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Original Article

The Central Role of Morality in Perceived Humanness and Unselfish Behaviors

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Abstract: There is ample evidence for the central role of morality in social judgments. However, research has not examined whether perceived morality of others also drives perceived humanness, nor has it extensively considered its behavioral consequences. These issues were addressed across two studies. Study 1 revealed that information about a target person's morality increased his/her perceived humanness, which in turn explained positive behavioral intentions toward him/her. Study 2 pointed out that information about a target person's morality increased unselfish behaviors toward him/her. This effect was explained by perceived humanness of the target. Implications of the relationship between morality, perceived humanness, and unselfish behaviors are discussed.

Keywords: morality, humanization, social mindfulness, social judgment, prosociality

Over the past years, there has been considerable research showing the main dimensions that individuals rely on when making social judgments (Cuddy, Fiske, & Glick, 2008; Judd, James-Hawkins, Yzerbyt, & Kashima, 2005; Leach, Ellemers, & Barreto, 2007). A key finding from this literature is that information about one's morality plays a primary role compared to information on the other two main dimensions of social judgment – that is, sociability and competence (Leach et al., 2007) – in leading to favorable judgments and positive behavioral intentions toward individuals and groups (Brambilla & Leach, 2014; Leach, Bilali, & Pagliaro, 2013). However, less is known about the role of morality and the other dimensions of judgments in predicting others' humanness, which may serve to promote not just positive judgments, but responsibility for the fate of others as well as their inclusion in our ethical system (Bastian & Haslam, 2010).

Despite the importance of this issue, to date, research has mainly focused on the tendency to perceive others as less human than oneself, rather than on the conditions under which others' humanness can be enhanced (Haslam, 2006). As Pinker (2008) wrote, morality "is not just any old topic in psychology but is close to our conception of the meaning of life. Moral goodness is what gives each of us the sense that we are worthy human beings." In this line of reasoning, can morality promote humanness "as the

essential good we can distribute to each other?" (Walzer, 1983, p. 31). Moreover, if dehumanizing others leads perpetrators to deny moral responsibility for their fate (Bastian, Jetten et al., 2013; Kelman, 1973) and legitimizes heinous behaviors toward them (Castano & Giner-Sorolla, 2006), would perceived morality of others increase their perceived humanness and promote mindful behaviors toward them? To address this issue, a first aim of the present research was to examine the role of the main dimensions of social judgment in predicting humanness. A second aim was to explore whether perceived morality of others leads the perceiver to behave in a prosocial way – in terms of unselfish behavior – toward them, because of their increased humanness.

The Primary Role of Morality in Social Judgments

A consistent body of research has shown that individuals rely on two main characteristics to form impressions of others: warmth and competence (e.g., Abele, Cuddy, Judd, & Yzerbyt, 2008; Wojciszke, 2005). Warmth refers to the capacity to establish good relationships with others. Competence is related to individuals' ability to achieve their goals. Recently, it has been shown that warmth comprises

two distinct components: morality, which reveals intentions to do what is considered right, and sociability, which denotes the willingness to connect with others (Ellemers, Pagliaro, & Barreto, 2013). Moral characteristics (i.e., honesty and trustworthiness) tend to be far more important than sociable (i.e., friendliness and likeability) and competent characteristics (i.e., intelligent and capable) in shaping person and group perception (Brambilla & Leach, 2014; Brambilla, Sacchi, Pagliaro, & Ellemers, 2013; Goodwin, Piazza, & Rozin, 2014).

Morality is rated as the most desirable characteristic for an ideal person to possess (Cottrell, Neuberg, & Li, 2007). An interesting case in point is that people see themselves as far more honest than an average other person, but only slightly more intelligent (e.g., Van Lange & Sedikides, 1998). People are highly sensitive to information potentially revealing other individuals' morality, which has a greater impact than information on sociability or competence on the global impression individuals form about others (Brambilla, Rusconi, Sacchi, & Cherubini, 2011; Brambilla, Sacchi, Rusconi, Cherubini, & Yzerbyt, 2012; Goodwin et al., 2014). Neuroscientific research has shown that inferring trustworthiness from another's face requires less time than inferring competence or sociability (Willis & Todorov, 2006).

Research has shown that information about a partner's morality has a greater influence than information about his/her competence on expecting cooperative behavior from his/her side as well as on behavioral intentions to cooperate with him/her (De Bruin & Van Lange, 1999; Pagliaro, Brambilla, Sacchi, D'Angelo, & Ellemers, 2013). Moreover, the more a partner is perceived as moral, the more individuals engage in behavioral synchrony with him/her during interaction (Brambilla, Sacchi, Menegatti, & Moscatelli, 2016). Additionally, facial characteristics related to morality (i.e., trustworthiness) predict real and concrete behaviors such as voting choices, sentencing decisions, and dating preferences (Todorov et al., 2015). In particular, trustworthy (vs. untrustworthy) faces potentiate experiences of momentary motor activity consistent with approach to a greater extent than with avoidance (Slepian et al., 2012). Faces perceived as highly trustworthy elicit also greater prosocial behaviors than faces perceived as less trustworthy (Van Doesum, Van Lange, & Van Lange, 2013).

The reason why individuals are highly concerned about morality is that this dimension, more than any other dimension, defines whether others represent an opportunity or a threat (Brambilla & Leach, 2014). Thus, the primacy of morality is related to its essential role in surviving and in classifying others as worthy to be trusted and be concerned about. In this vein, perceived morality may not just predict evaluations of others but may also enhance the overall impression of them as human beings.

The Denial of Others' Humanness

Research has paid great attention to the "negative side" of perception of humanness, that is, dehumanization (i.e., the denial of humanness to others; cf. Haslam, 2006; Leyens, Demoulin, Vaes, Gaunt, & Paladino, 2007). Failing to see other people as human beings serves to justify discrimination and leads to increased immoral behaviors, from diminished support (Cuddy, Rock, & Norton, 2007; Vaes, Paladino, & Leyens, 2002) to overt aggression and violence (Bastian, Denson, & Haslam, 2013; Kelman, 1973; Viki, Osgood, & Phillips, 2013).

For the purposes of the present research, we relied on one of the two theoretical strands of the dehumanization literature, namely studies on infrahumanization (Leyens et al., 2000, 2001). Leyens et al. (2000, 2001) were the first to relate dehumanization to in-group bias by showing that people attribute more secondary or uniquely human emotions (e.g., admiration, regret) to their in-group than they do to relevant out-groups. Haslam (2006) went further by distinguishing between two different facets of dehumanization: the denial of uniquely human characteristics such as the ones that distinguish human beings from animals (secondary emotions and intellectual abilities) and the denial of human nature characteristics such as the ones that distinguish human beings from automata (emotional responsiveness and agency). Research has found strong evidence for both forms of dehumanization across a variety of intergroup contexts (for a review, see Haslam & Loughnan, 2014).

As mentioned, most research has focused on the consequences of dehumanization for social behavior. Relatively, little is known about the conditions under which the perceived humanness of others can be augmented (Haslam & Loughnan, 2014). If the exclusion from the protection and privilege of the human group is based on the denial of significant human traits, then the inclusion in the human group should rely upon the endorsement of crucial characteristics of humanness.

Morality and Humanness

Moral sensibility is considered as a uniquely human trait (Haslam, 2006). It distinguishes human beings from other living beings (except for Chimpanzees and Bonobos; see De Waal, 2013), because the large majority of animals lacks self-restraint in comparison with human beings. Sociability and competence (as human nature traits; Haslam, 2006), which are shared with animals, are instead not considered uniquely human traits. Thus, morality may play a more relevant role compared to the other fundamental dimensions of social judgment (sociability and competence) in the inclusion of others in the human group. In this respect,

a correlational study has shown that morality, more than sociability, is perceived as a fundamental uniquely human quality (Goodwin et al., 2014). Research on dehumanization has illustrated the link between humanness and morality, by showing that denying humanness to others reduces the attribution of moral status to them (i.e., worthy of moral concern, rehabilitation, punishment; Bastian, Laham, Wilson, Haslam, & Koval, 2011) and legitimizes past violent actions against them, reducing the perceived wrongness of acts and associated guilt (Castano & Giner-Sorolla, 2006).

Only a study by Riva, Brambilla, and Vaes (2016) has investigated the effect of morality on perceived humanness, showing that targets who were perceived as lacking moral qualities (i.e., low honesty, sincerity, trustworthiness) were attributed less human traits, and were in turn perceived as feeling less social pain than highly moral targets. Such preliminary evidence, even though it concerns the negative consequences of lacking morality, seems to suggest that this trait should play a key role in the perception of humanness compared to sociability and competence.

Research Overview

The present research aimed at examining the role of perceived morality, sociability, and competence of others in predicting perceived humanness and unselfish behaviors. To achieve this goal, two experiments were carried out. In Study 1, we investigated the effects of information about a target's morality, sociability, and competence on attribution of humanness and approach intentions toward the target. As mentioned, morality is the primary source of favorable judgments (Brambilla et al., 2011). Also, morality is seen as a uniquely human characteristic, whereas sociability and competence are not (cf. Haslam, 2006). We therefore expected that highly moral target would be attributed higher humanness and would elicit higher approach intentions compared to highly sociable and competent target. Moreover, we expected that perceived humanness should mediate the effect of morality on approach intentions toward the target.

In Study 2, we examined the effects of the information about target's morality, sociability, and competence on actual behaviors toward him/her. To our knowledge, there is no research on whether target's morality may affect a distinctive human behavior, that is, behavior aimed to favor the target in spite of the self. Scholars have claimed that the inclusion in the human group guarantees that others are treated with the same dignity that is reserved to oneself (Bain, Kashima, & Haslam, 2006; Kelman, 1973). If information about a target's morality enhances perceived humanness, it should also promote mindful or unselfish behaviors. To test this hypothesis, we adapted the social mindfulness paradigm (SoMi) from Van Doesum, Van Lange, and Van Lange (2013), a decision-making task that measures the tendency to act in favor of others and in spite of the self by leaving or limiting choice for others. We tested whether the attribution of humanness mediates the effect of morality on unselfish behaviors.

Study 1

In Study 1, we experimentally tested whether morality contributes more than sociability and competence in predicting humanness. The manipulation concerned the description of a target person in terms of high or low morality, high or low sociability, and high or low competence. First, we expected that a high- versus a low-morality target would lead to a higher attribution of humanness (Hypothesis 1). Second, if perceiving others' morality enhances their inclusion in the human group and inhibits negative attitudes and dehumanization toward them (Castano & Giner-Sorolla, 2006), morality may also guide behavioral approach versus avoidance tendencies, that is, the intention to meet and spend time with people who are high in morality. Therefore, we expected that target's morality would predict approach intentions toward him/her (Hypothesis 2). Finally, we hypothesized that the effect of target's morality on approach intentions would be mediated by attribution of humanness to the target (Hypothesis 3).

To test these hypotheses, we employed two different measures of humanness: the ability to express uniquely human or secondary emotions (i.e., admiration, regret; Leyens et al., 2000) and the attribution of uniquely human and human nature traits (i.e., citizen, thief; adapted from Viki et al., 2013). The former, as indirect measure of humanness, avoids findings to be obfuscated by social desirability. Specifically, it concerns to extent to which participants think the target is able to express secondary (uniquely human) and primary (not uniquely human) emotions. We predicted that secondary emotions (as measure of humanness), and not primary emotions, would be attributed to a greater extent to a high-morality compared to a low-morality target, regardless of emotions valence (Hypothesis 1a).

The measure of attribution of uniquely human and human nature traits instead is an explicit measure of humanness that takes into account the two distinct ways in which humanness is defined, that is, human uniqueness and human nature (Haslam, 2006). This measure relies on selecting at least 8 words out of a list of 20 human-related and nonhuman-related words that participants think to

characterize at best the target. We used mainly nouns (Viki et al., 2013) instead of adjectives (Haslam, 2006) as measure of human nature and human uniqueness, to avoid confounding with the experimental manipulation that relies on portraying the target person with adjectives (potentially overlapping with the measure) in each condition. We predicted that participants would select more human-related words for the high-morality compared to low-morality target, regardless of valence (Hypothesis 1b). However, target's morality should not increase the choice of nonhuman-related words.

Method

Participants and Design

A total of 248 university students completed the study in exchange for course credit. Participants who failed the manipulation check of target's high versus low morality, sociability, and competence ($n = 6$) were dropped from the study[1] leaving a final sample of 242 (174 females, 67 males) with a mean age of 19.7 years ($SD = 5.58$). Participants were asked to complete a questionnaire about impression formation. They were randomly assigned to one of eight experimental conditions. The experiment had a 2 (Target's Morality: high, low) × 2 (Target's Sociability: high, low) × 2 (Target's Competence: high, low) between-participants design.

Procedure

After being greeted by the experimenter and filling out a consent form, participants were provided with information regarding morality, competence, and sociability of a female or a male target person. Specifically, participants read: "Here you will find information on a person basing on descriptions made by people who know him/her." Each target person was described by three trait adjectives, one relating to morality (i.e., honest or moral or trustworthy), one to sociability (i.e., friendly or pleasant or sociable), and one to competence (i.e., intelligent or competent or capable). The traits were randomly selected from three triplets, each related to one of the dimensions of social judgment (Brambilla et al., 2012). Depending on the experimental condition, each target person was described as being either high or low in each trait adjective (i.e., highly honest vs. little honest). For example: "Paul is highly honest, not very sociable,

and highly intelligent." Afterward, participants completed the dependent measures and then were debriefed.

Measures

Secondary and Primary Emotions

Participants rated how often the target experienced 12 emotions on a scale ranging from 1 (= *infrequently experienced*) to 7 (= *frequently experienced*). Specifically, participants rated six secondary emotions (*positive*: hope, admiration, optimism; *negative*: pessimism, regret, remorse) and six primary emotions (*positive*: pleasure, surprise, attraction; *negative*: anger, disgust, fear) presented in randomized order and balanced for valence. This measure was adapted from that of Prati, Crisp, Meleady, and Rubini (2016) and Albarello and Rubini (2012). Ratings of secondary emotions ($\alpha = .71$) and primary emotions ($\alpha = .72$) were then averaged in mean scores.

Human and Nonhuman Words

Participants were presented with a list of 20 words. Adapted from Viki et al.'s (2006) measure of infrahumanization, there were 10 human (i.e., *uniquely human*: person, citizen, mixed-race, civilian, with mental illness; *human nature*: explorer, friend, partner, aggressor, nomad person) and 10 nonhuman (i.e., *animal-related*: domesticated, creature, puppy, beastlike, wildness; *robot-related*: precision, mechanism, android, rigidity, robot) words, counterbalanced for valence and randomly ordered across participants. They were instructed to pick at least 8 words that best characterized the target. Then, we calculated two indexes based on the sum of human and nonhuman words selected by each participant (ranging from 0 to 8 points).

Approach Intentions

Participants rated six items adapted from Mackie, Devos, and Smith's (2000) measure of behavioral intentions. They assessed the extent to which the participants were willing to "oppose," "confront," "argue with," "talk with," "spend time with," and "find out more about" the target (1 = *not at all*; 7 = *very much*). Items 1–3 were reversed-coded, such that higher scores on each item represented positive behavioral intensions. The six items were then collapsed into a single composite score ($\alpha = .86$).

Manipulation Checks

To ensure that the traits employed to describe the targets were interpreted by participants as related to one of the

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[1] Six participants were excluded on the basis of their answers to a manipulation check aimed to detect whether they remembered correctly how the target was depicted. They were asked to indicate whether the target was described as high (= 2) or low (= 1) on each of the three specific characteristics reported in their experimental condition. Specifically, two of the six participants who were assigned to the high-sociability condition reported that the target was low (= 1) in sociability, whereas two of them reported that the target was low in competence (= 1), when the target was highly competent. One of the six participants who was assigned to the high-morality condition reported that the target was low (= 1) in morality. Finally, one participant reported that the target was high in sociability when the target presented was little sociable.

three main dimensions of social judgment, they completed manipulation check measures, "to what extent is the target honest?"; "to what extent is the target sociable?"; "to what extent is the target intelligent?" (1 = *not at all*; 7 = *very much*).

Results[2]

Manipulation Checks

Checks on perceived morality, sociability, and competence of the target were submitted to a 2 (Morality: high, low) $\times$ 2 (Sociability: high, low) $\times$ 2 (Competence: high, low) between-participant multivariate analysis of variance. This analysis included all participants (also the 6 ones that were excluded afterward, to test the effectiveness of the manipulation) and, as expected, showed a multivariate main effect of morality $F(3, 238) = 162.78$, $p < .001$, $\eta^2 = .672$. At the univariate level, the main effect of morality was significant only on the morality scores, $F(1, 240) = 460.86$, $p < .001$, $\eta^2 = .658$ (other Fs < 0.97; ps $> .326$), with participants rating the target as more moral in the high-morality condition ($M = 5.31$, $SD = 1.05$) than in the low-morality condition ($M = 2.50$, $SD = 1.01$), $p < .001$.

The analysis also yielded a multivariate main effect of competence, $F(3, 238) = 171.19$, $p < .001$, $\eta^2 = .685$. There was a main effect of competence on the competence scores only, $F(1, 240) = 494.32$, $p < .001$, $\eta^2 = .673$ (other Fs < 1.21; ps $> .272$). Participants rated the target as more competent in the high-competence condition ($M = 5.29$, $SD = 1.06$) than in the low-competence condition ($M = 2.38$, $SD = 1.01$), $p < .001$.

Finally, the analysis showed a multivariate main effect of sociability, $F(3, 238) = 148.79$, $p < .001$, $\eta^2 = .652$. The main effect of sociability was significant only on the sociability scores, $F(1, 240) = 422.02$, $p < .001$, $\eta^2 = .637$ (other Fs < 0.91; $p > .340$), with participants rating the target as more sociable in the high-sociability condition ($M = 5.40$, $SD = 1.22$) than in the low-sociability condition ($M = 2.38$, $SD = 1.07$), $p < .001$. These findings supported that the manipulation of morality, sociability, and competence was successful.

Table 1. Pearson's correlations between all measures (Study 1)

	1.	2.	3.	4.	5.
1. Secondary emotions	–	−.049	.331**	−.212**	.345**
2. Primary emotions		–	.193*	.003	.074
3. Human words			–	−.159*	.193**
4. Nonhuman words				–	−.058
5. Approach intentions					–

Note. *$p < .05$, **$p < .01$.

Secondary and Primary Emotions

To test the role of morality on humanness, 2 (Morality) $\times$ 2 (Sociability) $\times$ 2 (Competence) between-participant ANOVAs were conducted on the two types of emotions.[3] As predicted in Hypothesis 1a, high-morality targets were attributed secondary emotions to a greater extent ($M = 4.29$, $SD = 0.76$) compared to low-morality targets ($M = 3.36$, $SD = 1.09$), $F(1, 233) = 62.31$, $p = .001$, $\eta^2 = .211$. No other effects were significant, Fs < 2.20, ps $> .139$. The analysis also yielded a Sociability $\times$ Competence interaction, $F(1, 233) = 7.27$, $p = .007$, $\eta^2 = .030$. Pairwise comparisons (based on Bonferroni tests) showed that high-competence and high-sociability targets ($M = 3.56$, $SD = 0.91$) were attributed secondary emotions to a lower extent compared to high-competence and low-sociability targets ($M = 4.02$, $SD = 1.03$), $p = .003$, as well as to high-sociability and low-competence targets ($M = 3.91$, $SD = 1.09$), $p = .035$. No other comparisons were significant, ps $> .093$.[4]

High-morality targets were attributed primary emotions to a lower extent ($M = 4.30$, $SD = 0.72$) compared to low-morality targets ($M = 4.51$, $SD = 0.76$), $F(1, 233) = 5.09$, $p = .025$, $\eta^2 = .021$, whereas high-sociability targets were attributed primary emotions to a greater extent ($M = 4.76$, $SD = 0.57$) compared to low-sociability targets ($M = 4.05$, $SD = 0.72$), $F(1, 233) = 70.88$, $p = .001$, $\eta^2 = .233$ (see Table 1). The effect on primary emotions was larger for sociability, Cohen's $d = 1.09$, compared to morality manipulations, $d = -0.28$. No other effects were significant, Fs < 1.11, ps $> .292$.

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[2] The following DOI gives access to the repository in which datasets of the present research are permanently stored: https://doi.org/10.6084/m9.figshare.6226991.

[3] Given that there were no consistent effects of participants' gender and target gender on this and the other dependent variables of Study 1, participants' gender and target gender were not included in the analyses.

[4] Additional analyses showed no significant difference between positive ($M = 3.85$, $SD = 1.05$) and negative ($M = 3.82$, $SD = 1.14$) secondary emotions, $t(241) = 1.75$, $p = .536$. Further ANOVAs considering positive and negative emotions separately supported the primary role of morality on secondary emotions, regardless of the valence. Results of positive secondary emotions showed the same findings of overall emotions, that is, main effect of morality, $F(1, 233) = 54.87$, $p = .001$, $\eta^2 = .191$, and Sociability $\times$ Competence interaction, $F(1, 233) = 8.10$, $p = .005$, $\eta^2 = .034$. Similarly, results of negative secondary emotions showed a main effect of morality, $F(1, 233) = 55.66$, $p = .001$, $\eta^2 = .193$. There was also a significant effect of sociability, with low-sociability targets ($M = 3.99$, $SD = 1.12$) being attributed negative secondary emotions to a higher extent compared to high-sociability targets ($M = 3.65$, $SD = 1.14$), $F(1, 233) = 5.93$, $p = .016$, $\eta^2 = .025$. There was also a Sociability $\times$ Competence interaction, $F(1, 233) = 5.12$, $p = .025$, $\eta^2 = .022$. Pairwise comparisons showed that high-competence and high-sociability targets ($M = 3.47$, $SD = 1.08$) were attributed negative emotions to a lower extent compared to high-competence and low-sociability targets ($M = 4.06$, $SD = 1.04$), $p = .001$. No other effects were significant, ps $> .190$.
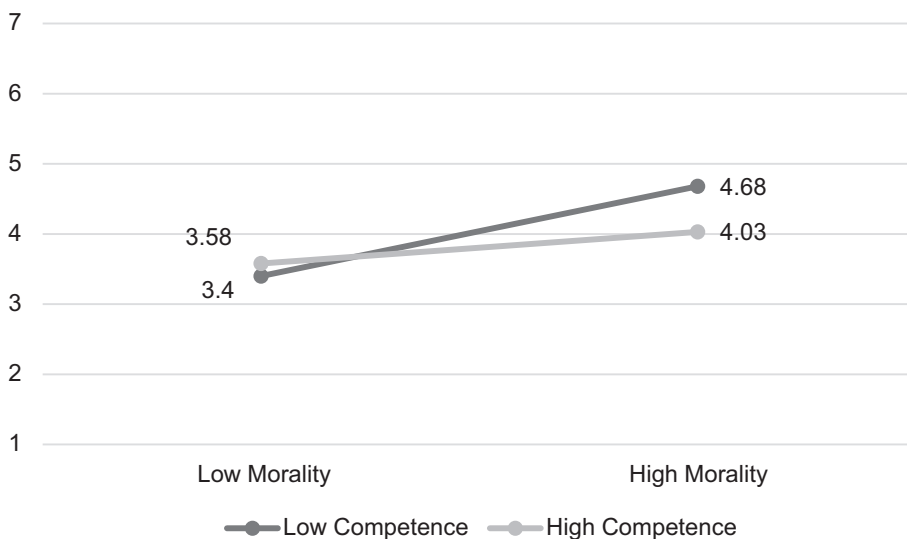
Figure 1. Interaction between competence and morality on human traits (Study 1).

Human and Nonhuman Words

Support for Hypothesis 1b on the role of morality in enhancing perceived humanness of the target comes from 2 (Morality) × 2 (Sociability) × 2 (Competence) between-participant ANOVAs on human and nonhuman words. As expected, high-morality targets were associated to a higher number of human words ($M = 4.37$, $SD = 1.60$) compared to low-morality targets ($M = 3.50$, $SD = 1.54$), $F(1, 234) = 18.23$, $p < .001$, $\eta^2 = .073$. High-sociability targets were also associated to a higher number of human words ($M = 4.16$, $SD = 1.48$) compared to low-sociability targets ($M = 3.72$, $SD = 1.74$), $F(1, 234) = 5.03$, $p = .026$, $\eta^2 = .021$. The effect was larger for morality, Cohen's $d = 0.54$, compared to sociability, $d = 0.26$. No main effect of competence was found, $F(1, 234) = 1.31$, $p = .253$. The analysis also yielded a two-way interaction between morality and competence, $F(1, 234) = 4.48$, $p = .035$, $\eta^2 = .019$ (see Figure 1). High-morality and low-competence targets were associated to a higher number of human words compared to low-morality and low-competence targets, $p = .001$. High-morality and low-competence targets were associated to more human words than high-morality and high-competence targets, $p = .020$. No other comparisons were significant, $p = .123$.

With respect to nonhuman words, high-morality targets were associated to a lower number of nonhuman words ($M = 1.78$, $SD = 0.88$) compared to low-morality targets ($M = 2.69$, $SD = 1.15$), $F(1, 234) = 48.41$, $p = .001$, $\eta^2 = .171$. No other effects were significant, Fs < 3.33, ps > .079.

Approach Intentions

A 2 (Morality) × 2 (Sociability) × 2 (Competence) ANOVA showed that participants reported higher behavioral intention of approaching high-morality ($M = 3.84$, $SD = 1.30$) compared to low-morality targets ($M = 3.47$, $SD = 1.31$),

$F(1, 234) = 6.08$, $p = .014$, $\eta^2 = .025$. No other effects were significant, Fs < 3.57, ps > .060. Thus, Hypothesis 2 was supported.
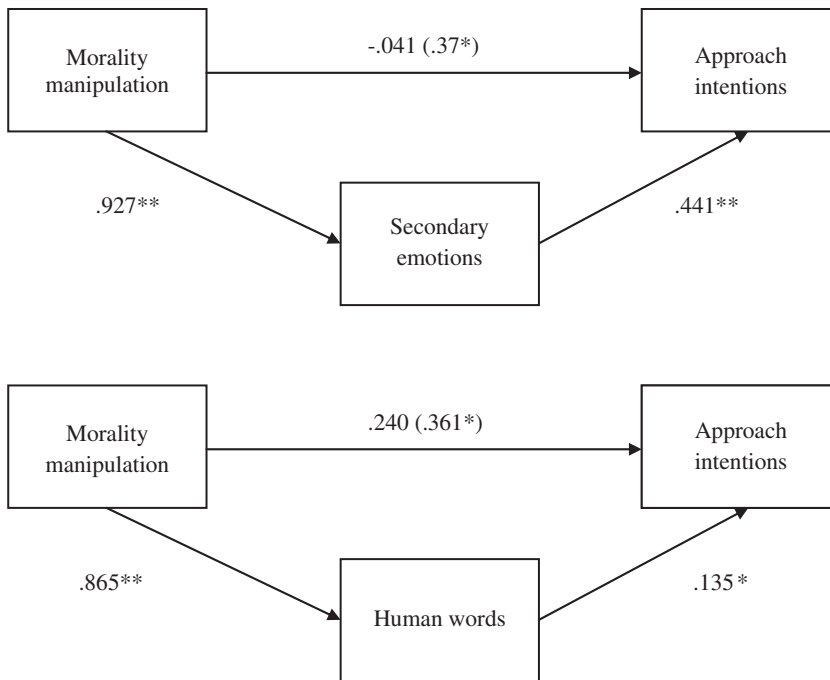
Mediation

Table 1 shows correlations among secondary emotions, human words, and approach intentions. We used Hayes' (2012) PROCESS macro to test the mediating role of humanness in the relationship between morality and approach intentions. We ran two separate mediation models: one using secondary emotions and one using human words as different measures of humanness. Both models included morality as independent variable and approach intentions as dependent variable. Significant mediation was tested with 95% bootstrapped confidence intervals, where intervals that included zero were considered not statistically significant. For effect sizes, we reported the partially standardized indirect effect (Hayes, 2012). Results showed that the attribution of secondary emotions mediated the effect of morality on approach intentions, $B = 0.41$, $SE = 0.10$, 95% CI [.24, .63] (see Figure 2). In a similar vein, humanness as the attribution of human words mediated the effect of morality on approach intentions, $B = 0.12$, $SE = 0.05$ 95% CI [.03, .26] (see Figure 3). Therefore, Hypothesis 3 was supported using both measures of humanness.

Discussion

Study 1 added to previous research on morality by showing that compared to the other dimensions of social judgments, perceived morality promotes attribution of humanness. The validity of these findings was supported by the converging results on two distinct measures of humanness.

Figure 2. Simple mediation test of the relationship between morality and behavioral intentions through secondary emotions (Study 1). **p < .001, *p < .05. Morality manipulation is coded 1 for low moral and 2 for high moral targets. Bs are reported in the figure.

Figure 3. Simple mediation test of the relationship between morality and behavioral intentions through human words (Study 1). **p < .001, *p < .05. Morality manipulation is coded 1 for low moral and 2 for high moral targets. Bs are reported in the figure.

High-morality targets were attributed both secondary or uniquely human emotions and human words to a higher extent than low-morality targets. Evidence on primary emotions further supports the link between possessing moral characteristics and the attribution of humanness. In fact, primary emotions – that we share with animals (Leyens et al., 2000, 2001) and imply therefore low humanness – were attributed to low-morality targets to a higher extent than high-morality targets. In a similar vein, nonhuman words were associated to a higher extent to low-morality compared to high-morality targets.

Unexpectedly, findings showed that high-sociability and high-competence targets were perceived as less human, in terms of secondary emotions, than targets high in sociability and low in competence or those low in sociability and high in competence. In the attribution of human words measure, high-morality and high-competence targets were perceived as less human than targets high in morality and low in competence or vice versa. In our view, these results may be due to a compensation effect (Kervyn, Judd, & Yzerbyt, 2009) between two fundamental dimensions of the stereotype content model (Cuddy et al., 2008; Fiske, 2018), which are competence and warmth (intended as the combination of sociability and morality). Given that highly competent people are usually perceived as low warmth and vice versa, thus targets that were described high in both sociability or morality and competence might be perceived as "too perfect" as human beings. This might have led participants to rate those who were low in one dimension and high in the other as more human than targets who were high in both dimensions.

Another novel finding in this study is that perceived humanness of the target person explained the effect of morality on approach intentions toward the target. This reveals one possible mechanism underlying the primacy of morality in influencing social interactions (Brambilla et al., 2011; Pagliaro et al., 2013). However, it remains to be demonstrated that morality affects actual behaviors toward targets, and do so by enhancing his/her perceived humanness. This issue was addressed in Study 2.

Study 2

In Study 2, we sought to extend Study 1 by examining for the first time whether a targets' morality may elicit perceivers' unselfish behaviors toward the target. We measured choice behavior by adopting Van Doesum et al.'s (2013) SoMi paradigm that focuses on leaving or limiting choice for another person who is the last to choose. People appreciate having choice (see, e.g., Aoki et al., 2014). Therefore, leaving choice to others in spite of the self can be considered a socially mindful or unselfish behavior. Social mindfulness is defined in terms of the ability to see implications of one's choice for another person's options, and the willingness to act upon it by behaving in an other-regarding manner – by leaving options for another person (Van Doesum et al., 2013; for complementary methodologies that focus on this distinction, see Mischkowski, Thielmann, & Glöckner, 2018). The present study focuses on the commonly used measure of social mindfulness, the SoMi paradigm, that integrates skill and

will to act in a prosocial or kind manner toward others (Van Doesum et al., 2013; see also Lemmers-Jansen et al., 2018).

Thus, we first tested the effect of target's morality, competence, and sociability on perceived humanness of the target. In this study, humanness was assessed through the attribution of secondary and primary emotions, because this is the most widely employed measure of attribution of humanness (cf. Leyens et al., 2007). As in Study 1, we predicted that a target's morality, compared to his/her sociability and competence, would have a greater impact on perceived humanness, with high-morality targets being judged as more human than low-morality targets (Hypothesis 1). We predicted that participants would behave in a more unselfish manner toward high- versus low-morality targets (Hypothesis 2), whereas targets' competence or sociability should not impact unselfish behavior. We also expected that the attribution of humanness to the target would mediate the effect of target morality on such unselfish behavior toward him/her (Hypothesis 3). Given that morality affects the global impression people have of others, which in turn predicts individuals' behaviors toward them (Yzerbyt & Demoulin, 2010), we included global impression as covariate to exclude that the predicted effect was merely due to the positivity of one's global impression. Finally, one may argue that to act in an unselfish manner toward high- versus low-morality targets may be driven by expectancy of potential reciprocation. To control for potential effects of expectancy of potential reciprocation, we entered this as covariate in the mediational analysis.

Method

Participants and Procedure

A total of 187 university students (135 females, 52 males; M_{age} = 20.65; SD = 2.60) took part in the study. Target's morality, competence, and sociability were manipulated as in Study 1. Participants were randomly assigned to read one of eight descriptions of the target and then completed the dependent measures. Humanness was assessed using secondary and primary emotions measure (Leyens et al., 2007). Afterward, participants completed the global impression and the decision-making task (as measure of unselfish behavior). At the end, they completed the manipulation check measures as in Study 1. No one failed the manipulation check.

Measures

Secondary (α = .78) and primary emotions (α = .68) were measured as in Study 1. Afterward, participants rated their global impression of the target (1 = *extremely negative*; 7 = *extremely positive*). Then, they started a computer program and performed the decision-making task.

Decision-Making Task

We drew this measure from the SoMi paradigm (Van Doesum et al., 2013) that consists of a computer generated decision-making task. Participants always had to keep in mind that they were playing this decision task together in a dyadic interaction with the target person presented to them in the questionnaire. They had to choose one among three or four objects in a series of different categories (we used 14 different object categories; i.e., umbrellas, wrapped gifts, candy, sandwich). Per category, each participant was presented with two control and two experimental trials. In the control lines, all three or four objects were entirely identical. In the experimental lines, two or three of the objects but one were entirely identical, and the third or fourth only differed in a single aspect (e.g., one yellow umbrella and two green ones). The position of the object that differed from the others was randomly assigned for each category of object and across participants.

Each participant was asked to imagine that he/she and the target would get to take home one of the three or four objects. It was emphasized that the objects would not be replaced; once chosen by the participant, an object would no longer be available to the target. The rationale behind this paradigm assumes that if the participant chooses the object of which there are two or three, the target would still have something to choose between (e.g., a green or a yellow cap). As in Van Doesum et al. (2013), this was scored as unselfish (i.e., socially mindful) behavior (1). If the participant, however, would pick the unique option, he or she would leave the other with no choice but to take or leave the other object (e.g., only two identical green caps would be left); this was scored as selfish behavior (socially unmindful) (0). The various categories were presented in random order. A final score (i.e., a sum of unselfish choices) was computed by summing the scores over all decisions, with scores ranging from 0 to 28 (higher scores indicated unselfish behavior).

Expectancy of Potential Reciprocation

Participants were asked the extent to which they expected the target would leave them the opportunity to choose among different objects, by leaving the unique object and picking one of those that were of the same type. Participants indicated on a 7-point scale (1 = *not at all*; 7 = *very much*) their expectancy of potential reciprocation.

Results

Manipulation Checks

As in Study 1, 2 (Morality: high, low) × 2 (Sociability: high, low) × 2 (Competence: high, low) between-participant multivariate analysis of variance showed main effects of
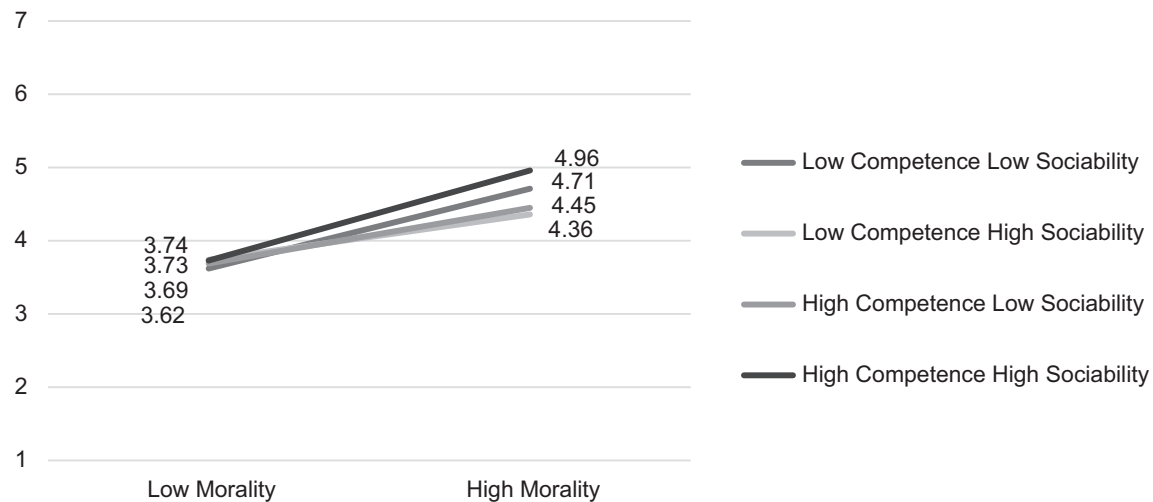
Figure 4. Three-way interaction among morality, competence and sociability on secondary emotions (Study 2).

morality $F(3, 177) = 43.25$, $p < .001$, $\eta^2 = .423$, of competence, $F(3, 177) = 22.42$, $p < .001$, $\eta^2 = .275$, and of sociability, $F(3, 177) = 87.52$, $p < .001$, $\eta^2 = .597$. No other effects were significant, Fs < 2.52; ps $> .060$. At the univariate level, the main effect of morality was significant only on the morality scores, $F(1, 179) = 126.48$, $p < .001$, $\eta^2 = .414$ (other Fs < 2.90; ps $> .060$), showing that the targets were rated as more moral in the high-morality ($M = 5.40$, $SD = 1.02$) compared to low-morality condition ($M = 3.02$, $SD = 1.81$), $p < .001$. Similarly, there was a main effect of competence on the competence scores only, $F(1, 179) = 62.62$, $p < .001$, $\eta^2 = .259$ (other Fs < 0.58; ps $> .445$), showing that targets in the high-competence condition ($M = 4.75$, $SD = 1.29$) were rated as more competent than those in the low-competence condition ($M = 3.07$, $SD = 1.50$), $p = .001$. The main effect of sociability was significant only on the sociability scores, $F(1, 179) = 246.87$, $p < .001$, $\eta^2 = .580$ (other Fs < 1.47; $p > .226$), with participants rating the target as more sociable in the high-sociability ($M = 4.91$, $SD = 1.15$) than in the low-sociability condition ($M = 2.00$, $SD = 0.87$), $p < .001$.

Secondary and Primary Emotions

As expected (Hypothesis 1), a 2 (Morality) × 2 (Sociability) × 2 (Competence) ANOVA on secondary emotions showed that high-morality targets were attributed secondary emotions to a greater extent ($M = 4.58$,

$SD = 1.06$) compared to low-morality targets ($M = 3.68$, $SD = 1.00$), $F(1, 178) = 31.63$, $p = .001$, $\eta^2 = .151$.[5] A three-way interaction between morality, competence, and sociability, $F(1, 178) = 5.14$, $p = .025$, $\eta^2 = .028$, was also found (see Figure 4). Overall, pairwise comparisons support the role of morality in predicting humanness. Moreover, high-sociability, high-competence, and high-morality targets ($M = 4.96$, $SD = 0.98$) were attributed secondary emotions to a higher extent compared to high-sociability, low-competence, and high-morality targets ($M = 4.08$, $SD = 1.29$), $p = .002$.

As in Study 1, the analysis on primary emotions showed that high-sociability targets were attributed primary emotions to a higher extent ($M = 4.37$, $SD = 0.63$) compared to low-sociability targets ($M = 4.03$, $SD = 0.77$), $F(1, 178) = 11.03$, $p = .001$, $\eta^2 = .058$. There were no other significant effects, Fs < 2.57, ps $> .110$. The analysis also yielded a Sociability × Competence interaction, $F(1, 178) = 6.80$, $p = .010$, $\eta^2 = .037$. Pairwise comparisons (based on Bonferroni tests) showed that low-sociability and low-competence targets were attributed primary emotions to a lower extent ($M = 3.84$, $SD = 0.58$) compared to high-sociability and low-competence targets ($M = 4.46$, $SD = 0.63$), $p < .001$, and to low-sociability and high-competence targets ($M = 4.25$, $SD = 0.64$), $p = .009$. No other comparisons were significant, ps $> .303$.

[5] As in Study 1, positive ($M = 4.19$, $SD = 1.20$) and negative ($M = 4.14$, $SD = 1.27$) secondary emotions did not differ, $t(185) = 0.514$, $p = .608$. Thus, we may be confident that social desirability (in terms of attributing more positive than negative characteristics) was not at play in the attribution of these characteristics to the target. Separate ANOVAs conducted on positive and negative secondary emotions supported this assumption. Positive secondary emotions were attributed to a greater extent to high-morality targets ($M = 4.60$, $SD = 1.16$) compared to low-morality targets ($M = 3.70$, $SD = 1.06$), $F(1, 178) = 25.71$, $p = .001$, $\eta^2 = .126$. There was a Sociability × Competence interaction, $F(1, 178) = 4.37$, $p = .038$, $\eta^2 = .024$. High-competence and high-sociability targets ($M = 4.66$, $SD = 1.03$) were attributed secondary emotions to a lower extent compared to high-competence and low-sociability targets ($M = 3.89$, $SD = 1.04$), $p = .019$ and to high-sociability and low-competence targets ($M = 4.01$, $SD = 1.27$), $p = .031$. No other effects were significant, ps $> .430$.

Negative secondary emotions were attributed to a greater extent to high-morality ($M = 4.56$, $SD = 1.20$) compared to low-morality targets ($M = 3.67$, $SD = 1.81$), $F(1, 178) = 25.86$, $p = .000$, $\eta^2 = .127$. There was no other significant effect, Fs < 3.51, ps $> .072$.

Global Impression

High morality led to a more positive impression of the target (M = 4.62, SD = 1.03) compared to low morality (M = 2.90, SD = 1.12), $F(1, 179)$ = 127.57, p = .001, η^2 = .416. High-sociability targets were rated more positively (M = 4.19, SD = 1.53) compared to low-sociability targets (M = 3.42, SD = 1.06), $F(1, 179)$ = 14.93, p = .001, η^2 = .077, and high-competence targets were rated more positively (M = 4.08, SD = 1.31) than low-competence targets (M = 3.56, SD = 1.39), $F(1, 179)$ = 7.83, p = .006, η^2 = .042. The effect was larger for morality, Cohen's d = 1.59, compared to sociability, d = 0.58, or competence, d = 0.38. A significant interaction between morality and sociability, $F(1, 179)$ = 17.42, p = .001, η^2 = .089, was also found. Pairwise comparisons showed that high-sociability and high-morality targets were rated more positively (M = 5.11, SD = 0.95) than low-sociability and high-morality targets (M = 3.95, SD = 0.72), p = .001. High-morality targets obtained higher ratings than low-morality targets in both high-sociability (M = 2.85, SD = 1.17) and low-sociability conditions (M = 2.94, SD = 1.09), ps < .001. No other comparisons were significant, p = .832.

A two-way interaction between morality and competence, $F(1, 179)$ = 4.31, p = .039, η^2 = .024, was also found. Low-morality and high-competence targets were rated more positively (M = 3.26, SD = 1.19) compared to low-morality and low-competence targets (M = 2.55, SD = 0.94), p = .001, whereas they did not differ from high-morality and high-competence targets (M = 4.75, SD = 0.99), and high-morality and low-competence targets (M = 4.49, SD = 1.06), p = .599. High-morality targets obtained higher ratings across high- and low-competence conditions, ps < .001.

Decision-Making Task

When the target was described as highly moral, participants chose a nonunique object more often, revealing higher unselfish choice behavior (M = 15.48, SD = 3.36), compared to the conditions where the target had low morality (M = 13.94, SD = 3.64), $F(1, 173)$ = 7.23, p = .008, η^2 = .040. No other effects were significant, Fs < 2.76, ps > .098. This evidence supported Hypothesis 2.

Expectancy of Potential Reciprocation

When the target was described as highly moral, participants had higher expectancy of potential reciprocation (M = 5.24, SD = 0.75) compared to the conditions where the target had low morality (M = 2.74, SD = 1.11), $F(1, 179)$ = 350.48, p = .000, η^2 = .662. Similarly, when the target was described as highly competent, participants had higher expectancy of potential reciprocation (M = 4.41, SD = 1.48) compared to the conditions where the target had

Table 2. Pearson's correlations between all measures (Study 2)

	1.	2.	3.	4.	5.
1. Secondary emotions	–	−.047	.276**	.356**	.386**
2. Primary emotions		–	.095	.086	-.069
3. Global impression			–	.172*	.692**
4. Decision-making task				–	.145
5. Expectancy of reciprocation					–

Note. *p < .05, **p < .01.

low competence (M = 3.74, SD = 1.57), $F(1, 179)$ = 22.47, p = .000, η^2 = .112. No other effects were significant, Fs < 3.042, ps > 0.083.

Mediation

Using Hayes' (2012) PROCESS macro, we tested whether humanness in terms of secondary emotions mediated the effect of morality on unselfish behavior. The mediation model included global impression and expectancy of potential reciprocation as covariates. Table 2 illustrated correlations between the above variables. A significant path between target's morality and unselfish behavior was found, B = 1.86, SE = 0.90, 95% CI [0.09; 3.68], controlling for global impression and expectancy of potential reciprocation. Morality also predicted the attribution of secondary emotions, B = 0.58, SE = 0.28, 95% CI [0.05; 1.12]. When secondary emotions were considered in the same regression with morality, the effect of secondary emotions remained significant, B = 1.04, SE = 0.25, 95% CI [0.57; 1.51], whereas morality, B = 1.26, SE = 0.87, 95% CI [−0.46; 2.98], global impression, B = 0.27, SE = 0.25, 95% CI [−0.23; 0.77], and expectancy of potential reciprocation, B = −0.45, SE = 0.29, 95% CI [−1.02; 0.13], were nonsignificant. Thus, secondary emotions as measure of target's perceived humanness mediated the effect of morality on unselfish behavior toward the target. Findings therefore provide support to Hypothesis 3.

Discussion

Study 2 added to previous research on morality by showing that compared to the other dimensions of social judgments, target's morality promotes actual prosocial or unselfish behaviors at interpersonal level, and that this effect is explained by perceived humanness. This mediating role of humanness was consistent controlling for global impression of the target and expectancy of potential reciprocation, meaning that people behave in a less unselfish (thus more prosocial) fashion toward highly moral targets because they are perceived as human beings to a higher extent than low-morality targets.

General Discussion

Research on social perception has established the primacy of morality in forming impressions of others (Brambilla & Leach, 2014). The present research goes beyond this evidence by revealing that the perceived morality of others leads to consider them as highly human, and this in turn predicts unselfish behaviors toward them. In a two-step sequence of studies, we were able to show that the morality of a target person enhances the perception of humanness which, in turn, mediates approaching behavioral intentions toward the target (Study 1). Switching to actual behaviors (Study 2), we found that individuals behave in an unselfish way to a greater extent toward high-morality compared to low-morality targets. In fact, employing the SoMi paradigm (Van Doesum et al., 2013), we showed that participants were more likely to leave the target the opportunity to choose between different objects, restraining choice options for the self when the target was high (vs. low) in morality. This effect was explained by target's humanness. Overall, this research highlights that morality constitutes a central criterion of considering others as worthy human beings and elicits unselfish behaviors which in turn might facilitate positive social interactions.

From Morality to Perceived Humanness

Whereas Opotow (1990) argued that the denial of moral values leads to dehumanization, our evidence showed that morality is a fundamental criterion of humanness. If previous research has examined the link between the concepts of morality and humanness by showing that others' humanness impacts the evaluation of their morality (Bastian et al., 2011), the present studies provide support for the "other side of the coin." In fact, the findings highlighted that others' morality, compared to their competence or sociability, leads us to perceive them as more human, and also enhances the perceiver's unselfish behaviors toward them. Notably, this effect was found using both a direct and an indirect measure of humanness, namely attribution of secondary emotions and attribution of human traits. These two measures allowed us to address multiple dimensions of the humanness concept as highlighted by Haslam (2006), that is, human uniqueness and human nature. Secondary emotions (Demoulin et al., 2004) represent an indirect measure of humanness, because individuals are not aware of their underlying meaning. Conversely, the attribution of human traits (Viki et al., 2013) is a more controlled means to assess the extent to which individuals consider others to possess human characteristics (e.g., friendliness) as opposed to emotional states. Although on this latter measure we found some unexpected patterns, the general finding that high

morality increases attribution of humanness was obtained with both measures of humanness, supporting the strength of morality effects.

It is also worth noting that high-morality targets were attributed less primary (or not uniquely human) emotions compared to low-morality targets. Given that morality concerns the ability to control oneself and one's own emotions, this characteristic should attenuate the expression of instinctive emotions. This evidence was consistent across all the studies and supported the link between morality and humanness. Thus, the present findings extend previous evidence by showing that the morality of an unknown target not only leads us to a favorable judgment of the person (Brambilla et al., 2012), but also to consider him/her as a worthy human being, in terms of emotional regulation (secondary and not primary emotions) and human cognition (human traits). In this regard, Gray, Young, and Waytz (2012) proposed that ascribing human mind, involving both experience (as expression of emotions) and agency (as cognitive intentions), confers to an entity moral rights and responsibility for its own actions. Our findings instead highlight that when individuals are perceived as moral, they are attributed human characteristics   affective and cognitive attributes   to a greater extent.

These findings add to the literature on strategies to reduce dehumanization and consequent positive behaviors (Prati, Crisp, & Rubini, 2015; Prati, Crisp, Pratto, & Rubini, 2016; Prati, Moscatelli, Pratto, & Rubini, 2016; Prati, Vasiljevic, Crisp, & Rubini, 2015) by showing the role of morality in attributing humanness to others, and, in turn, in treating them in a socially mindful manner.

From Morality Through Humanness to Unselfish Behaviors

Recent evidence has shown that inviting individuals to think about morality increases their attention and improves task performance (Van Nunspeet, Derks, Ellemers, & Nieuwenhuis, 2015). Going a step further, we were able to show that processing information on the morality of another person has a strong impact on behavior, leading individuals to favor the moral target over the self. In this vein, morality works as a principle of cooperation between unknown people, leading individuals to treat other people as the self would deserve. In our study, the experimental scenario let participants believe that after they made their choices, a target person would choose from the options left by the participants. Thus, they were made aware that they had the first round to establish a prosocial versus a selfish relationship. In fact, the SoMi paradigm concerns actions that involve thinking about what others, and not just what the self, may want (Van Lange & Van Doesum, 2015).

Taking one of the nonunique options instead of taking the unique option therefore concerns being unselfish or not, safeguarding other people's control over their own behavioral options in situations of interdependence. Thus, this paradigm captures a domain of everyday life behaviors that concerns granting other people the same level of control over their options as if they were the first chooser (Van Lange & Van Doesum, 2015). Van Doesum et al. (2013) suggested that socially effective actions like leaving or limiting choice options for others require a process of both perspective taking and empathic concern. The present findings therefore suggest that information about a person's morality leads individuals to focus on options left to the person, granting him/her a positive concern.

Would simple information processing of others' morality be enough to explain the results obtained? Van Doesum et al. (2013) argued that individuals need to be motivated to perform unselfish behaviors that allow others to make autonomous choices. The motivation to perform unselfish behaviors can be driven by individual characteristics of the actor (e.g., high prosocial value orientation, empathy, honesty–humility). However, given that the SoMi paradigm reproduces a clear case of social interdependence, the characteristics of the target person should also play a role in the actor's choices (Van Doesum, Tybur, & Van Lange, 2017). Our research shows that others' morality has a key role in motivating participants to make unselfish judgments toward them and that this effect is mediated by perceived humanness.

Limitations and Future Directions

The use of student samples limits the generalizability of our results. Future research could consider a more heterogeneous sample to test moderating effects of demographic variables (i.e., gender, political orientation). The evidence we collected speaks about interpersonal relationships, and we know that there is widespread tendency to consider one's own group as more human than out-groups (Bain, Vaes, Haslam, Kashima, & Guan, 2012; Leyens et al., 2000). Thus, future research could examine the influence of morality on perceived humanness at the intergroup level. Would group members be prone to behave in an unselfish way when their partners are highly moral (vs. low-morality) out-group member? Does others' morality lead to exceed intergroup boundaries? Also, it is noteworthy that the measure of social mindfulness focuses on low-cost cooperation (for a discussion, see Van Lange & Van Doesum, 2015). To further test the strength of perceived morality, future research could investigate whether the present results extend to (monetarily) costly forms of prosocial behavior as well as direct forms of aid.

Concluding Remarks

Past research has suggested that perceiving others as less human than oneself may bring about hostility, aggression, and violence, with moral exclusion being a plausible process accounting for it (Bastian, Denson, et al., 2013; Kelman, 1973; Opotow, 1990; Viki et al., 2013). Our research examined what makes people perceive humanness in others and include them in one's circle of moral concern. It is an intense sense of morality that people also attribute to themselves. This suggests that moral inclusion constitutes a process that brings about the goodness in people. Indeed, morality has a primary influence not only on the perception of others as worthy human beings but also on the tendency to act in a moral way toward them. This may in turn elicit others' moral behaviors toward the perceiver as well as to other people, enlarging the circle of moral concern (Singer, 1981). Thus, these findings are especially important for understanding why people tend to cooperate with strangers, as well as what is needed for strangers to develop general trust, and for societies to promote and maintain well-functioning democracies (see Balliet & Van Lange, 2013). Overall, such insights may help find the pathways by which conflicts between groups, religions, and nations may be reduced.

Open Data/Material

The following DOI gives access to the repository in which datasets of the present research are permanently stored: https://doi.org/10.6084/m9.figshare.6226991.

Author Contributions

Francesca Prati, Silvia Moscatelli, and Monica Rubini designed the research and wrote the article. Francesca Prati recruited participants for the studies and analyzed the data. Paul A. M. Van Lange and Niels J. Van Doesum commented on a prior draft of this article.

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