2004; Jost & Major, 2001; Keller, 2005; Pickett, 2001). In short, essentialism may be understood as a socio-cognitive mechanism that has been adopted in order to construct theories of social groups (Hamilton, Sherman & Rodgers, 2004; Mahalingam, 2003b). As well as socio-cognitive based explanations, there is a different tradition which employs a more biologically-based concept and which has led to a body of work which demonstrates the importance of evolutionary pressures in a series of psychological and social processes. Within this perspective, there are several notable studies that revealed that categorization began with the first human groupings (thus successfully fulfilling a function of environmental adaptation, Fishbein, 1996). At the same time, authors such as Hirschfield (2001) suggest that children begin organizing their knowledge of their external surroundings and of social groups and in the process develop implicit theories on human nature. This interpretation is compatible with the idea that essentialism may be linked to a genetic code whose function has a heuristic function when grouping together superficial perceptive similarities (which are observable) with deep characteristics (which are not observable). People may thus limit the number of representations that lead them to attribute an identity to members of a category (Estrada & Yzerbyt, 2007).

Essentialism, naturalization and entitativity

Our first step is to investigate whether some categories are more easily essentializable than others. Mahalingam's original design (2003a, 2003b) was based on a mental experiment which presented a situation regarding a hypothetical brain transplant in which participants had to judge whether the operation would lead to changes in the identity of the recipient. The discoveries of Mahalingam's study, carried out in India with members of the Brahmin castes and Dalit castes (traditionally regarded as 'untouchables') revealed differentiated response patterns. The Brahmins agreed that if somebody poor were to receive a brain transplant from somebody rich, then the poor recipient would act like the rich donor. The Brahmins thought, however, that the brain transplant from poor to rich person would not cause the rich person to behave differently. Such a result indicates that only the rich people were essentialized; the Brahmins were the only group that believed in the unalterable nature of identity among

members of the privileged classes. This result thus confirms that we can not speak of an automatic and unconditional application of essentialist 'reasoning': essentialism is adopted in specific conditions with the aim of legitimizing the interests of distinct social groups.

Some factors of the original model were changed in our research. This was done to obtain more precise measurements of the degree of essentialization and also to add a greater number of social categories in order to make comparisons. Simply comparing just the rich and the poor makes it more difficult to evaluate the relationship between social categorization and the adoption of different essentialization strategies (as is the case when generalizing from Indian caste society into other contexts). We thus present different cases which are based on two types of social categories; those which are easily naturalizable and those which may be characterized according to the dimension of entitativity. While the naturalizable social categories include sex (man vs. woman), age (adult vs. child) and race (white vs. black), the entitative social categories are made up of nationality (Spaniards and Moroccans in Spain; Brazilians and Paraguayans in Brazil; English and French in England), political beliefs (right or left), religion (Catholics and Muslims in Spain; Catholics and Candomblé - an Afro-Brazilian cult - in Brazil; and Christians and Muslims in England), economic conditions (rich or poor) and social condition (policeman and criminal).

Traditionally, studies on automatism in processes of stereo-typification have suggested that categories such as age, sex and race are applied automatically and unconditionally (Devine, 1989; Macrae & Bodenhausen, 2000; Wegner & Bargh, 1998).

In our study, however, the main aim was to evaluate whether naturalizable categories are more essentializable than entitative categories. At the same time, another important goal was to judge whether or not there are differences between the processing of naturalizable and entitative categories. In short, our idea was to discover whether it is possible to identify differences in the way that different social categories are essentialized, that is, whether this process is carried out through naturalization or through the use of entitative reasoning.

The principal hypothesis of our research is that categories which are processed automatically and unconditionally are more easily essentialized than categories subject to controlled processing. As such, the degree of essentialization can be expected to be greater among the naturalizable categories (sex, age and race) than among the entitative categories (economic condition, religion, political beliefs, nationality and social condition). This expectation is based on the idea that naturalizable social categories are processed in a similar way to natural objects, which helps render them essentializable via the process of naturalization.

Method

Participants

While the Spanish sample was composed of 141 students from the Universidad Complutense de Madrid (males = 34, females = 107), the Brazilian sample was made up of 66 students from the Universidade Federal da Bahia in Salvador (males = 36, females = 30) and also of 25 students from the Universidade Presidente Antonio Carlos in the city of Barbacena (males = 12, females = 13). The sample from England consisted of 25 students from Cambridge University (males = 8, women = 17). Regarding the general index of gender-related essentialization, it was found that there were no significant differences between Spain $t_{(103)} = 1.37$, *ns*; Brazil, $t_{(99)} = 1.21$, *ns*, and England, $t_{(23)} = 1.18$, *ns*, and data was subsequently grouped together for later analysis.

Experiment design

A 3 x 2 x 2 mixed design experiment was adopted with two independent variables; the participants' country (Brazil, Spain and England) and the nature of the evaluated groups (hegemonic vs. non hegemonic). Also included was a repeated-measure variable made up of the type of social category (naturalizable vs entitative). Each participant evaluated eight stories, three regarding naturalizable categories (sex, age and race) and five regarding entitative categories (nationality, religion, economic condition, political beliefs, and social condition). Two types of stories were developed for each of the eight versions, one type concerning the hypothetical transplant from dominant to non-dominant categories and the other type concerning the hypothetical transplant from non-dominant to dominant categories. Each participant evaluated only one of the two versions.

Instruments and Procedures

Different situations were randomly presented to participants on a computer in which they were asked to imagine a brain transplant between two people (from a child to an adult or vice versa; from a black person to a white person or vice versa; from a man to a woman and vice versa, etc.). Participants were subsequently asked to say if they thought that the behavior of the recipient would change or remain the same. Given that the response is dichotomic, an index of essentialization was created for naturalizable and entitative categories. In the first of these categories, this was done by calculating the average of the three measurements and in the latter, by calculating the average of five measurements.

Response analysis was carried out by a categorization of participants' answers that was influenced by Malle's

theoretical explanation of social behaviour (1999, 2006). Responses were separately categorized by three judges who also discussed those items where there was no agreement.

Results

The main hypothesis of the research presented here postulated that there was a greater degree of essentialization for naturalizable categories (sex, age and race) than for entitative categories (religion, nationality, economic and social condition, and political beliefs). A t-test of repeated measurements was done in order to determine whether the zero value remained within a confidence interval of 95%; results showed that the confidence interval varied between .53 and .62 for naturalizable categories and between .63 and .72 for entitative categories. As there were significant differences found between the averages of the two indices ($t_{(266)} = 5.61$, $p < .001$), we may reject the null hypothesis that there are no significant differences between naturalizable and entitative categories. Although it is true that research was conducted in a university environment that favored the expression of anti-essentialist thought, we can assume that there was significantly less of this essentialization process in entitative categories than in naturalizable categories.

Having demonstrated a greater degree of essentialization of naturalizable categories, the next step was to measure the global index of essentialization by comparing responses from the three different countries by using an ANOVA. In this procedure, where the country and the transplant direction were independent variables, results showed significant differences in response patterns from the three countries ($F_{(2, 264)} = 5.31$, $p < .05$). Subsequent analysis carried out via a Tukey test showed that there are significant differences between the Spanish and English sample ($p < .05$) and between the Brazilian and English sample ($p < .05$). This indicates the presence of two clusters, the first including Spain and Brazil (with averages of .64 and .58 respectively) with the second formed by England alone (with an average of .81).

In figure 1 it can be seen that these results are confirmed via a group analysis of naturalizable and entitative categories that uses a factorial ANOVA of repeated measures. In this procedure, the indices of naturalization and entitativity have been considered as dependent variables while those of country and transplant direction have been employed as independent variables, $F_{(2, 264)} = 5.72$, $p < .05$.

Differences between naturalist and entitative categories

It must be pointed out that the differences in response to the indices of naturalization and entitativity may hide the impact of the type of social category that participants had to consider. As well as the analysis conducted on global

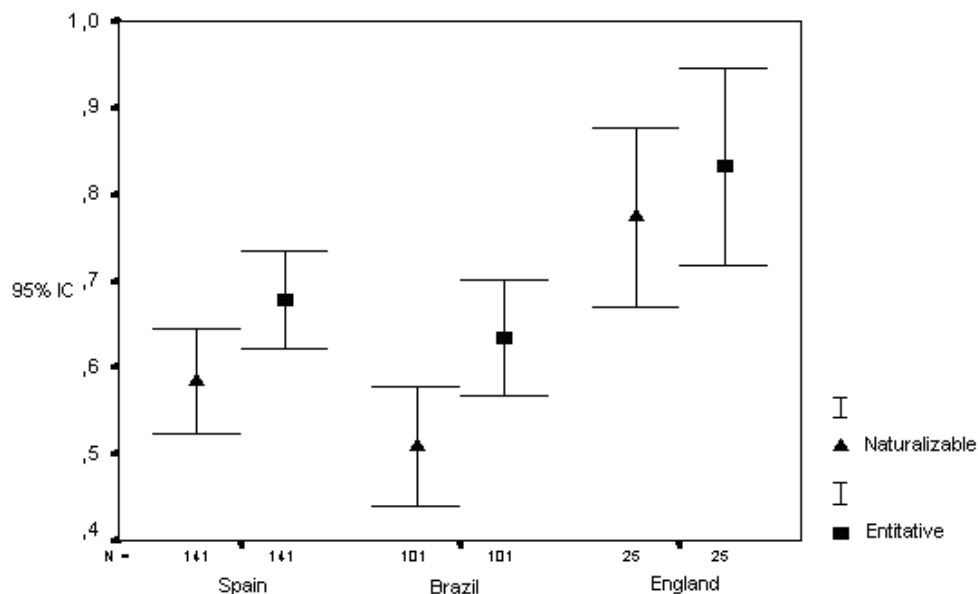


Figure 1. Graphic of 95% confidence interval for naturalizable and entitative categories by country.

categories, which compared indices of essentialization among naturalizable and entitative social categories, a separate analysis was thus made of each of the social categories. This enabled two groups of responses to be defined, one with three naturalizable categories and the other with five entitative categories. In order to evaluate the differences in the frequency of response, a Cochran chi-squared test was carried out for each of the eight categories. This analysis was complemented by means of contingency tables which were created in order to examine the associations between the transplant direction and responses regarding stability or change in behavior.

The first analysis enabled significant differences to be identified in the frequency of response regarding the stability or change in behavior due to the hypothetical brain transplant, $Q_{(7)} = 123.4, p < .001$.

Although compatible with the general hypothesis, the analysis of results reveals a more heterogeneous profile among the responses than was initially posited (see table 1). The answers given according to the category of age (child-adult) are more compatible with the entitative categories, while the answers given for the category of economic condition (poor-rich) are closer to the naturalizable categories.

Table 1
Frequencies and percentages of stability and change in naturalizable and entitative categories

| Categories | Stability | | Change | |
|--------------------|-----------|------|--------|------|
| | F | % | F | % |
| Naturalizable | | | | |
| Race | 139 | 52.1 | 128 | 47.9 |
| Sex | 91 | 41.9 | 176 | 58.1 |
| Age | 112 | 34.1 | 155 | 65.9 |
| Entitative | | | | |
| Economic Condition | 126 | 47.2 | 141 | 52.8 |
| Nationality | 89 | 33.3 | 178 | 66.7 |
| Religion | 84 | 31.5 | 183 | 68.5 |
| Social Status | 75 | 28.1 | 192 | 71.9 |
| Political Beliefs | 59 | 22.1 | 208 | 77.9 |

Analysis by categories and direction of hypothetical brain transplant

The results obtained in the responses to the categories of age and economic condition may be explained by the fact that these results do not account for either the participants' country of origin or the direction of the hypothetical brain transplant. In order to evaluate the combined effect of country and transplant direction, different log-linear analyses were carried out for each of the eight categories (see figure 2).

In the case of the hypothetical brain transplant from a hegemonic to non-hegemonic category, an analysis of the data indicates that essentialization occurred exclusively

among Brazilian participants when they evaluated the naturalist category black-white (OR log = .11) and, among Spaniards when they evaluated the entitative category rich-poor (OR log = .11). Essentialization was more evident in the evaluation of the brain transplant from non-hegemonic to hegemonic categories. Among Brazilian participants, evidence of this process of essentialization was obtained from situations concerning the brain transplant in the naturalist categories of black-white (OR log = .23), male-female (OR log = .16) and in the entitative category of poor-rich (OR log = .03). Among Spanish participants essentialization occurred in the case of the naturalist category of child-adult (OR log = .04); and among English participants the entitative category poor-rich (OR log = .17) was essentialized.

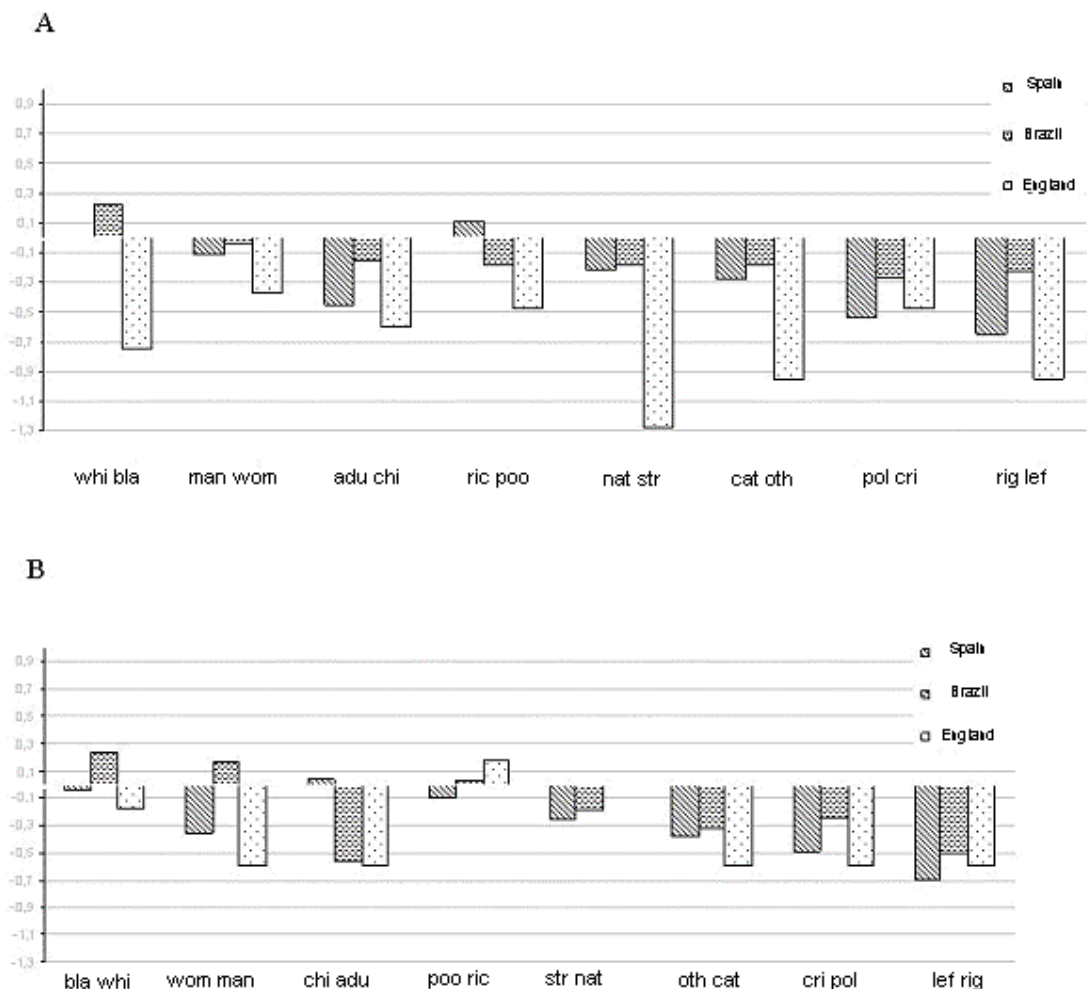


Figure 2. Graphic of logarithmic odds ratios of the eight categories (white-black, man-woman, adult-child, rich-poor, native-strange, catholic-other, policeman-criminal and right-left) by country and direction of hypothetical brain transplant, for both dominant towards non-dominant categories (graphic A) and non-dominant towards dominant categories (graphic B).

Considered together, the values related to the naturalizable categories reveal that while the Brazilians adopted the most essentialist positions, English participants adopted a position opposed to essentialism. With regard to the naturalizable categories, essentialism was displayed with greater intensity in those conditions where the transplant direction went from the non-dominant towards the dominant categories. Results related to the entitative categories showed a greater homogeneity and a lesser degree of essentialization than those related to the naturalizable categories. At the same time, the display of essentialism in the hypothetical brain transplant was restricted to the case of the entitative category of poor-rich for participants from Brazil and England and, to the category rich-poor for Spanish participants.

Analysis of explanations given by the participants

There were 1551 explanations collected and identified in this study. Of these, 922 explanations -or approximately 60% of the total – made reference to internal causes (genes, hormones, etc). While there was demonstrable balance among response patterns in the category of race, in all other cases it was possible to identify a clear tendency to adopt explanations that referred to internal causes as a decisive element in behavioral change (OR = .26).

In 375 responses, or nearly 24% of the total, the sources of explanation referred to causal history (beliefs, values, etc).

This mode of explanation was principally adopted to explain behavioral changes after the hypothetical brain transplant (OR = .35). The impact of intentionality – adopted to explain social conduct after the brain transplant- was not significant, being limited to just 17 cases or little more than 1% of the total number of explanations; in this case, reasons were also used to explain post-transplant behavioral change (OR = .31). 237 explanations, or nearly 15% of the total, based themselves on situational pressures to justify favorable responses to behavioral stability (OR = 3.23). Such justification generally makes reference to pressures upon individuals exerted by social roles, peer group and by family and social atmosphere (see table 2).

General discussion

The results obtained show that, across different comparative dimensions, the naturalizable categories were essentialized with greater intensity than the entitative categories. Furthermore, in spite of the anti-essentialist culture typical to the university environment in which this study was carried out, essentialist responses were detected regarding specific social categories (mainly among Brazilian participants). While English participants mostly adopted a clearly defined position opposed to essentialism, this changed in the condition where a rich person receives the brain of a poor person. For their part, Spanish participants only essentialized the condition in which an adult receives a transplant from a child and when a poor person receives

Table 2

Frequency of justifications presented; classified according to type and level of explanation

| | Internal causes Genes, hormones, brain, body, personal features and psychological processes, self | | Causal history Beliefs, values, attitudes, common appearance | | Situational pressures Status, roles, group and collective dynamics, social environment | | Reasons Motives and intentions | | Total |
|----------------|--|---------------|---|---------------|--|---------------|--|---------------|-------|
| | <i>Stability</i> | <i>Change</i> | <i>Stability</i> | <i>Change</i> | <i>Stability</i> | <i>Change</i> | <i>Stability</i> | <i>Change</i> | |
| Race | 45 | 46 | 13 | 41 | 15 | 1 | 0 | 1 | 162 |
| Age | 40 | 112 | 14 | 33 | 9 | 4 | 0 | 0 | 212 |
| Sex | 56 | 97 | 11 | 24 | 5 | 4 | 0 | 0 | 197 |
| Econ. Con. | 9 | 60 | 6 | 22 | 64 | 23 | 0 | 0 | 184 |
| Pol. Bel. | 9 | 133 | 11 | 27 | 16 | 3 | 0 | 0 | 199 |
| Nation. | 8 | 80 | 16 | 54 | 20 | 8 | 0 | 0 | 186 |
| Relig. | 14 | 92 | 19 | 48 | 25 | 7 | 1 | 4 | 210 |
| Social Con. | 10 | 111 | 5 | 31 | 27 | 6 | 3 | 8 | 201 |
| Subtotal | 191 | 731 | 95 | 280 | 181 | 56 | 4 | 13 | 1551 |
| Total (%) | 922 (60%) | | 375 (24%) | | 237 (15%) | | 17 (1%) | | |
| Odds ratio | 0.26 | | 0.35 | | 3.23 | | 0.31 | | |
| Odds ratio log | -.58 | | -.47 | | .51 | | -.51 | | |

a transplant from a rich person. Finally, with regard to transplant direction, it is worth noting a greater tendency towards essentialism in those hypothetical circumstances in which the brain had been transplanted from non-dominant to dominant categories.

The data obtained also reveal the heuristic limitations of the theoretical model adopted with regard to the bidimensional nature of essentialism. There was thus a clear need to include recent theoretical developments – such as implicit theories of the actor- to explain stability or change in the behavior of the recipients of hypothetical brain transplant (Estrada & Yzerbyt, 2007). Implicit theories refer to the way in which the agent perceives members of the stereotyped target group as bearing common features. Given that these theories refer to factors characterized by a high degree of stability, such explanations favor the formulation of essentialist beliefs. Dweck, Chiu & Hong (1995) thus postulate a difference between those people that think that features are fixed and immutable- *entitativists*- and those who believe that individual features are modifiable- *incrementalists*. With regard to stereotypes, Levy and associates (Levy, Plaks, Hong, Chiu & Dweck, 2001) suggest that this differentiation generates effects in the activation and application of stereotypes; entitativists believe that features correctly describe members of groups that are subject to social stereotypes, adopting more extreme standards in social judgment and attributing a greater number of dispositional qualities to members of these same groups. Entitativists are furthermore more prone to stereo-typification and to perceive the stereotyped group as a coherent whole.

At the same time, the perception that groups and social categories are entities is based on the belief that there is coordination among the actions of members of the group or entity. The identification of common goals and intentions, along with the perception of homogeneity among group members, lends weight to the belief that regards social groups as entities. The two factors are directly related to those explanations based on the situational pressures in which group members find themselves (influence from peers, family and social environment, via the imposition of social and group norms and roles). Also related to these factors, to a lesser degree, is the causal history of the participants of this study (beliefs that group members are similar in appearance or that they have a shared value system).

As demonstrated by our participants' justifications, the lowest percentage of explanations was based on deliberate intentions or individuals' underlying motives. It can likewise be observed that the highest percentage of explanations of behavioral stability or change was attributed to causes which may be defined as those inherent or internal to individuals (such explanations are formed by appealing to biological or psychological arguments). Although in

principal these explanations would appear to favor an anti-essentialist expression of attitudes, they in fact tend to favor change more than stability in behavior. The reference to the internal nature of group members to explain their behavior, and the reference to factors characterized by a high level of stability, could also favor essentialist beliefs; the only way the internal structure of the group members could be modified would be if we were to change their real biological and psychological structure with a new brain.

Entitativity within the context of the perception of human groups.

The study of perception of human groups, which is the central focus of our research, gained importance thanks to work developed by Donald Campbell (1958). Campbell postulated the concept of entitativity to refer to the degree in which groups are perceived as a coherent whole. According to Brewer, Hong & Li (2004) Campbell's thesis enabled the development of two lines of research on the nature, qualities and attributes of social groups. The first of these suggests that entitativity is based on principles that refer to groups' real properties: the attributes of groups provide the fundamentals that enable the group to be identified as a clearly differentiable entity. In this case, it is possible to refer to the substrates which are necessary and sufficient for the definition and characterization of groups as real entities. As real entities, these groups may then form the object of scientific study.

The second line of research does not make use of the ontological dimension, and defines entitativity as an implicit theory that people usually apply to social groups. This permits meanings to be attributed -and affirmations to be made- with regard to the behavior of members of groups and social categories. Attribution theories, originating in Fritz Heider's work (1965), have constructed a hegemonic version in an attempt to understand how people try to explain various types of human behavior in lay terms.

Limitations and future directions

Can the justifications, provided by the participants of these samples, be regarded as adequate to the task of evaluating ontological arguments regarding essentialism and its two dimensions? This is a question which is particularly apparent in the case of naturalizable categories. Although internal causes play an important part in the explicative structure of behavior, naturalizable categories not only contain references to genes, the brain or hormones but also to other factors such as psychological features or the self which are difficult to interpret within the context of naturalizable explanations.

Current research design also focuses on specific types of social categories. However, we should also take in account

three other modalities of social entity; intimacy groups, task groups and aggregates. Future research must attempt to establish whether or not the principles demonstrated in this study can be applied to these three modalities of social entities.

In spite of such limitations, the results presented here leave no doubt as to the impact of essentialism upon the expression of stereotypes. At the same time, these results provide evidence of the differences between processing naturalizable categories (of age, race and sex) and processing entitative categories. Such differences need to be understood in the light of implicit theories that assume the existence of a group 'essence' based on the degree of homogeneity shown between members of a group or social category. As well as this, the differences found in the samples (belonging to the different countries where the research was carried out) indicate cultural differences. Such differences occurred despite the fact that the chosen environment of the study- that within the university- was homogenous across the countries. This result thus requires further research in which participants' origin is diversified and in which it is possible to analyze the role of culture in reproducing and maintaining specific social stereotypes. As we have found, subjects belonging to different cultural groups reveal different degrees of essentialization towards different social groups or aggregates. While this was mostly the case in the Brazilian sample, there were lesser levels of essentialization found in the sample of English participants.

We would like, finally, to emphasize that the research method adopted in the current study complements those methods traditionally used in the area of stereotypes and prejudices. Furthermore there have been various research projects that have shown that direct methods are of limited value in researching stereotypes and that indirect measuring strategies must be adopted to study them (Blair & Banaji, 1996; Fazio & Olson, 2003; Pereira, 2002). It is thus important to have an indirect procedure which complements those procedures used up until now.

Conclusion

In short, this research indicates the need for a more detailed treatment of the essentialist phenomena. Although human beings do not possess an 'essence', people base their explanations on this concept when making judgments and attributing properties to other social groups. This research has shown that the application of essentialist thought is not a homogenous phenomenon as there have been noticeable differences in the way this thought is applied to naturalizable and entitative social categories. What is more, essentialist thought is also influenced by a category's social dominance; we have shown how essentialization has been more intense in the condition in which the member of a dominant

category receives a hypothetical brain transplant from a member of a non dominant category. Finally, the analysis of the explanations leaves no doubt as to the complexity of the impact of essentialism upon implicit theories employed by participants of this research. Considered as a whole, the results reveal the need to continue a more in-depth study of the connection between the processes of naturalization and entitativity and the construction of social stereotypes and of implicit theories of the actor.

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