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CAN SECURE ATTACHMENT BE RELATED TO PROSOCIAL BEHAVIORS THROUGH THE MEDIATION OF HUMANIZING SELF-PERCEPTIONS?

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In this study, we explore whether different self-perceptions in terms of human traits are associated with attachment orientations (secure, anxious, and avoidant) and whether these perceptions explain the relationship between attachment orientations and prosocial behaviors. A sample of adult participants was investigated through an online questionnaire. To test the mediation model path analysis was applied. Findings show that secure attachment is related to the perception of being qualified by emotional responsiveness and relational skills (human nature traits). Anxious and avoidant attachment are, in contrast, related to self-denial of these traits. Attachment anxiety is also linked to the perception of not being defined by uniquely human characteristics like rationality and self-control. As predicted, humanity self-attributions mediated the relationship between dispositional attachment and prosocial or antisocial orientations. This mediation effect was observed when controlling for self-esteem. Limits and practical implications of findings are discussed.

Keywords: Attachment orientations; Self-humanization; Self-dehumanization; Prosocial behavior; Antisocial behavior.

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This work aims to explore the associations between attachment orientations, humanity self-attributions, and prosocial behaviors. The attachment behavioral system can be conceptualized as an inborn neural program, which guides individual behavior to enhance the chance of survival (Bowlby, 1982). This behavioral system aims to favor the proximity between infants and adults who care for them (attachment figures). According to Bowlby, the interactions between infants and caregivers lead to building mental representations of self and others, with the latter being perceived as reliable or unreliable. These representations become stable working models across the lifespan and contribute to shaping social interactions (for a review, see Mikulincer & Shaver, 2016).

ATTACHMENT ORIENTATIONS AND ALTRUISM

Three main attachment orientations have been conceptualized: secure, anxious, and avoidant (Bowlby, 1973; for reviews, see Mikulincer & Shaver, 2016, 2020). The secure orientation qualifies individuals with positive representations of themselves and others, which derive from harmonious interactions

with attachment figures during infancy and throughout lifetime. Secure individuals tend to rely on others in times of need and are effective in addressing environmental challenges. Conversely, anxious individuals, having experienced inconsistent responses from attachment figures, see themselves as unworthy and other people as positive but inconstant. They worry that others will not be available in times of need and anxiously seek their love and care. Avoidant individuals do not trust others and try to maintain their own behavioral and emotional independence; they only rely on themselves and perceive emotional distance from others.

Mental representation of attachment security — with the associated positive beliefs (e.g., "distress is manageable," "other people are benevolent and reliable," "the self is valuable") — can be activated by using experimental techniques (security priming; see Mikulincer & Shaver, 2016). This activation favorably influences affect regulation: it improves implicit moods even in threatening situations (Mikulincer, Hirschberger, Nachmias, & Gillath, 2001), and accelerates emotional recovery after recalling a disturbing event (Selcuk, Zayas, Günaydin, Hazan, & Kross, 2012). Furthermore, security priming can increase parasympathetic responses to stress stimuli, which are a signal of relaxation (Bryant & Hutanamon, 2018).

The contextual activation of attachment security provides a foundation for compassion. Mikulincer, Gillath, et al. (2001) discovered that security priming enhances compassionate feelings toward a suffering person. In addition, they observed that anxious and avoidant orientations are negatively related to compassion, and attachment anxiety is positively related to distress (similar findings were reported by Britton & Fuendeling, 2005; Trusty, Ng, & Watts, 2005). For values, Mikulincer et al. (2003) discovered that security activation increased both the concern for people close to oneself (benevolence) and the concern for all of humanity (universalism); dispositional avoidance was instead negatively related to both values.

The positive outcomes of security priming also appear from altruistic attitudes and behaviors. In Gillath et al.'s (2005) study, motives for volunteering were investigated. Findings showed that avoidant attachment is related to fewer volunteer activities. As to anxious attachment, it was positively related to egoistic motives for volunteering, such as a way to be socially accepted. In laboratory studies, Mikulincer, Shaver, Gillath, and Nitzberg (2005, Study 1 and Study 2) revealed that security priming, when compared with neutral priming, increased participants' willingness to take the place of a distressed person who was performing aversive tasks. The prosocial effects of attachment security did not depend on egoistic motives, such as the desire to improve one's mood or to share the relief of the suffering person (Mikulincer et al., 2005, Studies 3 and 4).

According to Mikulincer and Shaver (2015), several reasons can explain why attachment security, whether as a dispositional characteristic or as an experimentally induced representation, can promote altruistic behaviors. First, attachment security, attenuating the need for self-protection, allows people to consider others' needs and engage in constructive helping. Second, the effective care provided by attachment figures represents a model to follow when encountering a person in need. Third, the positive self-model, associated with attachment security, allows secure individuals to view themselves as capable of regulating their emotions when dealing with suffering people.

As for anxiously attached individuals, their usual focus on their own distress (Britton & Fuendeling, 2005; Mikulincer, Gillath, et al., 2001) diverts crucial mental resources from attending to other people's needs. Avoidant individuals are not inclined to help because they feel uncomfortable with closeness and hold negative views of others.

One aim of the current work is to replicate previous findings on altruism. We expect to discover a positive relationship between (chronic) secure attachment and prosocial behaviors. A negative relationship should, in contrast, be found for anxious and avoidant attachment.

Attachment Orientations and Self-Perceptions

We noticed that secure individuals hold positive self-representations, whereas anxious individuals perceive themselves negatively (see Mikulincer & Shaver, 2016). Regarding self-esteem, Schmitt and Allik (2005) highlighted a negative association between attachment anxiety and self-esteem in 49 of the 53 nations investigated. For avoidance, the association was negative in only 18 nations. However, in a review of studies, Mikulincer and Shaver (2016) discovered a negative association between avoidance and self-esteem (and self-efficacy) in more than half of the studies reviewed; in about 40%, the relationship between avoidance and lower self-worth was nonsignificant. As observed by Shaver, Mikulincer, Sahdra, and Gross (2016), although avoidant people tend to understate their weaknesses, their defenses are feeble and may sometimes fall. The fragility of the positive self-views of avoidant individuals appears when indirect measures are used, such as dream narratives. Mikulincer, Shaver, and Avihou-Kanza (2011) discovered that dreams reported by avoidant people included negative representations of themselves as distant, uncooperative, and angry.

It is not surprising that to maintain a positive self-evaluation, avoidant individuals may inflate their self-image. It has been discovered, for instance, that avoidants' descriptions of their personality were more favorable than those reported by trained observers (Gjerde, Onishi, & Carlson, 2004). Furthermore, avoidant participants appraised themselves more positively following a threatening condition than a neutral condition (Hart, Shaver, & Goldenberg, 2005); secure participants, in contrast, were not differently affected by the neutral and threatening manipulation.

Research considering the relationship between attachment patterns and self-representations has never investigated the attributions of human traits to the self. According to an influential theory (Haslam, 2006), humanity attributions are expressed based on two core dimensions: human uniqueness and human nature. The first includes the features that distinguish humans from other primates, such as morality, reasoning capacity, self-control. Human nature, in contrast, includes attributes that are central — but not unique — to the human species, like warmth, relational skills, and curiosity. The denial of human-specific traits to other people leads to assimilate them to animals (animalistic dehumanization); in contrast, when human nature is denied, other people are assimilated to mechanical entities, such as machines or robots (mechanistic dehumanization).

A large body of research has explained the causes and consequences of other people's dehumanization (see, e.g., the review by Haslam & Stratemeyer, 2016; for intergroup contact as a cause and effect of humanizing perceptions, see Capozza, Di Bernardo, & Falvo, 2017). Less work has been devoted to self-dehumanization, that is, the perception of not being fully defined by humanity traits. Research has shown that self-dehumanization emerges when people feel ignored or ostracized (Bastian & Haslam, 2010), with this effect mainly applying to the human nature dimension. Findings are mixed for the uniquely human dimension, but they remain coherent with a general pattern of self-dehumanization. Ostracizing other people can also elicit self-dehumanizing perceptions, which can lead to altruistic behaviors (Bastian et al., 2013). It is likely that altruism may have the function of recovering one's humanity in one's own and other people's eyes.

The relationship between immoral behavior and self-dehumanization has been investigated by Kouchaki, Dobson, Waytz, and Kteily (2018). These authors observed that remembering or imagining one's immoral behavior (e.g., lying or cheating on an exam) reduced mind attribution to oneself (i.e., increased self-dehumanization) compared with conditions in which neutral or ethical episodes were remembered.

But what are the consequences of self-dehumanization? Bastian and Haslam (2011) found that interpersonal maltreatments, diminishing the self-attributions of core human traits (denial of human nature), caused cognitive deconstructive states, such as lower capacity of thinking, as well as feelings of anger and

sadness. In contrast, interactions diminishing self-attribution of uniquely human traits caused states of aversive self-awareness and feelings of shame and guilt (for potential applications of these findings in medical contexts, see Capozza, Falvo, Boin, & Colledani, 2016).

As already mentioned, self-dehumanization deriving from ignoring or ostracizing a person may lead to prosocial behaviors, when the target is aware of our unethical actions (Bastian et al., 2013). However, the most consistent finding is that self-dehumanization leads to immoral and antisocial behaviors. Kouchaki et al. (2018) instructed participants, examined on Amazon's Mechanical Turk, to think about a situation in which they did not feel capable of self-control, making plans, or experiencing feelings and emotions. In the control condition, participants were asked to write about a neutral situation, such as their morning routines. To measure dishonesty, cheating behaviors leading to earning small amounts of money were generally used. In one of the experiments performed, the dependent variable was the choice between displaying a prosocial or antisocial behavior. Findings highlighted that self-dehumanizing perceptions favored cheating and antisocial choices. For instance, when choosing between two tasks, participants were more inclined to assign a longer and harder task to another Mechanical Turk participant, keeping the less demanding task to themselves. Self-dehumanization seems to function as a moral disengagement mechanism to justify one's unethical or antisocial behaviors.

No studies have linked self-(de)humanization to attachment orientations and their related behaviors. We predict that secure individuals will perceive themselves endowed with both uniquely human and human nature traits (Hypothesis 1). In fact, by relying on the support of responsive attachment figures, secure individuals are (and feel) able to confront threats and challenges maintaining optimism, self-control, and rationality (all uniquely human characteristics). Furthermore, the belief that others are benevolent and reliable (see Mikulincer & Shaver, 2016, for a review) promotes positive feelings and facilitates social relationships (emotional responsiveness and relational skills are core concepts in the human nature dimension).

In contrast, avoidant individuals do not feel comfortable in social relations, because they hold unfavorable representations of other people and distrust others' goodwill. Avoidant individuals defensively strive to maintain a behavioral and emotional distance from others and are likely to endorse statements like "My relationships with others are generally superficial."[1] Similarly, anxiously attached individuals do not perceive themselves as capable of managing social relationships. They worry that other people will not be available in times of need and anxiously seek their care and love. Anxious individuals may endorse statements like "Other people often do not allow me to get as close as I want."[2] Thus, we expect that both avoidant and anxious individuals will deny themselves core components of the human nature construct (Hypothesis 2). Both anxious and avoidant individuals felt ignored during early childhood, with social exclusion being a powerful antecedent of the denial of human nature to the self (see Bastian & Haslam, 2010).

Regarding human uniqueness, people high in attachment anxiety do not perceive themselves as capable of autonomously facing episodes of threat, rejection, and frustration. They seek other people's support and experience anger and despair when support is not provided (Cassidy & Kobak, 1988). Thus, anxious attachment should be negatively associated with core features of human uniqueness, like autonomy and self-control. Avoidant individuals, on the one hand, perceive themselves as autonomous and self-sufficient, on the other hand, are aware of not being able to reach important goals, such as, at work, being good leaders and adapting to organizational goals (see Mikulincer & Shaver, 2016). Thus, we predict that anxious individuals will deny themselves core uniquely human traits (i.e., a negative association between anxiety and the uniquely human factor); for avoidant individuals, human uniqueness should not be overall included in the self-working model, because some uniquely human properties are conceded to the self, whereas others are denied (i.e., no relation is predicted between avoidance and the uniquely human factor) (Hypothesis 3).

The three attachment orientations are differently associated with altruism. A mediation effect of humanity self-attributions can be expected. Attachment security should be positively related to altruism because secure individuals are aware of having the social and control capacities to effectively help people in need (Hypothesis 4). Insecure individuals, conversely, are not expected to engage in helping behaviors because they know they lack such capacities (Hypothesis 5); for avoidant individuals, the recognition of their limited interpersonal skills may serve the function of justifying their low propensity to altruism. This is the first time that, in attachment research, humanity attributions are conceptualized as being included in the working model of self. This is also the first time that self-perceptions of being fully or not fully human are conceptualized as mediators in the relationship between attachment styles and prosocial behaviors.

Overview of the Current Research

In this study, we test a mediation model in which attachment orientations are the exogenous variables, humanity self-attributions are the mediators, and different modes of prosocial behavior are the outcome variables. In the survey, a questionnaire was applied. To detect attachment orientations, we used a short scale consisting of three items (Hazan & Shaver, 1987) — one for each attachment style. Items concerned how participants typically feel in social — including romantic — relationships. Although in its original form this measure was categorical (participants were invited to choose one of the three items), we applied it as continuous by associating a 7-step scale to each prototypical description. Hazan and Shaver's scale is generally adopted for its brevity, face validity, and ease of administration; it also shows predictive validity (see, e.g., Hazan & Shaver, 1990).

To assess humanity self-attributions, we applied a scale elaborated by Bastian and Haslam (2010), which detects typical traits of the human nature dimension (e.g., "I generally perceive myself as emotional, empathic, and warm") and typical traits of the uniquely human dimension (e.g., "I generally perceive myself as logical and rational"). The scale was generated in the context of ostracism research; we adjusted it — with small changes — to the analysis of humanity self-attributions, in general. Items taken from Rosenberg's (1965) self-esteem scale were also applied; we used self-esteem as a covariate to discover the unique associations of humanity self-attributions with prosocial behaviors. In the mediation model, self-esteem was modeled as a parallel mediator of humanity perceptions.

Prosocial behavior was measured using a vignette, in which two Syrian children aged approximately two or three were presented. Participants were told that the two children lost parents and family due to the civil war. Therefore, they had been entrusted to families living in a European country, who needed financial support for their care. Respondents were invited to indicate how many euros they were willing to donate. A response scale anchored by 0 and 6 euros was used. We introduced this question as a measure of intentions to help. Participants were then asked to provide contact details (e.g., e-mail address, cell phone number), which would allow a charity organization to reach them and collect the promised money. They were free to fill in this item or not. We used this question to measure real helping behavior, because participants who gave their contact details could actually be reached (of course, respondents were never contacted).

To assess prosocial behavior, we also used statements referring to unkind behaviors, such as leaving a seminar before its end. We preferred to use unkind rather than immoral behaviors because unkind behaviors are more frequent in people's daily life. We defined them as disrespectful behaviors toward other people.

The mediation model was tested by applying path analysis based on observed variables, and the significance of indirect effects was estimated using bootstrapping methods (5,000 resamples) and the 95% bias-corrected confidence interval (CI). To control for the effects of demographic variables, three covariates were entered as exogenous variables (gender, age, and education). As for attachment orientations, they were modeled as related to both mediators and the outcomes. A saturated model was therefore evaluated. Mplus (Muthén & Muthén, 1998-2017) was used as the statistical modeling program (maximum likelihood was the estimator).

Two path analyses were run: one with two continuous dependent variables (intentions to help and disrespect); the other with one binary dependent variable (helping behavior: contact information provided or not). For the latter variable, logistic regression was applied to estimate the paths linking the binary outcome to its predictors.

Method

Participants and Procedure

A total of 700 participants, recruited from different Italian regions, completed an online questionnaire made available after filling out an electronic informed consent. Of the participants (mean age = 30.91 years, *SD* = 13.57), 51.4% were women. In terms of education, 66.3% had completed high school, 21.3% held a university degree or higher qualifications, 12.4% had basic educational levels (primary or junior high school). Participants were all Italian and, just like their parents, were born and lived in Italy.

Participation in the study was anonymous and voluntary. The research was approved by the local Ethical Committee for Psychological Research.

To establish the sample size, we used Soper's (2020) calculator for structural equation models. With 11 observed and 11 latent variables (the eight variables of Figure 1 plus the three covariates), the minimal sample size required to reach a power of .80, with a probability level of .05 and an effect size of .20 (between small, f = .10, and medium, f = .30), is of 700 respondents.

Measures

Participants completed the following measures: attachment orientations, self-attributions of humanity, self-esteem, disrespectful behaviors, altruistic intentions, helping behavior, and demographics.

Attachment orientations. Attachment orientations were assessed using the three-item scale developed by Hazan and Shaver (1987). The item measuring secure attachment, for instance, was: "I find it relatively easy to get close to others and I am comfortable depending on them and having them depending on me. I don't often worry about being abandoned or about someone getting too close to me." The introductory sentence was: "Consider the following three paragraphs concerning ways of perceiving social relationships, even intimate social relationships. For each paragraph, indicate to what extent it describes your mode of perceiving relationships." A 7-step scale, anchored by *totally disagree* (1) and *totally agree* (7), was used (4 = *neither agree nor disagree*).

Humanity attributions to the self. We applied a 12-item scale, derived from Bastian and Haslam (2010). Six items assessed human nature or its denial, for instance: "capable of interpersonal warmth";

"emotional, empathic, and warm"; "mechanical and cold like a robot" (reverse scored). Six items assessed human uniqueness or its denial, for instance: "cultured and intellectually refined"; "capable of self-control"; "less than human, like an animal" (reverse scored). For each item, the introductory sentence was: "I generally perceive myself as." Responses were made from 1 (*totally disagree*) to 7 (*totally agree*). Cronbach alphas were .76 and .73, for human nature and human uniqueness, respectively.

Self-esteem. To assess self-esteem, we applied seven items taken from Rosenberg's (1965) scale, for instance: "I feel I have a number of good qualities," "I feel I do not have much to be proud of" (reverse scored). Responses were coded on a scale ranging from *totally disagree* (1) to *totally agree* (7). Alpha was .78.

Disrespectful behaviors. Self-reported unkind behaviors were measured with the following items: "How often did you leave a lecture ahead of time, while a teacher or trainer was speaking?" "How often did you chat with other people during a seminar?" A 7-step scale was used anchored at *never* (1) and *very often* (7) (2 = *very rarely*, 3 = *rarely*, 4 = *sometimes*, 5 = *quite often*, 6 = *often*). The correlation between the two items was $r = .47$, $p < .001$.

Intentions to help. After the presentation of the vignette, in which the story of the two Syrian children was narrated, participants were invited to donate some money to contribute to their care. A humanitarian organization would deliver the sum offered to the foster families. Respondents could choose one out of seven options from 0 to 6 euros. They could also skip this item.

Helping behavior. Participants who were willing to donate money were invited to provide personal details so that the charity organization could reach them.

Demographics. Information regarding age, gender (men = 340, women = 360), and education (1 = primary or junior high school; 2 = high school; 3 = university degree or higher qualification) was required.

Results

Descriptive Statistics and Correlations

For variables measured with two or more indicators, a composite score was computed by averaging the responses to the respective items. Means, standard deviations, and correlations between the study variables are shown in Table 1. For disrespect and intentions to help, respondents were $n = 668$ and $n = 671$, respectively, because of missing data.[3]

As in previous studies (e.g., Boccato, Capozza, Trifiletti, & Di Bernardo, 2015), the most endorsed attachment orientation was security. In relation to self-perceptions, participants viewed themselves as qualified by both human nature and uniquely human characteristics. They were willing to donate on average two euros to help Syrian children and reported rare or very rare episodes of unkind behavior. Personal contact information was provided by 93 (13.28%) respondents.

Concerning correlations, security was negatively related to avoidant and anxious orientations, which were positively related (the magnitude of these correlations was between medium and small; Cohen, 1992). Correlations among self-perceptions (human nature, human uniqueness, self-esteem) were positive and large. Secure attachment was positively related and insecure attachment negatively related to helping behavior (the magnitude of these correlations was between small and medium, closer to small).

TABLE 1
Descriptive statistics and correlations for study variables (N = 700)

	M	*SD*	1	2	3	4	5	6	7	8	9
1. Secure Attachment	3.90	1.69	-								
2. Avoidant Attachment	3.58	1.71	–.22***	-							
3. Anxious Attachment	2.80	1.68	–.11**	.23***	-						
4. Human Nature (Self)	5.80	0.86	.20***	–.24***	–.22***	-					
5. Human Uniqueness (Self)	5.35	0.88	.11**	–.12***	–.23***	.48***	-				
6. Self-esteem	4.95	1.07	.24***	–.23***	–.31***	.45***	.48***	-			
7. Disrespect	2.47[ab]	1.38	–.08*	–.02	–.02	–.01	–.06	–.07	-		
8. Intentions to Help	1.74[ab]	2.23	.03	–.04	–.04	.11**	.03	.04	–.02	-	
9. Helping Behavior	0.13[cd]	0.34	.16*	–.13*	–.14*	.20**	.04	.03	–.03	.55***	-

Note: [a] The 7-step response scale for disrespect was anchored by *never* (1) and *very often* (7); the 7-step scale for intentions to help was anchored by 0 and 6 euros; regarding variables from secure attachment to self-esteem, the response scale ranged from *totally disagree* (1) to *totally agree* (7; 4 = *neither, nor*). [b] Missing data only concerned disrespect (4.57%) and intentions to help (4.14%): n = 668, for disrespect, and n = 671, for intentions to help. [c] For helping behavior, 1 = one's contact details were provided to help Syrian children, 0 = one's contact details were not provided (or the alternative 0 on the euro scale was chosen or no response to the euro scale was given). [d] All correlations in this table are Pearson's *r*s; those regarding helping behavior are biserial correlations.

* p < .05. ** p < .01. *** p < .001.

Testing the Path Models

Findings of path analysis are presented in Figures 1 and 2.[4] They show that secure attachment was positively related to the perception of being qualified by human nature traits; no relationship was instead found between security and uniquely human traits. Hypothesis 1 was only partially supported. As predicted, both avoidant and anxious attachment were negatively related to human nature traits, and anxious attachment was also negatively related to uniquely human traits (avoidance was not related to these traits). Hypotheses 2 and 3 were fully met. Furthermore, replicating previous findings, a positive link was observed between secure attachment and self-esteem (see Mikulincer & Shaver, 2016), whereas self-esteem was negatively related to attachment anxiety (see Schmitt & Allik, 2005) and attachment avoidance (see Mikulincer & Shaver, 2016; see also Mikulincer, Shaver, & Rom, 2011).

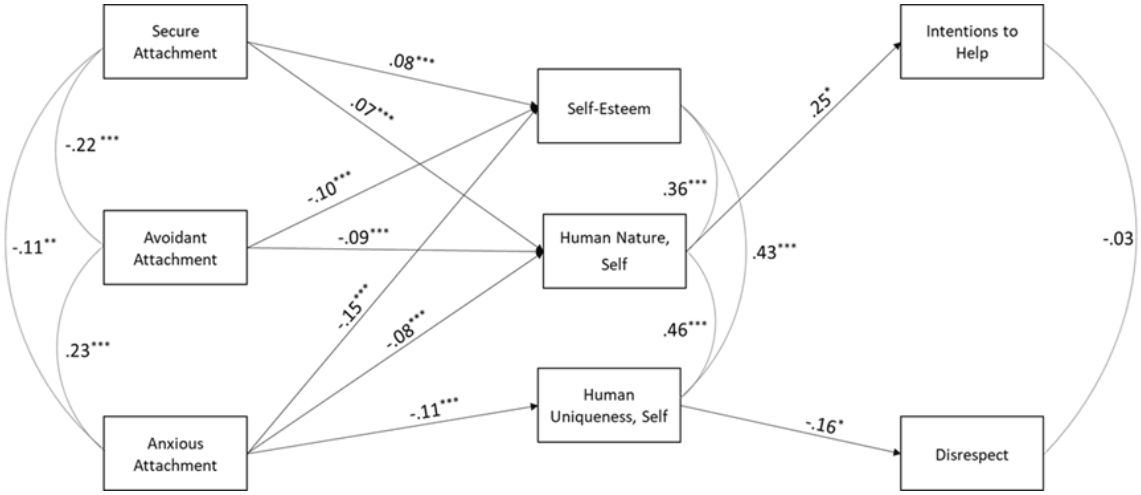

FIGURE 1
Path analysis model of the associations between attachment orientations and the outcomes: Disrespect, intentions to help.

Note. The path model shows the mediation role of self-esteem and humanizing self-perceptions in the relationship between attachment styles (secure, avoidant, and anxious) and two outcomes: intentions to help and disrespect. Intentions to help was measured as the amount of money a person was willing to donate to help Syrian children with no living relatives. Disrespect was measured as the disposition to perform impolite behaviors. Only significant, unstandardized regression coefficients are reported. Curved paths denote correlations. For the sake of simplicity, findings regarding covariates (age, gender, and education) are not displayed: covariates were modeled as exogenous variables associated with both the mediators and the outcomes. $N = 700$.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Regarding altruism, security was related to both the intention to offer money in favor of Syrian children (Figure 1) and the willingness to provide one's contact details (Figure 2), both relationships being mediated by the perception of being characterized by human nature traits.[5] Hypothesis 4 was thus supported for helping attitudes and behavior. However, security was not related to disrespect, and of the two humanity factors only human nature intervened as a significant mediator. Confidence intervals of indirect effects are outlined in Table 2. They show that the two indirect effects concerning security (Figures 1 and 2) were significant: in both cases the 95% confidence interval excluded zero.

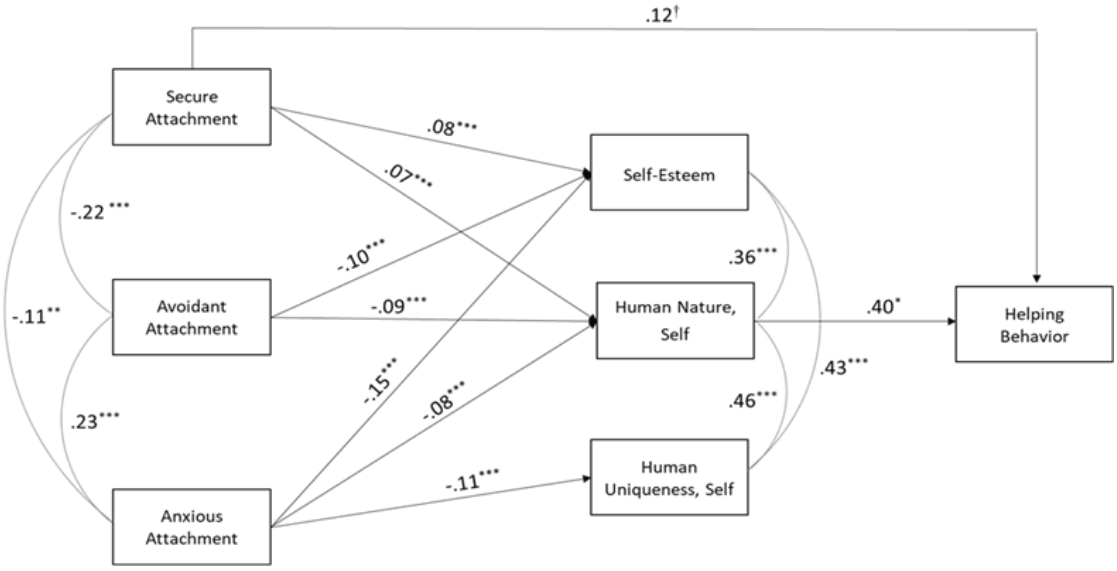

FIGURE 2
Path analysis model showing the associations of attachment orientations with helping behavior.

Note. The path model shows the mediation role of self-esteem and humanizing self-perceptions in the relationship between attachment styles (secure, avoidant, and anxious) and helping behavior. The latter was a dichotomous variable: 1 = one's contact details were provided to help Syrian children and 0 = one's contact details were not provided or the alternative 0 on the euro scale was chosen, or no response to the euro scale was given. Only significant, unstandardized regression coefficients are reported. Linear regression was applied to predict mediators; logistic regression was used to predict the outcome (helping behavior). Curved paths denote correlations. For the sake of simplicity, findings regarding covariates (age, gender, and education) are not displayed: covariates were modeled as exogenous variables associated with both the mediators and the outcome. $N = 700$.

† $p = .052$. * $p < .05$. ** $p < .01$. *** $p < .001$.

For insecure orientations, they were negatively related to intentions to help and helping behavior (Figures 1 and 2); the denial of human nature traits to the self mediated these relationships. In contrast, self-attributions of uniquely human characteristics did not play any mediation role. Hypothesis 5 was, thus, partially supported. Disrespect was only linked to anxious attachment, this association being mediated by the perception of being poorly qualified by uniquely human traits, such as competence and self-control (Figure 1). All indirect effects pertaining to anxious and avoidant orientations were significant (Table 2). Notably, the associations of humanity self-attributions with the outcomes were detected when controlling for self-esteem.

TABLE 2
Significant indirect effects shown in Figure 1 and Figure 2

Indirect effects	95% Confidence interval	Point Esteem
Secure Attachment → Human Nature (Self) → Intentions to Help	[0.002, 0.044]	0.018
Avoidant Attachment → Human Nature (Self) → Intentions to Help	[–0.050, –0.004]	–0.022
Anxious Attachment → Human Nature (Self) → Intentions to Help	[–0.047, –0.003]	–0.020
Anxious Attachment → Human Uniqueness (Self) → Disrespect	[0.002, 0.035]	0.017
Secure Attachment → Human Nature (Self) → Helping Behavior	[0.003, 0.068]	0.028
Avoidant Attachment → Human Nature (Self) → Helping Behavior	[–0.081, –0.003]	–0.035
Anxious Attachment → Human Nature (Self) → Helping Behavior	[–0.075, –0.003]	–0.031

Note. In brackets, 95% bias-corrected bootstrap confidence intervals are reported (5,000 resamples).

We tested two alternative models, in which attachment styles were the exogenous variables, prosocial and antisocial behaviors were the mediators (intentions to help and disrespect — Model 1; helping behavior — Model 2), and self-perceptions (self-esteem, self-attributions of human traits) were the outcomes. No mediation effect of prosocial and antisocial behaviors was discovered; humanity attributions were directly linked to attachment orientations. These results lead to rule out the possibility that humanity self-attributions may be a consequence of one's own altruistic behaviors. Findings support, instead, the idea that the perceptions of self in human or non-fully human terms, associated with attachment orientations, may affect prosocial intentions and behaviors.[6]

Discussion

In the current study, we explored whether attachment orientations are associated with different self-attributions of humanity. Considering a sample of adult participants, we discovered that secure attachment is associated with the perception of being qualified by relational capacity and emotional responsiveness (human nature traits). Secure individuals are not likely to perceive themselves as similar to mechanical entities like robots.

Conversely, insecure orientations are associated with the awareness of not being empathic, warm, and competent in social relationships (human nature attributes). Anxious attachment is also related to the awareness of lacking maturity and self-control (typical uniquely human traits). Overall, anxious individuals deny themselves the main dimensions qualifying the human category. This denial could explain the aversive self-awareness (linked to self-denial of human uniqueness) and the lower cognitive flexibility (linked to self-denial of human nature), which qualify anxiously attached individuals (for the effects of self-denial of human nature and human uniqueness, see Bastian & Haslam, 2011). Findings support our hypotheses on the association of attachment styles with humanity self-attributions, with one exception: we did not discover any link between secure attachment and human uniqueness.

This finding is likely due to the measure used to detect attachment dispositions. The paragraph measuring security mainly refers to interpersonal skills; no reference is made to other abilities, such as self-control in threatening situations or the desire to explore the physical and social environment, characterizing secure individuals (for the relationship between security and exploration, see Boccato et al., 2015; Green & Campbell, 2000; Mikulincer et al., 2011). Future studies should replicate our findings using a more inclusive measure of attachment orientations, such as the attachment questionnaire by Feeney et al. (1994; see also Fossati et al., 2003).

Are humanity self-attributions associated with behaviors typically related to attachment orientations, such as the inclination or aversion to help people in need? Our findings clarify that humanity self-attributions are uniquely related to helping behaviors and mediate the relationship between attachment orientations and these behaviors. Probably, secure individuals care for others because they feel endowed with the relational abilities needed to help. Insecure individuals, conversely, do not help others because they are aware of not having these qualities; avoidant individuals may even use their low relational skills to justify their low inclination to help. Future studies should shed light on the role played by human uniqueness in the link between attachment styles and helping behaviors using a different measure of attachment. They should also examine whether humanity self-attributions preserve their unique mediation role when controlling for other potential mediators, such as compassion (secure attachment) or lack of compassion (insecure attachment) (e.g., Gillath et al., 2005; Mikulincer et al., 2005); other people's positive (secure attachment)

or negative (insecure attachment) appraisal (e.g., Mikulincer & Shaver, 2016). Future studies should also consider other outcome variables, for instance, in intergroup settings, the propensity to approach outgroup members (see Boccato et al., 2015). This is, however, the first time that the attribution or denial of human traits to the self have been investigated as part of the working models of self of attachment orientations.

Interestingly, the self-denial of uniquely human traits, such as self-control or the ability to follow rules, mediates the association between anxious attachment and disrespect. A different, more sophisticated operationalization of attachment security may prove that the self-attribution of uniquely human traits mediates the negative association between security and self-reported disrespect.

The current study has some merits: the novelty of the problems investigated; the sample used, which includes adult participants; its employing a measure of behavior — and not only a measure of intentions — to detect prosocial inclinations; finally, its statistical power. This study's main weakness is its cross-sectional design, which does not allow us to draw conclusions on the causal relationships between variables. Future research should apply experimental designs, based on the activation (priming) of attachment styles. We expect, for instance, that the activation of secure attachment may promote a more positive self-perception, including a stronger attribution of humanity prototypes. This more human self-perception should, in turn, be associated with stronger altruistic attitudes and behaviors.

This contribution has practical implications. In important settings in society, people in leading positions should be taught to support the people they lead: teachers should support their students; in the workplace, supervisors should value the work of their employees. This caring and supportive attitude should generate a sense of security, which can increase the perception of being capable of interpersonal warmth and of managing social relationships (human nature characteristics). Self-perceptions in human terms should promote a generalized altruistic attitude, which can improve interpersonal and intergroup relationships (for leaders functioning as security providers in organizational settings, see, e.g., Davidovitz, Mikulincer, Shaver, Izsak, & Popper, 2007; Ronen & Mikulincer, 2012).

NOTES

1. This item is included in the Attachment Style Questionnaire (ASQ) proposed by Feeney, Noller, and Hanrahan (1994).
2. This item is included in the ASQ (Feeney et al., 1994) as a measure of the anxious orientation.
3. Correlations reported in Table 1 were computed considering the whole sample (N = 700). Those regarding disrespect and intentions to help were calculated considering 668 and 671 participants, respectively (missingness was handled using listwise deletion).
4. Missing data relative to disrespect and helping behavior were handled by using the Full Information Maximum Likelihood (FIML) method, which is the default method in Mplus.
5. Secure attachment was also directly and positively associated with helping behavior (Figure 2).
6. All data are available from the first author upon request.

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Authors are listed in alphabetic order having contributed equally to this work.

REFERENCES

Bastian, B., & Haslam, N. (2010). Excluded from humanity: The dehumanizing effects of social ostracism. *Journal of Experimental Social Psychology*, *46*, 107-113. https://doi.org/10.1016/j.jesp.2009.06.022

Bastian, B., & Haslam, N. (2011). Experiencing dehumanization: Cognitive and emotional effects of everyday dehumanization. *Basic and Applied Social Psychology*, *33*, 295-303. https://doi.org/10.1080/01973533.2011.614132

Bastian, B., Jetten, J., Chen, H., Radke, H. R. M., Harding, J. F., & Fasoli, F. (2013). Losing our humanity: The self-dehumanizing consequences of social ostracism. *Personality and Social Psychology Bulletin*, *39*, 156-169. https://doi.org/10.1177/0146167212471205

Boccato, G., Capozza, D., Trifiletti, E., & Di Bernardo, G. A. (2015). Attachment security and intergroup contact. *Journal of Applied Social Psychology*, *45*, 629-647. https://doi.org/10.1111/jasp.12325

Bowlby, J. (1973). *Attachment and loss: Vol. 2. Separation: Anxiety and anger*. New York, NY: Basic Books.

Bowlby, J. (1982). *Attachment and loss: Vol. 1. Attachment* (2nd ed.). New York, NY: Basic Books.

Britton, P. C., & Fuendeling, J. M. (2005). The relations among varieties of adult attachment and the components of empathy. *Journal of Social Psychology*, *145*, 519-530. https://doi.org/10.3200/SOCP.145.5.519-530

Bryant, R. A., & Hutanamon, T. (2018). Activating attachments enhances heart rate variability. *PLOS ONE*, *13*(2), Article e0151747. https://doi.org/10.1371/journal.pone.0151747

Capozza, D., Di Bernardo, G. A., & Falvo, R. (2017). Intergroup contact and outgroup humanization: Is the causal relationship uni-or bidirectional? *PLOS ONE*, *12*(1), Article e0170554. https://doi.org/10.1371/journal.pone.0170554

Capozza, D., Falvo, R., Boin, J., & Colledani, D. (2016). Dehumanization in medical contexts: An expanding research field. *TPM – Testing, Psychometrics, Methodology in Applied Psychology*, *23*, 545-559. https://doi.org/10.4473/TPM23.4.8

Cassidy, J., & Kobak, R. R. (1988). Avoidance and its relationship with other defensive processes. In J. Belsky & T. Nezworski (Eds.), *Clinical implications of attachment* (pp. 300-323). Hillsdale, NJ: Erlbaum.

Cohen, J. (1992). A power primer. *Psychological Bulletin*, *112*, 155-159. https://doi.org/10.1037/0033-2909.112.1.155

Davidovitz, R., Mikulincer, M., Shaver, P. R., Izsak, R., & Popper, M. (2007). Leaders as attachment figures: Leaders' attachment orientations predict leadership-related mental representations and followers' performance and mental health. *Journal of Personality and Social Psychology*, *93*, 632-650. https://doi.org/10.1037/0022-3514.93.4.632

Feeney, J. A., Noller, P., & Hanrahan, M. (1994). Assessing adult attachment: Developments in the conceptualization of security and insecurity. In M. B. Sperling & W. H. Berman (Eds.), *Attachment in adults: Theory, assessment and treatment* (pp. 128-152). New York, NY: Guildford.

Fossati, A., Feeney, J. A., Donati, D., Donini, M., Novella, L., Bagnato, M., & Maffei, C. (2003). On the dimensionality of the Attachment Style Questionnaire in Italian clinical and nonclinical participants. *Journal of Social and Personal Relationships*, *20*, 55-79. https://doi.org/10.1177/02654075030201003

Gillath, O., Shaver, P. R., Mikulincer, M., Nitzberg, R. A., Erez, A., & van IJzendoorn, M. H. (2005). Attachment, caregiving, and volunteering: Placing volunteerism in an attachment-theoretical framework. *Personal Relationships*, *12*, 425-446. https://doi.org/10.1111/j.1475-6811.2005.00124.x

Gjerde, P. F., Onishi, M., & Carlson, K. S. (2004). Personality characteristics associated with romantic attachment: A comparison of interview and self-report methodologies. *Personality and Social Psychology Bulletin*, *30*, 1402-1415. https://doi.org/10.1177/0146167204264291

Green, J. D., & Campbell, W. K. (2000). Attachment and exploration in adults: Chronic and contextual accessibility. *Personality and Social Psychology Bulletin*, *26*, 452-461. https://doi.org/10.1177/0146167200266004

Hart, J., Shaver, P. R., & Goldenberg, J. L. (2005). Attachment, self-esteem, worldviews, and terror management: Evidence for a tripartite security system. *Journal of Personality and Social Psychology*, *88*, 999-1013. https://doi.org/10.1037/0022-3514.88.6.999

Haslam, N. (2006). Dehumanization: An integrative review. *Personality and Social Psychology Review*, *10*, 252-264. https://doi.org/10.1207/s1532 7957pspr1003_4

Haslam, N., & Stratemeyer, M. (2016). Recent research on dehumanization. *Current Opinion in Psychology*, *11*, 25-29. https://doi.org/10.1016/j.copsyc.2016.03.009

Hazan, C., & Shaver, P. R. (1987). Romantic love conceptualized as an attachment process. *Journal of Personality and Social Psychology*, *52*, 511-524. https://doi.org/10.1037/0022-3514.52.3.511

Hazan, C., & Shaver, P. R. (1990). Love and work: An attachment-theoretical perspective. *Journal of Personality and Social Psychology*, *59*, 270-280. https://doi.org/10.1037/0022-3514.59.2.270

Kouchaki, M., Dobson, K. S., Waytz, A., & Kteily, N. S. (2018). The link between self-dehumanization and immoral behavior. *Psychological Science*, *29*, 1234-1246. https://doi.org/10.1177/0956797618760784

Mikulincer, M., Gillath, O., Halevy, V., Avihou, N., Avidan, S., & Eshkoli, N. (2001). Attachment theory and reactions to others' needs: Evidence that activation of the sense of attachment security promotes empathic responses. *Journal of Personality and Social Psychology*, *81*, 1205-1224. https://doi.org/10.1037/0022-3514.81.6.1205

Mikulincer, M., Gillath, O., Sapir-Lavid, Y., Yaakobi, E., Arias, K., Tal-Aloni, L., & Bor, G. (2003). Attachment theory and concern for others' welfare: Evidence that activation of the sense of secure base promotes endorsement of self-transcendence values. *Basic and Applied Social Psychology*, *25*, 299-312. https://doi.org/10.1207/S15324834BASP2504_4

Mikulincer, M., Hirschberger, G., Nachmias, O., & Gillath, O. (2001). The affective component of the secure base schema: Affective priming with representations of attachment security. *Journal of Personality and Social Psychology*, *81*, 305-321. https://doi.org/10.1037/0022-3514.81.2.305

Mikulincer, M., & Shaver, P. R. (2015). *An attachment perspective on prosocial attitudes and behavior.* In D. A. Schroeder & W. G. Graziano (Eds.), *Oxford library of psychology. The Oxford handbook of prosocial behavior* (pp. 209-230). Oxford, UK: Oxford University Press.

Mikulincer, M., & Shaver, P. R. (2016). *Attachment in adulthood: Structure, dynamics, and change* (2nd ed.). New York, NY: Guilford.

Mikulincer, M., & Shaver, P. R. (2020). Broaden-and-build effects of contextually boosting the sense of attachment security in adulthood. *Current Directions in Psychological Science*, *29*, 22-26. https://doi.org/10.1177/0963721419885997

Mikulincer, M., Shaver, P. R., & Avihou-Kanza, N. (2011). Individual differences in adult attachment are systematically related to dream narratives. *Attachment and Human Development*, *13*, 105-123. https://doi.org/10.1080/14616734.2011.553918

Mikulincer, M., Shaver, P. R., Gillath, O., & Nitzberg, R. A. (2005). Attachment, caregiving, and altruism: Boosting attachment security increases compassion and helping. *Journal of Personality and Social Psychology*, *89*, 817-839. https://doi.org/10.1037/0022-3514.89.5.817

Mikulincer, M., Shaver, P. R., & Rom, E. (2011). The effects of implicit and explicit security priming on creative problem solving. *Cognition & Emotion*, *25*, 519-531. https://doi.org/10.1080/02699931.2010.540110

Muthén, L. K., & Muthén, B. O. (1998-2017). *Mplus User's Guide (8th edition).* Los Angeles, CA: Muthén & Muthén.

Ronen, S., & Mikulincer, M. (2012). Predicting employees' satisfaction and burnout from managers' attachment and caregiving orientations. *European Journal of Work and Organizational Psychology*, *21*, 828-849. https://doi.org/10.1080/1359432X.2011.595561

Rosenberg, M. (1965). *Society and the adolescent self-image.* Princeton, NJ: University Press.

Schmitt, D. P., & Allik, J. (2005). Simultaneous administration of the Rosenberg Self-Esteem Scale in 53 nations: Exploring the universal and culture-specific features of global self-esteem. *Journal of Personality and Social Psychology*, *89*, 623-642. https://doi.org/10.1037/0022-3514.89.4.623

Selcuk, E., Zayas, V., Günaydin, G., Hazan, C., & Kross, E. (2012). Mental representations of attachment figures facilitate recovery following upsetting autobiographical memory recall. *Journal of Personality and Social Psychology*, *103*, 362-378. https://doi.org/10.1037/a0028125

Shaver, P. R., Mikulincer, M., Sahdra, B., & Gross, J. (2016). Attachment security as a foundation for kindness toward self and others. In K. W. Brown & M. R. Leary (Eds.), *The Oxford handbook of hypoegoic phenomena* (pp. 223-242). Oxford, UK: Oxford University Press.

Soper, D. S. (2020). A-priori sample size calculator for Structural Equation Models [Software]. Available from https://www.danielsoper.com/statcalc

Trusty, J., Ng, K. M., & Watts, R. E. (2005). Model of effects of adult attachment on emotional empathy of counseling students. *Journal of Counseling and Development*, *83*, 66-77. https://doi.org/10.1002/j.1556-6678.2005.tb00581.x