Perception of mind and dehumanization: Human, animal, or machine?

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*D*ehumanization is reached through several approaches, including the attribute-based model of mind perception and the metaphor-based model of dehumanization. We performed two studies to find different (de)humanized images for three targets: Professional people, Evil people, and Lowest of the low. In Study 1, we examined dimensions of mind, expecting the last two categories to be dehumanized through denial of agency (Lowest of the low) or experience (Evil people), compared with humanized targets (Professional people). Study 2 aimed to distinguish these targets using metaphors. We predicted that Evil and Lowest of the low targets would suffer mechanistic and animalistic dehumanization, respectively; our predictions were confirmed, but the metaphor-based model nuanced these results: animalistic and mechanistic dehumanization were shown as overlapping rather than independent. Evil persons were perceived as "killing machines" and "predators." Finally, Lowest of the low were not animalized but considered human beings. We discuss possible interpretations.

Keywords: Animalistic dehumanization; Mechanistic dehumanization; Mind perception.

What does it mean to be human? Social perception includes the task of deciding whether other individuals are complete human beings, like the perceiver, or whether they lack some characteristics inherent to humanness. The main aim of our research is to analyze through two different empirical and theoretical approaches the dehumanized perception of two types of targets—socially excluded people (drug-addicts and the homeless) and evil people associated with harmful behaviors (terrorists and mercenaries)—compared with a third type of targets perceived as complete humans. This analysis used the dimensions of mind perception proposed by Gray, Gray, and Wegner (2007) and the metaphor model suggested by Loughnan and Haslam (2007). Both models follow

different strategies to evaluate humanness and its opposite, dehumanization.

The end of the 20th century saw a sudden interest in the perception of humanity and in dehumanization (Bain, Vaes, & Leyens, 2014). Different models for studying dehumanization were developed, prompted by Leyens et al.'s findings (Leyens, Demoulin, Vaes, Gaunt, & Paladino, 2007; Leyens et al., 2000). They suggested that human outgroups could be infrahumanized, that is, not considered human to the same degree as ingroups, by denying them uniquely human emotions. A different perspective of dehumanization focused on the attribution of mind. From this point of view, dehumanization can be seen as a spontaneous failure when perceiving other

people's minds (Harris & Fiske, 2009). But, what does having a mind mean? Gray et al. (2007) showed that the human mind comprised two dimensions: agency and experience. Agency includes the mental capacities that enable decision-making and organizing behaviors (e.g., idea, judgment, self-control, or communication). Experience is the capacity to be subjected to sensations (e.g., emotions, consciousness, or personality). For this perspective, dehumanization means denying other people mental capacities. So far, however, few studies have attempted to empirically check the way in which dehumanized social targets are denied mental capacities.

Original studies on infrahumanization contrast human beings with animals, and the degree of humanity is most frequently measured by the association of uniquely human characteristics with in- and outgroups. Haslam (2006) extended this reasoning by differentiating what is uniquely human from what is typically human; for instance, curiosity is not uniquely human, but it is typically human. Haslam proposed two types or metaphors of dehumanization: animalistic and mechanistic. Animalistic dehumanization leads to outgroups being considered animals because they do not have many uniquely human features. Mechanistic dehumanization strips away human nature, and human beings are subsequently seen as objects or robots (Haslam, Loughnan, Kashima, & Bain, 2008). To simplify, Haslam's (2006) model suggests that people may be considered human beings, machines, or animals.

Numerous studies about dehumanization have mainly focused on exploring intergroup biases in intergroup contexts. Less effort has been made to account for dehumanized perception of people in ordinary life, irrespective of the group belongingness of the perceiver. We set out to discover how people perceive different types of targets from the perspective of mind perception and metaphor-based models (Loughnan, Haslam, & Kashima, 2009). We expected to find different (de)humanized images for the different kind of targets. While mind perception predicts that dehumanization leads to a redistribution of perceived mind (Gray, Knobe, Sheskin, Bloom & Barrett, 2011), the metaphor model is expected to show whether dehumanization takes the form of animalization or objectification (Haslam, 2006).

The first study will investigate whether people negate distinct abilities (agency and experience) of the mind according to different types of targets. The second study will look at the different metaphorical representations (human, animal, and machine) of the same groups of targets. Rather than testing the two models in a single study, we decided to conduct two separate studies to ensure that the responses to one study would not contaminate the responses to the other.

In addition to a contrast group of targets of Professional people, who were expected to be completely human, we were interested in two groups of individuals. The first comprised Evil persons, such as mercenaries or terrorists. Evilness has always caused a mixture of revulsion and fascination. Those who seek to harm others by planning their violent actions, anticipating victims' suffering, and enjoying the outcome, lead witnesses to attribute them with a special personality (Quiles, Morera, Correa, & Leyens, 2010). Although evilness is a uniquely human dimension (Quiles, Morera, Correa, & Leyens, 2008), we expected people to reject the idea that evil persons are human beings like themselves.

The second group comprised the Lowest of the low and was composed of drug-addicts and homeless people (Harris & Fiske, 2006). Functional magnetic resonance imaging showed a pattern of brain activation typically associated with disgust for this kind of target. Moreover, they seemed to be dehumanized, as indicated by the absence of the typical neural signature for social cognition (Harris & Fiske, 2006). Further research, however, showed that these rejected groups were still considered human when concern for disgust was discarded (Buckels & Trapnell, 2013; Harris & Fiske, 2009). In any case, these people occupy the most undervalued position on the social scale.

For the first study, and on the basis of previous research concerning dimensions of agency and experience (Gray et al., 2007), we formed the following hypotheses. First, Professional people, as well as the Self, should be seen as complete human beings with high agency and experience. Second, Lowest of the low should be dehumanized with low agency, as could be expected from the low competence attributed to them by the stereotype content model (Fiske, Cuddy, Glick & Xu, 2002). On other hand, Gray et al. (2011) found that objectified perception can be associated with high levels of experience. Therefore, a moderate degree of experience at least can be expected for the Lowest of the low. Third, Evil people, as well as the Devil, should be low on experience with a moderate amount of agency (Gray, Young & Waytz, 2012; Quiles et al., 2010).

STUDY 1

Gray et al. (2007) used 13 different targets in their study. Some were human (e.g., the Self, a man, a woman) and others were not (e.g., a chimpanzee, a robot, God). Participants compared the targets on 18 mental capacities. The 18 capacities were assigned to the Self, man, and woman. Other targets differed in the amount of agency and experience attributed to them. These results provide an implicit idea about what people consider a human mind to be. The present study attempts to discover how a human mind is perceived when it pertains to targets belonging to dehumanized socially relevant groups, compared to targets considered as human.

Method

Participants

Four hundred and eighty-five Spanish persons (66% female) participated in the study. Their age ranged from 18 to 74, with a mean of 27.4 ($SD = 11.2$). Three hundred and fourteen (64.7%) persons were students at University of La Laguna and received credits for their participation. Students forwarded the website link to other people in their social network. These participants ($N = 171$) were required to sign a form containing identification data stating that they had responded independently and truthfully. Identification data were immediately destroyed.

Procedure

Participants were contacted in class, informed about the nature of the study and asked to voluntarily respond to a questionnaire through a university website. The procedure respected the ethical standards from ethical committees for psychological research at Spanish universities. Participants were warned that they would need 20 minutes to complete the task; if they did not have the time, they were asked to respond when they would not be disturbed by television or conversations. As soon as participants began the task they received standardized instructions. They were told that people have ideas about how other persons think, feel, and behave. Finally, they were informed that they would see a series of pictures of different targets and would be required to answer various questions by giving their first impressions. Anonymity was guaranteed.

To familiarize participants with the pictures, they first saw each of the 10 targets accompanied by a brief description. Following Harris and Fiske (2006), we selected several targets representing different Warmth × Competence clusters of the Stereotype Content Model. First, as a control to gage the other groups, we exhibited Professional people: middle class people (a female veterinarian and a male radiologist) and business professionals (a male banker and a career woman). Second, Lowest of the low targets were presented (a drug-addict and a homeless person). Finally, a category of cruel people (a terrorist and a mercenary) was added in order to examine the perception of Evil people. The Self (represented by a picture of a mirror) and the Devil (a Devil's pentagram) were added as elements of contrast, representing the most and the least human targets. All the descriptions were similar in length and detail. In the case of the career woman, for instance, participants read that "Rosa Martínez-Abascal is a professional woman who had become director of the firm for which she had been working for five years." The 10 pictures and descriptions were randomly presented and participants were required to say the extent to which each of six mind capacities was characteristic of the target. Answers were given on 7-point scales, from 0 (*not at all*) to 6 (*totally*).

Mind measure. Measuring the mind varied in different studies. Gray et al. (2007) had 18 questions about the capacities of targets, but Gray et al. (2011), for instance, considerably reduced this number to just six. We also used six questions: three related to agency and three to experience. In each case, we asked about the extent to which the person depicted in the picture could show one capacity.

Agency. Following are the items for measuring agency. Capacity of self-control: "To what extent is the person capable of restraining his/her wishes, emotions, and impulses?" Capacity to act morally: "To what extent is the person capable of anticipating the positive or negative consequences of his/her behavior and of being responsible for his/her acts?" Capacity to plan: "To what extent is the person capable of making plans to reach his/her goals?"

Experience. The items to measure experience were as follows. Capacity to experience emotions: "To what extent is the person capable of experiencing emotions like fear, pain, or joy?" Capacity to experience refined (or uniquely human) emotions— *sentimientos* in Spanish: "To what extent is the person capable of experiencing *sentimientos* like shame, guilt, or hope?" Capacity to experience consciousness: "To what extent is the person capable of being conscious of his/her environment and of the things that happen?"

Results

Factorial analysis of mind dimensions

We ran a factorial analysis with Varimax rotation to verify that the six capacities fell into two factors. The KMO index (.685) and the Bartlett test of sphericity ($\chi^2 (15) = 434.79$, $p < .0001$) permitted this analysis. The factorial solution gave two factors that explained 57.14% of the total variance (31.83 and 25.31 for agency and experience, respectively). The factor loadings showed that agency comprised the three original items (.79, .71, and .52) plus the experience of consciousness (.70). Experience was thus limited to the experience of emotions (.87) and *sentimientos* (.85). The alpha for the agency items reached .78, while the two items of experience correlated, $r(483) = .50$, $p < .001$.

The fact that consciousness loads on agency rather than on experience may result from the translation of English to Spanish. While in English, the word "consciousness" denotes the experience of sensations such as emotions, in Spanish the word "*consciencia*" has a more cognitive stance and corresponds to a mentalizing state.
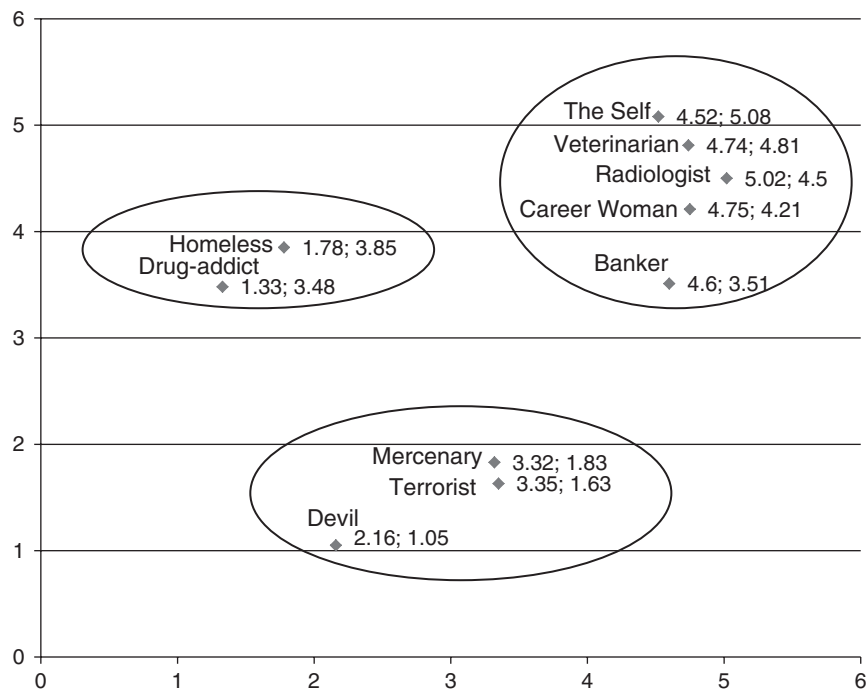
Figure 1. Experience (coordinate) and agency (abscissa) of the 10 targets.

Cluster analysis of targets and location on the matrix

To test the utility of agency and experience in describing the target groups, we examined their two-dimensional array in cluster analyses. Following Hair, Anderson, Tatham, and Black (1995), we first conducted a hierarchical cluster analysis to determine the best fitting number of clusters. We then conducted a *k*-means cluster analysis (with the parallel threshold method) to confirm that different kinds of targets were organized as we expected. The solution with three clusters was the most stable, after the analysis was repeated several times; moreover, the center of the initial cluster did not vary. As hypothesized, three groups emerged and formed the pattern for the different groups. The first group, Professional persons, comprised the veterinarian, the radiologist, the career women, and the banker, along with the Self. This group obtained the highest scores in both agency and experience. The second group, Evil persons, was formed by terrorists, mercenaries, and the Devil, and obtained more agency than experience. Finally, the third group, Lowest of the low, comprised drug-addicts and homeless people, and obtained more experience than agency.

Following Gray et al. (2007), Figure 1 represents the 10 targets with their degree of experience and agency, as well as the three-cluster solution.

Comparisons between targets in agency and experience

For each target, we calculated a score of agency and experience,[1] and a 3×2 (Groups of Targets [Professional persons, Lowest of the low, Evil persons] × Mind Dimension [agency, experience]) analysis of variance (ANOVA) was run with repeated measurements. The main effect for Groups of targets was significant, $F(2, 483) = 1592.79$, $p < .001$,[2] $\eta_p^2 = .87$. The main effect for Mind dimensions was also significant, $F(1,484) = 11.15$, $p < .001$, $\eta_p^2 = .02$. The interesting results are part of the interaction between Groups of targets and Mind dimensions, which is also significant, $F(2,483) = 776.99$, $p < .001$, $\eta_p^2 = .76$ (Table 1).

For the agency dimension, Professional persons are judged higher than Evil persons ($p < .001$), and both groups are higher than Lowest of the low ($ps < .001$). For the experience dimension, Professional persons are also evaluated higher than Lowest of the low ($ps < .001$),

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[1]Alpha Agency: Career Woman .57; Radiologist .56; Veterinarian .58; Banker .59; Yourself .64; Mercenary .58; Terrorist .50; Evil .61; Homeless .70; Drug-addict .63. Correlations Experience: Career Woman .38**; Radiologist .25**; Veterinarian .58**; Banker .41**; Yourself .33**; Mercenary .44**; Terrorist .37**; Evil .37**; Homeless .40**; Drug-addict .41**

[2]When significant, the levels are usually extremely low, with a few rising to .001. For the sake of simplicity, we will always indicate .001, except when the *p* value is much higher.

TABLE 1
Means for experience and agency as a function of the groups of targets

Mind dimension	Professional people	Evil people	Lowest of the low
Agency	4.73 (0.54)$_{aA}$	2.92 (1.02)$_{bA}$	1.56 (0.99)$_{cA}$
Experience	4.43 (0.79)$_{aB}$	1.50 (1.18)$_{bB}$	3.66 (1.43)$_{cB}$

Note: Small subscripts compare groups of targets within mind dimension. Capital subscripts compare mind dimension within groups of targets.

and both groups are judged higher than Evil persons (ps < .001).

Discussion

The results of the first study are consistent with our hypothesis. First, people use the mind dimensions of agency and experience to organize the perception of social targets. Second, targets fit into three groups that differ in scores of agency and experience. The distinction into three groups was therefore adequate, and each group tapped agency and experience. Agency is different for the three groups and the same is true for experience. As we hypothesized, Professional people are humans with high agency and experience, while Lowest of the low are perceived with the lowest level of agency and an intermediate level of experience. Evil persons were lowest in the experience dimension, showing their lack of (primary and secondary) feeling. Moreover, Evil persons were judged as more agentic than drug-addicts or the homeless. It is tempting to conclude that, by contrast with a group of Professional people, Lowest of the low apparently fit an animal metaphor, while Evil people seem to fit a machine metaphor (Haslam & Loughnan, 2014). The next study aims to achieve the objective of our research by adopting a second perspective.

STUDY 2

Haslam and Loughnan (2014) and Leyens, Paladino and Vaes (2012) consider that agency and experience are closely related to human uniqueness and human-nature traits. In this sense, groups that are perceived with low levels of agency would be associated with animals, while groups perceived with low levels of experience would be seen as machines, and only those groups that are perceived with high levels of both agency and experience dimensions would be perceived as complete human beings.

Following this reasoning, and taking into account the agency and experience attributions uncovered in Study 1, we might expect these three groups to elicit pictures of humans, machines, and animals. However, these representations constitute inferences that should be tested by a metaphor-based procedure.

We followed the method originally used by Viki et al. (2006) and subsequently by Martínez, Rodríguez-Bailón, and Moya (2012). In the latter study, the authors examined whether members of the ingroup were more associated with human words (vs. animal or machine) than members of the other two groups. Their participants were required to associate three types of words (human, animal, and machine) with the Spanish ingroup, and with Germans and Gypsies. Results showed that the ingroup names were mostly related to human words. Gypsy names were especially associated with animal words, and, finally, German names were mostly related to machine words. We hypothesized that, with the same procedure and reasoning, Professional people should receive more human than machine or animal words, whereas Lowest of the low should mostly be attributed animal words. Finally, Evil people, without any experience, should be defined by machine words.

Method

Participants

Seventy-six students at University of La Laguna (64.9% female) participated in the study (age = 21.37, SD = 3.6); they received credits for their collaboration.

Procedure

Participants were contacted in class and were asked to respond to a questionnaire through a university website. Instructions stressed the point that people associate different persons with specific types of individuals. Students were warned that they would see three pairs of pictures of people, that they should concentrate on what these persons had in common (namely, their type), and that they would be required to indicate on a series of scales the extent to which the type of person was associated with various words. The order of presentation of each pair of pictures and the order of the words were assigned randomly.

There were three types of targets, as shown in the previous study. A brief description, as in the first study, accompanied the pictures. These pictures depicted a radiologist and a banker (Professional people); a drug-addict and a homeless person (Lowest of the low); and a terrorist and a mercenary (Evil people). For Professional people, we selected the radiologist and the banker, since all the other targets were males.

Thirty-three evaluatively neutral words were then presented with a 7-point scale from 0 (*do not apply at all*) to 6 (*apply completely*). The words belonged to three categories: Humans, Machines, and Animals. Words were selected from Martínez et al. (2012) and from Viki et al. (2006) and a normative study allowed us to verify their

TABLE 2
Connections between types of words and types of persons

Types of words	Professional people	Evil people	Lowest of the low
Human	4.66 (0.84)$_{aA}$	2.95 (0.96)$_{bA}$	4.27 (0.95)$_{cA}$
Animal	2.09 (0.86)$_{aB}$	3.11 (0.91)$_{bA}$	2.46 (0.93)$_{cB}$
Machine	3.69 (1.41)$_{aC}$	4.12 (1.41)$_{bB}$	1.75 (0.87)$_{cC}$

Note: Small subscripts compare types of targets within types of words. Capital subscripts compare types of words within types of targets.

fit to our study. In order to present the same number of words in each category of words, we added four new machine-related words (robot, artifact, mechanism, and apparatus) not included in those studies.

Results

First, we calculated the reliability for groups of words within each category (α from .73 to .90[3]). A 3×3 (Targets [Professional people, Evil people, Lowest of the low] $\times$ Words [human, machine, animal]) within-subject ANOVA was run. The main effects for targets and words were significant but will not be presented because of their lack of meaning for our purposes. The interaction between targets and words is also significant, $F(4, 72) = 84.24$, $p < .001$, $\eta_p^2 = .82$ (see Table 2). For Lowest of the low, human words apply more than animal words ($p < .001$), and both types of words are judged as more adequate than machine words ($ps < .001$). Evil people receive more machine words than the other two categories of words ($ps < .005$), which do not differ ($p > .12$). The three means for Professional people are significantly different ($ps < .001$), with a majority of human words and a minority of animal words.

According to the aim of this study, the most interesting perspective of the data is to look at each kind of words as a function of the targets. Evil people receive significantly fewer human words ($p < .001$) than Lowest of the low, and these two categories receive significantly fewer human words than Professional people ($ps < .001$). Machine words apply least to Lowest of the low and most to Evil people ($ps < .001$).The three means for the animal words are all significant ($ps < .001$); they are least adequate for Professional people and most applicable to Evil people.

As expected, comparisons between the three types of targets showed that Professional people are rated very low on the animal side, while obtaining the highest level of humanity. The other results differ from the hypotheses: Lowest of the low are not animalized and Evil persons are not merely mechanized. Lowest of the low are seen as the least mechanical and receive a greater number of human than animal words, whereas Evil people are both animalized and mechanized, and show the lowest level of humanity.

Discussion

The results of this study showed that different metaphors are associated with specific social targets. If we look at the strongest result for each target, Lowest of the low are seen as the least mechanical: they are animalized humans (less human than the Professional people), but still humans. Professional people are rated as humans with machine-related skills and very low on the animal side. Evil people received most machine and animal words, and the fewest human words. Unexpectedly, Evil people are targets of both animalistic and mechanistic dehumanization (Haslam, 2006): they are both "killing machines" (Lankford, 2009) and "big cats" or "predators." Rather than seeing animalistic and mechanistic dehumanization as distinct processes, we might consider how they merge and complement each other. To our knowledge, our results constitute the first evidence that the two metaphors can work in tandem.

GENERAL DISCUSSION

The main aim of this study was to examine the perception of different groups of persons through the mind matrix innovated by Gray et al. (2007), as well as the metaphor-based dehumanization model proposed by Loughnan and Haslam (2007). The results show that the two models produce useful information on how different types of targets are perceived. We were especially interested in two groups of persons. Because of previous work dealing with evilness and cruelty (Quiles et al., 2010), we were interested in how representatives of this group of persons would figure in the matrix. The second group of interest comprised drug-addicts and homeless people who are considered nonhumans because they tend to be perceived as having qualities that people find disgusting (Harris & Fiske, 2009).

According to the results obtained by Gray et al. (2007), and following the reasoning proposed by Haslam and Loughnan (2014), for whom agency is comparable to uniquely human attributes, and experience to typically human attributes, the mind pattern obtained in Study 1 suggested that Evil people were robot-like and were not at all animal-like. However, Study 2 using the metaphor-based approach found that Evil people were seen as both machines and animals, even though their level of experience was extremely low. This is a new and unexpected result, given that it is generally assumed that

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[3] Alpha Human Words: Professional people .74; Evil people .76; Lowest of the low .76. Alpha Animal Words: Professional people .78; Evil people .73; Lowest of the low .78. Alpha Machine Words: Professional people .91; Evil people .88; Lowest of the low .89.

one type of dehumanization (e.g., animalistic) leaves no room for the other (e.g., mechanistic). The simultaneous animalistic and mechanistic perception of the group of terrorists and mercenaries is based on two complementary visions of evil persons. On the one hand, there is an animal vision of criminals as predators, vermin, and savages, as proposed by Lombroso (1876), who considered these infrahuman persons similar to apes. Although Lombroso's conception is scientifically rejected, many laypeople still envisage criminals as animals or infrahuman savages (Hetey & Eberhardt, 2014; Vasiljevic & Viki, 2014). On the other hand, Evil persons are perceived as machines: efficient, pre-programmed, and especially lacking in uniquely human emotions (Lankford, 2009). Both representations are consistent with the prototype that laypeople envisage for evilness (Quiles et al., 2008).

Another interesting result concerned Lowest of the low. Previous research has shown that, depending on context, this latter group is dehumanized or not (Harris & Fiske, 2009). In our research, this group had no agency and lacked associations with machine words; they were animalized humans, but still humans. These results are at odds with those of other researchers (Cikara, Farnsworth, Harris, & Fiske, 2010; Harris & Fiske, 2009). The most plausible explanation is that the economic situation in Princeton and in Spain was conflicting when the studies were run. Many Spanish persons had lost their homes, their businesses, or their employment and had been pushed into a socially excluded position. All these factors could have reinforced the perception that drug-addicts and the homeless are human victims and that the participants could meet a similar fate.

The most interesting findings of this study are the original aspect of the mind matrix (Gray et al., 2007) and Haslam's (2006) distinction between animalistic and mechanistic dehumanization. It is possible to have a low level of agency and still show considerable humanity; this is the case of the Lowest of the low. Similarly, a low level of experience may be associated with the highest level of animalism; this is the case of Evil people. These results do not fully concur with what was expected from the mind matrix and the metaphor-based approach (Haslam & Loughnan, 2014). Our findings suggest that the expected link between humanity, experience, and agency should be extended. Moreover, the combination of robots and animals in the case of mercenaries and terrorists may display a third metaphor in the study of dehumanization. Haslam, Loughnan, and Sun (2011) paid special attention to animal metaphors; in general, name-calling with animal metaphors (notably ape, rat, and pig, in their second study) is perceived as demeaning. The more offensive the name-calling, the more the animal is disliked, and the more the animal is dehumanizing. In studies by Goff, Eberhardt, Williams and Jackson (2008), people who were most likely to be condemned to

capital punishment were described as animals and mostly primates.

The machine–metaphor approach has received much less attention than the animal–metaphor approach. Martínez et al. (2012) found a clear association between Germans and machines. Several researchers have looked at people who would be related to machines, taking into account that criminals induce the animal metaphor. Such machine-like persons are police officers (Hetey & Eberhardt, 2014). Vasiljevic and Viki (2014) speculated that blue collar offenders would also be more associated with machines than animals. These authors hypothesized that the type of offense (e.g., rape vs. fraud) influences the type—animalistic or mechanistic—of dehumanization.

To our knowledge, no study has yet shown the simultaneity of both sides of dehumanization for the same group: animalization and mechanization. However, this does not mean that authors have not contemplated this possibility. Vasiljevic and Viki (2014, p. 139) wrote: "Certain types of crimes considered cold and calculated may (…) elicit mechanistic dehumanization, but this will always be in addition to animalistic dehumanization." According to these authors, animalistic dehumanization will be present because offenders induce "disgust and anger." Their hypothesis is restricted to offenders like our Evil persons and has never been tested. Our research supports Vasiljevic and Viki's (2014) prediction. Devils (Giner-Sorolla, Leidner, & Castano, 2012) are cold and machine-like but their crimes are so horrendous that they call for basic emotional responses that provoke animal-like metaphors.

Our study contributes to clarify the way that people combine different human dimensions when they perceive other real social targets. Further research with a broader range of targets should be run in order to increase the generalizability of the findings. The existing literature on dehumanization (Li, Leidner, & Castano, 2014) is starting to detail possible combinations of the basic dimensions in human perception, at least from a theoretical viewpoint.

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