THE DARK TRIAD, HUMANITY ATTRIBUTIONS, AND BEHAVIORAL INCLINATIONS TOWARD OUTGROUPS

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In the present study, we explored the relationship between the dark personalities (psychopathy, Machiavellianism, and narcissism) and outgroup dehumanization. Four outgroups were considered, occupying a different position in the plane defined by the stereotypes of warmth and competence (see the stereotype content model). Participants ($N = 800$) completed an online questionnaire. Both subtle and blatant measures of humanity perceptions were used. As predicted, the three personalities were associated with outgroup dehumanization through the mediation of social dominance orientation. Dehumanizing perceptions, in turn, mediated the relationship between the Dark Triad and negative behavioral tendencies toward the outgroups. Practical implications of findings are discussed.

Key words: Dark Triad; Social dominance orientation; Subtle dehumanization; Blatant dehumanization; Avoidance inclinations.

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In recent years, increasing attention has been paid to the Dark Triad (Paulhus & Williams, 2002), a set of three conceptually distinct, but correlated, personalities: Machiavellianism, narcissism, and subclinical psychopathy. Research has shown that the three personalities have many aspects in common; they share lack of honesty-humility (see the HEXACO model of personality, Ashton & Lee, 2007), difficulties in interpersonal relationships (desire for dominance, sense of entitlement), and the use of antisocial tactics, such as cheating and lying (for these shared features, see the meta-analysis by Muris, Merckelbach, Otgaar, & Meijer, 2017). According to Moshagen, Hilbig, and Zettler (2018), the common core of dark personalities is the tendency to maximize one's utility disregarding or provoking disutility for others (this core tendency is shared by other malevolent profiles, such as sadism). All three personalities are related to selfish choices, when the dictator game (Engel, 2011) is used (Moshagen et al., 2018).

In intergroup relationships, the three personalities are associated with prejudice and racism (Hodson, Hogg, & MacInnis, 2009; Jonason, 2015), outgroup negative emotions, such as disgust (Hodson, Choma, et al., 2013), and feelings of outgroup threat (Hodson et al., 2009). The three profiles are also related to social dominance orientation (SDO; Sidanius & Pratto, 1999): an ideology which endorses and supports inequalities in society (for the Dark Triad-SDO relation, see Hodson et al., 2009; Jonason, 2015).

However, each of the three personalities exhibits its unique characteristics. Psychopathy features moral disengagement, aggression, socioemotional and self-control deficits (impulsivity) (Jones & Paulhus, 2014; Moshagen et al., 2018; Muris et al., 2017). Impulsivity is the key component distinguishing psychopathy from Machiavellianism (Jones & Paulhus, 2011, 2014; see also Furnham, Richards, & Paulhus, 2013).

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Machiavellianism is characterized by a calculating orientation; Machiavellians plan ahead, build alliances, and do their best to keep a positive reputation (Jones & Paulhus, 2014). Manipulativeness and a strategic orientation are the core features of this personality (Furnham et al., 2013; Jones & Paulhus, 2014). Finally, narcissism is distinguished by striving for uniqueness and having feelings of grandiosity and superiority, which lead to aggressive behaviors when the ego is threatened (Jones & Paulhus, 2014; Paulhus & Williams, 2002; Raskin & Hall, 1979). Ego-identity goals guide narcissists' behavior, whereas instrumental goals guide the behavior of psychopaths and Machiavellians. Narcissists are open to experience and possess emotional intelligence (Muris et al., 2017; Vize, Lynam, Collison, & Miller, 2018).

It is not surprising that, given the desire for power and dominance, all three personalities are associated with SDO when intergroup relationships are at play (Hodson et al., 2009; Jonason, 2015). Research has consistently shown that SDO is a strong predictor of prejudice against subordinate, derogated, and dissident groups, such as people with mental disabilities, feminists, and immigrants (see, e.g., Asbrock, Sibley, & Duckitt, 2010; Costello & Hodson, 2011; Duckitt, 2006; Hodson et al., 2009; Sibley, Harding, Perry, Asbrock, & Duckitt, 2010). In addition, SDO mediates the relationship between the Dark Triad and prejudice (Hodson et al., 2009). Our first aim in this study was to replicate these findings. We predicted that the three personalities would be associated with SDO (Hypothesis 1). SDO, in turn, should mediate the relationship between the three profiles and negative attitudes toward the outgroups (Hypothesis 2).

Research has shown that SDO is associated with dehumanizing perceptions of outgroups. In a study, carried out in Canada, in the context of the immigrant-Canadian relationship, Hodson and Costello (2007) assessed intergroup humanity perceptions using uniquely human traits (e.g., openness to experience) and non-uniquely human traits (e.g., agreeableness). For each target group, authors computed a humanization index by subtracting the mean score for the non-uniquely human traits from the mean score for the uniquely human traits. Perceived relative humanization was assessed by subtracting the human/non-human score for immigrants from the corresponding score for Canadians. Higher scores indicated that the outgroup was viewed as less human than the ingroup. Hodson and Costello found a positive relationship between SDO and the attribution of a lower human status to immigrants.

In a study of political psychology (Italian participants), Prati, Moscatelli, Pratto, and Rubini (2016) observed that SDO was related to Arabs' dehumanization, used to justify one's opposition to Arabs' autonomy. Dehumanization was therefore used as a belief legitimizing group-based inequalities (Sidanius, Levin, Federico, & Pratto, 2001). Prati and colleagues measured dehumanization by considering uniquely human (secondary) emotions, such as hope and regret. A dehumanization index was computed by subtracting emotion ratings for Arabs from emotion ratings for Italians. Higher scores indicate that lower humanity was ascribed to Arabs (the higher attribution of secondary emotions to the ingroup is defined as infrahumanization; see Leyens, Demoulin, Vaes, Gaunt, & Paladino, 2007).

Both in Hodson and Costello's (2007) and Prati et al.'s (2016) study, dehumanization was assessed indirectly by considering respondents' attributions of characteristics associated with humanity; participants were not directly asked whether members of the target group were similar to animals or deserved to be treated as animals. As Kteily and Bruneau (2017) fittingly expressed, the fact that dehumanization was "being assessed remained opaque to the participants themselves" (p. 488).

Measures of open dehumanization were used by Jackson and Gaertner (2010). In a study regarding support for the Iraq war (U.S. participants), these authors observed a positive relationship between SDO and the endorsement of statements like: "Enemy rulers and their followers are not better than animals," "Terrorists are vermin that need to be exterminated." Thus, socially dominant people may use bla-

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tant dehumanization of enemy to justify their positive attitudes toward the war on terrorism (see also Lindén, Björklund, & Bäckström, 2016).

The relationship between SDO and blatant dehumanization was investigated by Kteily and colleagues (Kteily, Bruneau, Waytz, & Cotterill, 2015). These authors proposed a measure of open dehumanization based on the popular "Ascent of Humans" diagram: on the left-hand side of the image the quadrupedal human ancestor is depicted, on the right-hand side the "full" modern-day human is portrayed; three intermediate silhouettes represent stages of evolution. Scores are provided on a scale ranging from 0 to 100. Higher scores indicate higher humanity perceptions of the target group (see also Kteily & Bruneau, 2017). Kteily at al. observed that blatant dehumanization of derogated groups, such as Arabs, Muslims, and Mexican immigrants, was strongly correlated with SDO, in particular with the SDO-Dominance (SDO-D) factor of the SDO scale (SDO₆; Sidanius & Pratto, 1999), which conveys an active orientation toward enforcing group hierarchy (see Ho et al., 2015). When only Arabs were the target, both the SDO-D and the SDO-Egalitarianism (SDO-E) factor were related to the Ascent scale (Studies 2A and 2B), SDO-E conveying a subtle opposition to equality between groups (findings observed in the U.S. social context). Interestingly, blatant dehumanization was uniquely (and negatively) associated with favorable behavioral inclinations, such as support for Arab immigration, and willingness to compensate individual Arabs for unfair treatments from Americans. In contrast, blatant dehumanization was positively associated with support for militaristic policies aimed to counter terrorism (see also Bruneau & Kteily, 2017; Bruneau, Kteily, & Laustsen, 2018).

Thus, SDO is associated with subtle and blatant forms of dehumanization, which are used by socially dominant people to justify their support for hostile behaviors toward derogated outgroups. We, therefore, hypothesized that SDO mediates the relationship between the three personalities and subtle and blatant forms of dehumanization (Hypothesis 3). In turn, dehumanization should mediate the relationship between the Dark Triad and the inclination to perform negative actions against the outgroup. In other words, we hypothesized a double mediation effect, in which SDO is the first-level mediator and dehumanizing perceptions are the second-level mediators (Hypothesis 4).

This is the first time that the association of psychopathy, Machiavellianism, and narcissism with outgroup dehumanization and its consequences has been investigated. Notably, by referring to a plurality of approaches, we consider different forms of outgroup dehumanization, which allow a more accurate and complete account of dehumanization's antecedents and outcomes.

OVERVIEW

To discover the association between the three personalities and outgroup dehumanization, we focused on four groups derived from a pilot study. The stereotype content model (Fiske, Cuddy, Glick, & Xu, 2002) was the theoretical basis of this study. Participants (40 Italian university students, 25 women, mean age = 24.50, SD = 3.94) evaluated several ingroups (e.g., Italians, socially integrated people) and several outgroups (e.g., the Roma and the homeless) on six competence (e.g., capable, determined) and six warmth traits (e.g., friendly, sociable). Anchors of the 7-point scale were *not at all* (1) and *extremely* (7); 4 was the scale mid-point. Alphas ranged between .84 and .96. From the pilot study, the following outgroups were selected: people with intellectual and developmental disability (IDD), the Roma, the homeless, and the rich.[1] People with IDD were rated as warmer than competent; however, only for warmth the mean score was different from, and higher than, 4, $p < .001$. The Roma were qualified as more competent than warm;

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however, only the warmth score was different from, and lower than, 4, $p < .001$. For the homeless, the two means were close to the mid-point: $p = .525$, for competence; $p = .516$, for warmth. Lastly, the rich were viewed as more competent than warm, with the competence score being higher than 4, $p < .001$.[2] Thus, the four outgroups occupy different positions in the plane defined by the two stereotypes. The ingroups — people with no intellectual disability, Italians, socially integrated people — and the poor, were all included in the warmth-competence quadrant of the stereotype plane.

In the study performed to test the hypotheses, each pair of groups was evaluated by a different participants' sample ($n = 200$), in order to avoid interferences between different intergroup contexts.[3] Ingroups were investigated in order to explore which human characteristics were denied to outgroups. Each sample completed the SDO scale (SDO_6; Sidanius & Pratto, 1999), the Short Dark Triad scale (SD_3; Jones & Paulhus, 2014), and rated the target groups on subtle measures of humanity perception. The Ascent scale of blatant dehumanization (Kteily et al., 2015) was also applied. To measure attitudes, the "feeling thermometer" was used (Haddock, Zanna, & Esses, 1993).

To test Hypotheses 1-3, we combined the data of the four samples ($N = 800$) and evaluated a structural equation model with observed variables, in which the dark personalities were the exogenous variables (see Figure 1), SDO was the mediator, and attitudes and humanity attributions to outgroups (people with IDD, the Roma, the homeless, and the rich) were the outcome variables (Mplus; Muthén & Muthén, 1998-2017). The direct paths from the exogenous to the outcome variables were estimated as well.

However, because data were collected from different samples, some of the relationships observed could depend on unmodeled (and unmeasured) effects of the samples; in fact, although each respondent was randomly assigned to one of the four pairs of groups, participants in a sample could accidentally share some influential characteristics. To remove any effect due to samples, we applied a method suggested by Hayes (2013), defined as the "fixed effects approach to clustering" (Cohen, Cohen, West, & Aiken, 2003, pp. 539-544; see also Snijders & Bosker, 1999). Based on this method, we used dummy variables to partial out the effects due to samples from regression coefficients and standard errors. Because there were four samples, we formed three dummy variables. In one, we assigned code 1 to the sample, which rated the rich and the poor, and zero to the other samples. For the remaining variables, 1 was associated either to the sample which rated Roma (and Italians) or to the sample which rated people with disabilities (and people with no disabilities). The group evaluating the homeless was used as the base group. The three dummy variables were modeled as covariates, affecting the mediator and the outcomes. Notably, with this method, each relationship between predictors and outcomes, for instance the relationship between SDO and blatant dehumanization, is the mean of the four regression coefficients concerning the four target groups (see Cohen et al., 2003).

To test Hypothesis 4, we evaluated a structural equation model with two mediation levels: SDO was the first-level mediator, whereas attitudes and humanity attributions mediated the relationship between SDO and negative behavioral tendencies: the tendency to avoid and that to oppose the outgroup. The inclination to approach was also used as outcome variable (see Figures 2-4). All the direct paths were estimated.

Hypothesis 4 was tested considering only the derogated outgroups (i.e., the homeless, the Roma, and individuals with IDD; $N = 600$). Therefore, in applying the fixed effects approach to clustering, only two dummy variables were formed. As mentioned above, this is the first time that the link between the dark personalities and the inclination to dehumanize the outgroups has been investigated. The fact of considering groups stereotyped in different ways is an additional strength of this study.

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METHOD

Participants and Procedure

Data were collected in different Italian regions through an online questionnaire. A total of 800 participants (54.6% women) was recruited. Participants were aged between 18 and 63 (mean age = 29.88, SD = 12.72), and had a high educational level (high school degree = 65.1%, university degree or higher = 26.2%). Participation to the study was anonymous and voluntary. To access the questionnaire, respondents had to accept an electronic informed consent.

Each participant was randomly assigned to one of the four intergroup relationships (e.g., Italians vs. Roma, socially integrated people vs. the homeless) with up to a total of 200 participants for each relationship. Across the four samples, the percentage of women ranged from 43.0 to 73.5, and mean age was between 27.46 (SD = 10.46) and 31.90 (SD = 13.88) years. Considering education, the modal educational level was the high school degree in all samples. Participants completed a questionnaire including the following measures.

Measures

The short Dark Triad (SD$_3$; Jones & Paulhus, 2014) was applied to assess the three dark personalities. Sample items are: "Most people can be manipulated" (Machiavellianism; nine items); "I have been compared to famous people" (narcissism; nine items); "It is true that I can be mean to others" (psychopathy; nine items). Answers were scored on a 7-point scale ranging from *strongly disagree* to *strongly agree*. Higher scores indicated stronger endorsement of dark personality items. In the whole sample, reliability was sufficient for each subscale; alphas were: .76, .68, and .63, for Machiavellianism, narcissism, and psychopathy, respectively. To improve reliability, a psychopathy item was removed: "I have never gotten into trouble with the law" (reverse coded). (For an application of SD$_3$ in the Italian context, see Colledani, Falvo, & Capozza, 2018.)

Social dominance orientation was assessed using the Italian adaptation of the SDO$_6$ scale (16 items; Sidanius & Pratto, 1999), developed by Aiello and colleagues (Aiello, Chirumbolo, Leone, & Pratto, 2005). Participants were asked to indicate their level of agreement with items on a 7-point scale from *strongly disagree* to *strongly agree*. Higher scores indicated higher support for group inequalities. Sample items are: "Inferior groups should stay in their place"; "No one group should dominate in society" (reverse coded). The alpha for the SDO scale was .87.

To measure subtle modes of dehumanization, we employed four uniquely human traits (UH; e.g., morality, rationality), four non-uniquely human traits (NUH; e.g., drive, impulsiveness), and six human nature traits (HN; e.g., warmth and emotionality, coldness and rigidity, the latter two being reverse coded).[4] Uniquely human and non-uniquely human items, which do not differ on valence, were taken from Capozza, Trifiletti, Vezzali, and Favara (2013; see also Capozza, Di Bernardo, & Falvo, 2017). Human nature traits were mostly taken from Bastian and Haslam (2010). Participants were asked to evaluate first the outgroup (e.g., the Roma) and then the ingroup (e.g., Italians) on the 14 traits.[5] A sample item is: "The Roma are characterized by rationality." The 7-point scale was anchored by *definitely false* and *definitely true*; the scale mid-point was *neither true nor false*. Across the four subsamples, alphas ranged from .74 to .85 for UH traits, from .71 to .86 for NUH traits, and from .63 to .82 for HN traits.[6]

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To assess blatant humanization, we applied the Ascent of Humans measure, developed by Kteily et al. (2015). Participants were invited to write an integer from zero and 100 for each of the two target groups, higher scores denoting higher humanity attributions.

Attitudes were measured by using the "feeling thermometer" (Haddock et al., 1993). Participants were asked to rate their feelings toward the target groups on a scale from zero (*extremely negative*) to 100 (*extremely positive*); 50 indicated *neither positive nor negative*.

Finally, eight items, adapted from Tam, Hewstone, Kenworthy, and Cairns (2009) were used to assess behavioral inclinations toward the outgroup (this measure was collected for the Roma, the homeless, and individuals with IDD). Three items were employed to assess approach tendencies (e.g., "When I think about the homeless, I wish to talk to them"). Three items pertained to avoidance tendencies (e.g., "When I think about the homeless, I wish to avoid them"); two items were administered to assess the tendency to oppose the outgroup (e.g., "When I think about the homeless, I wish to oppose them"). Answers were expressed on a 7-point scale ranging from *not at all* to *very much*. Higher scores indicated stronger inclinations to approach, avoid, or oppose the outgroup. Alphas were .88 and .90 for approach and avoidance tendencies, respectively; *r* was .36 ($p < .001$) for the two items measuring the propensity to oppose the outgroup.[7] For each variable measured by two or more items, a composite score was computed, by averaging the scores of the respective items.

Analytic Strategies

In each of the four samples, ANOVA was applied to compare the ingroup with the outgroup (and the rich with the poor) on the subtle dehumanization measures (*t*-test was used for the Ascent of Humans scale). Before testing the structural equation models, confirmatory factor analysis (CFA) was applied to examine the conceptual distinction between constructs. Two CFAs were run using maximum likelihood (Mplus; Muthén & Muthén, 1998-2017).

In one CFA ($N = 800$), nine factors were modeled: psychopathy, Machiavellianism, narcissism, SDO, the human nature dimension, the uniquely human and non-uniquely human dimensions, attitudes, and blatant dehumanization (see Figure 1). Each of the first seven factors were measured by two parcels, obtained by applying the random assignment method of parcelling (Little, Cunningham, Shahar, & Widaman, 2002). The last two factors were observed variables, each measured by the respective item. Humanity attributions and attitudes referred to the outgroup that, depending on the sample, was: the Roma, the homeless, individuals with IDD, and the rich.

In the other CFA ($N = 600$), three additional constructs were entered, namely, approach and avoidance tendencies, and the tendency to oppose the outgroup (in this CFA, the outgroups were: the Roma, the homeless, and individuals with IDD). The factor representing the tendency to oppose the outgroup was measured by the two respective items, whereas one parcel and an item measured the approach and avoidance factors.

To assess the adequacy of the CFA models, we used the following fit indices: χ^2, root mean square error of approximation (RMSEA), comparative fit index (CFI), and standardized root mean square residual (SRMR). A model fits well when χ^2 is nonsignificant, RMSEA is less than .06 (.06 to .08, for a reasonable fit), CFI is close to .95 (.90 to .95, for a reasonable fit), and SRMR is less than .08 (see Marsh, Hau, & Wen, 2004).

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To test the hypotheses, we evaluated four structural equation models for observed variables (maximum likelihood was the estimator; Mplus was applied). All direct paths were computed (saturated models) and the significance of indirect effects was estimated using bootstrapping (5,000 resamples) and the 95% bias-corrected confidence interval.

In one model, tested on the whole sample ($N = 800$), the dark personalities were the predictors, SDO was the mediator, attitudes and humanity attributions to outgroups were the outcome variables (Figure 1). As mentioned above, to control for the effects of the four subsamples, three dummy variables were included as covariates. With this model we evaluated Hypotheses 1-3.

The other three models were used to test Hypothesis 4. In these models, SDO was the first-level mediator, whereas humanity attributions and attitudes were the second-level mediators (Figures 2-4). Depending on the model, the outcome variable was: the approach tendency, the avoidance tendency, and the tendency to oppose the outgroup ($N = 600$, for each model). As mentioned above, to control for the effects of the three subsamples, two dummy variables were included as covariates.

RESULTS

Humanity Attributions

To detect humanity perceptions, a repeated-measure ANOVA was applied in each of the four samples. Factors were: the target-groups (e.g., Italians vs. Roma) and humanity dimensions (uniquely human vs. non-uniquely human vs. human nature traits). In all four samples, the interaction was significant, $F\text{s}(2, 398) \geq 30.25$, $ps < .00,1$, $\eta^2_p\text{s} \geq .13$.

For Italians and Roma, simple effects analysis highlighted that the two groups were evaluated differently on each humanity dimension, $F\text{s}(1, 199) \geq 4.43$, $ps \leq .037$, $\eta^2_p\text{s} \geq .02$. Italians were viewed as more characterized by uniquely human ($M = 4.33$, $SD = 0.95$) and human nature ($M = 4.92$, $SD = 0.83$) traits than Roma people (human uniqueness: $M = 3.32$, $SD = 1.14$; human nature: $M = 3.59$, $SD = 0.84$). The Roma, in contrast, were perceived as more qualified by non-uniquely human traits than Italians ($M = 4.57$, $SD = 1.08$, for Roma people; $M = 4.40$, $SD = 0.83$, for Italians). Thus, the Roma were denied human nature traits, a denial leading to mechanistic dehumanization; they were denied uniquely human traits, as well, a denial leading to animalistic dehumanization (see Haslam, 2006).

The homeless and socially integrated people were evaluated differently on the uniquely human dimension, $F(1, 199) = 64.47$, $p < .001$, $\eta^2_p = .24$, and human nature dimension, $F(1, 199) = 5.24$, $p = .023$, $\eta^2_p = .03$.[8] In both cases, outgroup's scores were lower than ingroup's scores: for the homeless, $M = 3.91$ ($SD = 0.99$) and $M = 4.35$ ($SD = 0.92$), respectively; for socially integrated people, $M = 4.62$ ($SD = 0.93$) and $M = 4.54$ ($SD = 0.89$), respectively. However, the intergroup contrast was much higher on the uniquely human traits, which were denied to the homeless (for dehumanizing perceptions regarding the homeless, see Falvo, Capozza, Di Bernardo, & Pagani, 2015).

Findings were different when individuals with IDD were judged. The ingroup and the outgroup were rated differently on each humanity dimension, $F\text{s}(1, 199) \geq 27.85$, $ps < .001$, $\eta^2_p\text{s} \geq .12$. However, whereas people with no disability were viewed as higher on the uniquely human dimension ($M = 4.58$, $SD = 1.03$, for the non-disabled; $M = 3.68$, $SD = 1.04$, for individuals with IDD), individuals with IDD were viewed as higher on the human nature dimension ($M = 4.86$, $SD = 0.91$, for people with disabilities; $M = 4.46$, $SD = 0.74$, for people with no disability). Thus, individuals with IDD were denied the unique qualities of the human species (regarding non-uniquely human traits: $M = 4.45$, $SD = 0.91$, for individuals with

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IDD; $M = 4.02$, $SD = 0.97$, for non-disabled people). (Dehumanizing evaluations of individuals with IDD were observed by Capozza, Falvo, & Boin, 2018; Falvo, Capozza, Hichy, & Di Sipio, 2014.)

The final comparison concerned the rich and the poor. The two groups were rated differently on the non-uniquely human and human nature dimensions, $Fs(1, 199) \geq 4.70$, $ps \leq .031$, $\eta_p^2 s \geq .02$, with the stronger difference in the human nature dimension. The rich were denied emotionality and interpersonal warmth, a denial leading to mechanistic dehumanization ($M = 3.50$, $SD = 0.81$, for the rich; $M = 4.56$, $SD = 0.94$, for the poor).

On the Ascent of Humans scale, in all intergroup comparisons, the outgroup was viewed as less evolved than the ingroup, $ts(199) \geq 5.02$, $ps < .001$. No difference was observed between the rich and the poor groups, $t(199) = .03$, $p = .977$. (All data regarding the four subsamples are available from the corresponding author upon request.)

Thus, in this study, the relationship between dark personalities and outgroup dehumanization was investigated considering groups which were targets of different dehumanization forms. Such variability increases the generality of findings.

Confirmatory Factor Analyses

The two CFA models — run to check for conceptual distinction between constructs — showed an adequate fit to the data: for the 9-factor model, $\chi^2(70) = 91.68$, $p = .042$; RMSEA = .020; CFI = .995; SRMR = .018; for the 12-factor model, $\chi^2(145) = 245.95$, $p < .001$; RMSEA = .034; CFI = .983; SRMR = .035. In both models, loadings of indicators were all significant, and correlations between factors were all reliably lower than 1; in fact, for each correlation, the 95% confidence interval, obtained by considering two standard errors above and two standard errors below the estimated correlation, never included the perfect correlation. These findings indicate that factors represented distinct constructs on both a conceptual and an empirical point of view (data, on which the two CFAs were based, are available from the corresponding author upon request).

Structural Equation Models

Figure 1 presents the network of relationships obtained from testing the path analysis model in which attitudes and humanity perceptions were the outcomes: only significant (standardized) coefficients are reported. As expected, the three personalities were related to SDO (Hypothesis 1), which in turn was related to lower positive feelings toward the outgroups and weaker attributions of human characteristics. Unexpectedly, SDO was negatively related to the attribution of non-uniquely human traits to outgroups. All the 15 indirect effects (Figure 1) were significant: the 95% confidence interval did not include zero. Thus, SDO mediated the relationship between dark personalities and outgroup feelings (Hypothesis 2) and outgroup humanity perceptions (Hypothesis 3). However, we also observed direct effects of Machiavellianism, the most other-oriented of the three personalities.

To explore the relationship between the Dark Triad and behavioral tendencies, a double mediation model was tested in which SDO was the first-level mediator, and attitudes and humanity attributions were the second-level mediators (from these analyses, the sample which rated the rich was excluded; thus N was 600).

Findings regarding the model in which avoidance was the outcome variable are reported in Figure 2 (for the significant indirect effects, see Figure 5a). The three personalities were associated with outgroup avoidance, and this association was mediated by SDO and the related belief that lower-status groups are less human than higher-status groups (double mediation effect).[9] However, SDO also mediated directly

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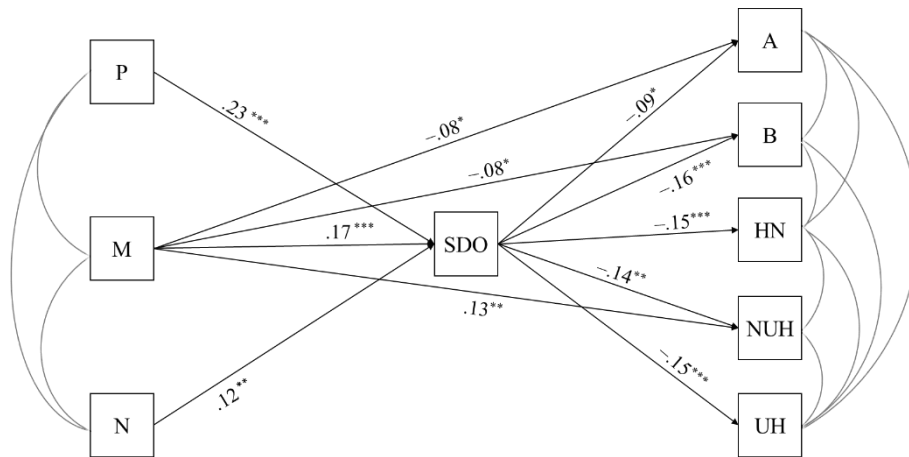& Falvo, R.
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FIGURE 1

Mediation effects of SDO in the relationship between the dark personalities and attitudes
and humanity attributions to outgroups (*N* = 800). Only significant regression coefficients (standardized
coefficients) are reported. Curved paths denote significant correlations, ranging from .30 to .50 for the
three personalities, *p*s < .001, and from .11 to .40 for the five outcomes, *p*s ≤ .010.
P = psychopathy; M = Machiavellianism; N = narcissism; SDO = social dominance orientation;
A = attitudes toward outgroups; B = blatant humanization; HN = human nature traits; NUH = non-uniquely
human traits; UH = uniquely human traits. Findings on the covariates are not reported; covariates were
three dummy variables, which allowed us to control for the specific characteristics of the four subsamples
(the samples that rated: the Roma, individuals with IDD, the homeless, and the rich).
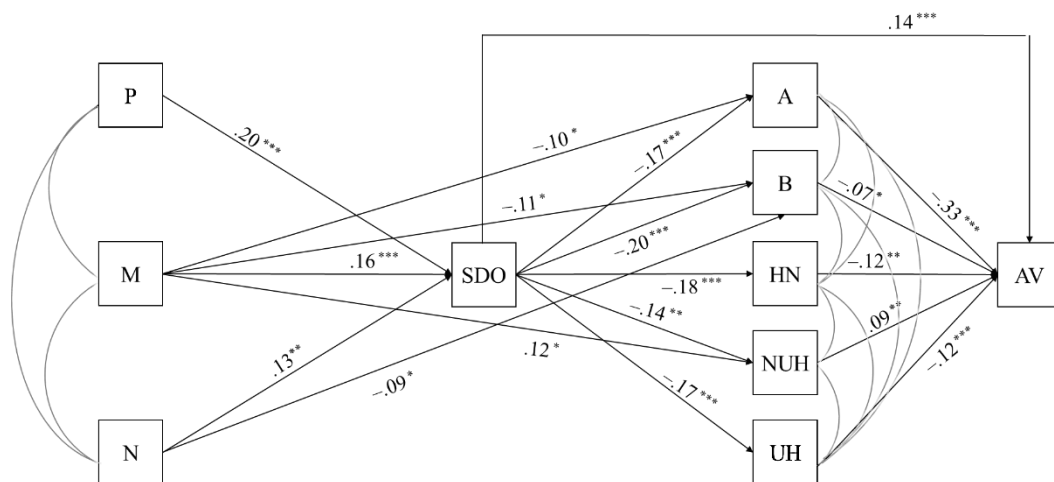* *p* < .05. ** *p* < .01. *** *p* < .001.

FIGURE 2

Mediation effects of SDO, intergroup attitudes, and humanity attributions in the relationship between the dark
personalities and avoidance behavioral tendencies (*N* = 600). Only significant regression coefficients
(standardized coefficients) are reported. Curved paths denote significant correlations, ranging from .28 to .50
for the three personalities, *p*s < .001, and from .12 to .39 for attitudes and humanity attributions, *p*s ≤ .014.
P = psychopathy; M = Machiavellianism; N = narcissism; SDO = social dominance orientation;
A = attitudes toward outgroups; B = blatant humanization; HN = human nature traits; NUH = non-uniquely
human traits; UH = uniquely human traits; AV = avoidance tendencies. Findings on the covariates are not
reported; covariates were two dummy variables, which allowed us to control for the specific characteristics
of the three subsamples (i.e., the samples that rated: the Roma, individuals with IDD, the homeless).
* *p* < .05. ** *p* ≤ .01. *** *p* ≤ .001.

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the relationship between the Dark Triad and avoidance inclinations. Social dominance orientation may be linked to avoidance for reasons we did not assess, like the perception that outgroups can threaten, in some way, society status quo. Interestingly, Machiavellianism was positively associated with avoidance, through the mediation of negative attitudes and non-uniquely human traits (Figure 5a): for Machiavellians, it is useless to show one's strategic skills when other people are characterized by irrationality; in this case, it is more convenient to avoid them.

For the model in which the inclination to oppose the outgroup was the outcome (Figure 3), only SDO and uniquely human characteristics were significant mediators (Figure 5b). As for the latter effect, the denial of uniquely human characteristics was associated with lower inclinations to oppose the outgroups. Thus, dark personalities (in particular, psychopathy and Machiavellianism) were both positively and negatively associated with attack tendencies; the positive association was only mediated by SDO (Figure 5b), whereas the negative association was mediated by SDO, which led to weaker attributions of human traits and, thus, to weaker interest in facing the outgroup (Figure 5b). Interestingly, psychopathy — characterized by aggression and socioemotional and self-control deficits — was directly (and positively) linked to attack tendencies, whereas narcissism — characterized by grandiosity and openness to experience — was directly (and negatively) linked to these tendencies (Figure 3).
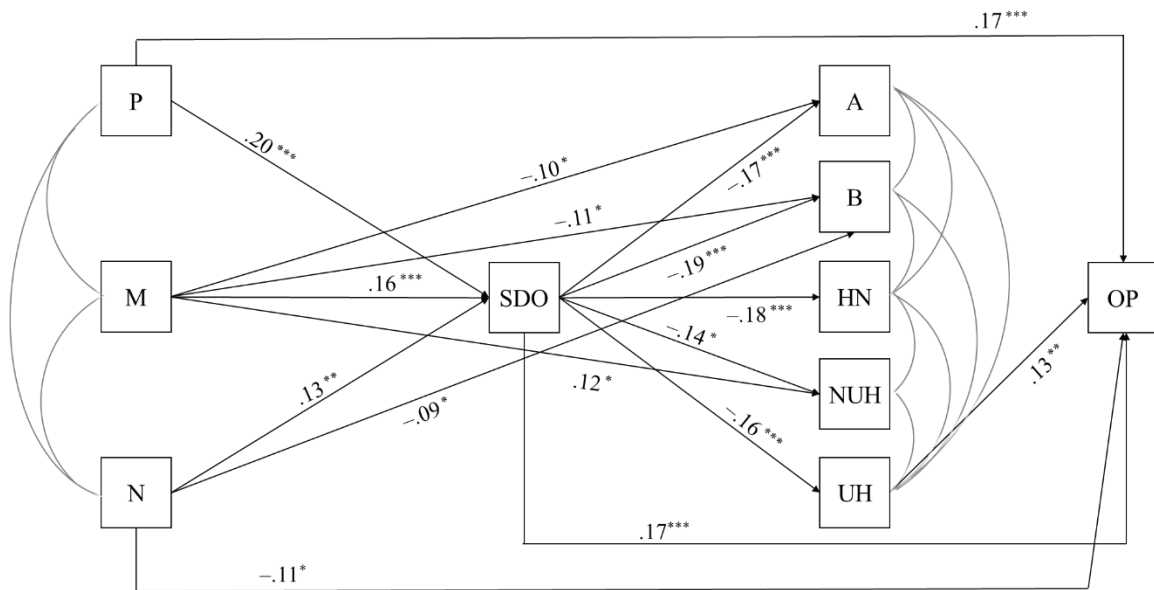

FIGURE 3

Mediation effects of SDO, intergroup attitudes, and humanity attributions in the relationship between the dark personalities and the tendency to oppose the outgroups ($N = 600$). Only significant regression coefficients (standardized coefficients) are reported. Curved paths denote significant correlations, ranging from .28 to .50 for the three personalities, $ps < .001$, and from .12 to .39 for attitudes and humanity attributions, $ps \leq .014$. P = psychopathy; M = Machiavellianism; N = narcissism; SDO = social dominance orientation; A = attitudes toward outgroups; B = blatant humanization; HN = human nature traits; NUH = non-uniquely human traits; UH = uniquely human traits; OP = tendency to oppose the outgroups. Findings on the covariates are not reported; covariates were two dummy variables, which allowed us to control for the specific characteristics of the three subsamples (i.e., the samples that rated: the Roma, individuals with IDD, the homeless). * $p < .05$. ** $p < .01$. *** $p \leq .001$.

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Overall, Hypothesis 4 was only partially supported. In fact, whereas, as expected, the denial of human characteristics mediated the relationship between dark personalities and stronger avoidance tendencies, humanity denial mediated the relationship between personalities and weaker tendencies to attack. We expected the denial of human traits to be a mediator of offensive behaviors in general. Finally, indirect effects of dark personalities were found, in which SDO was the only mediator (Figures 5a and 5b).

In Figures 4 and 5c, findings regarding approach tendencies are displayed. The three personalities were negatively related to these tendencies through the mediation of only SDO or both SDO and the denial of human traits.[10] The pathway: Machiavellianism → negative attitudes → lower approach tendencies was also significant (Figure 5c).
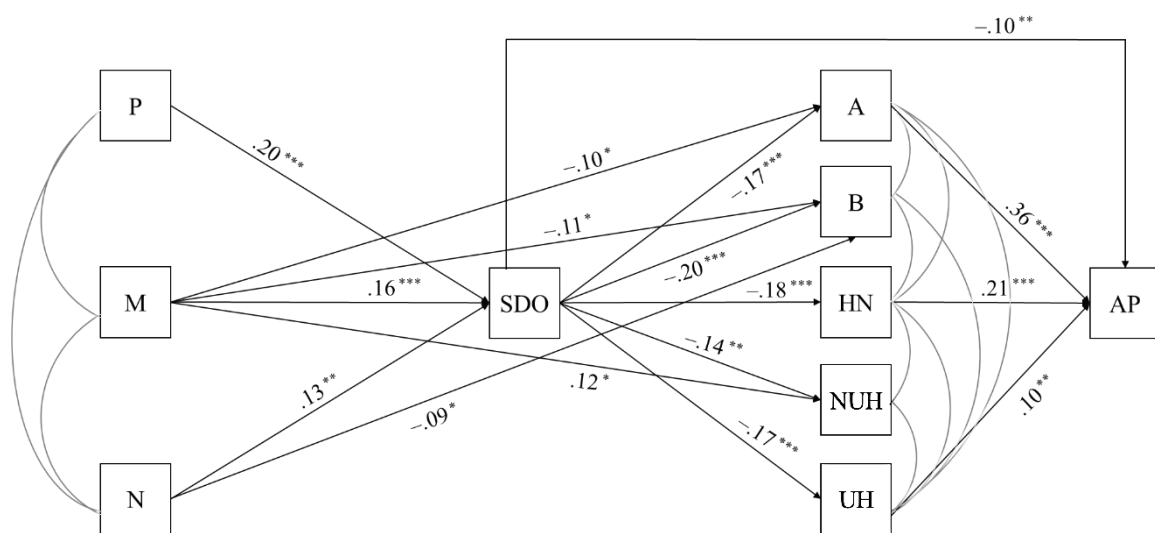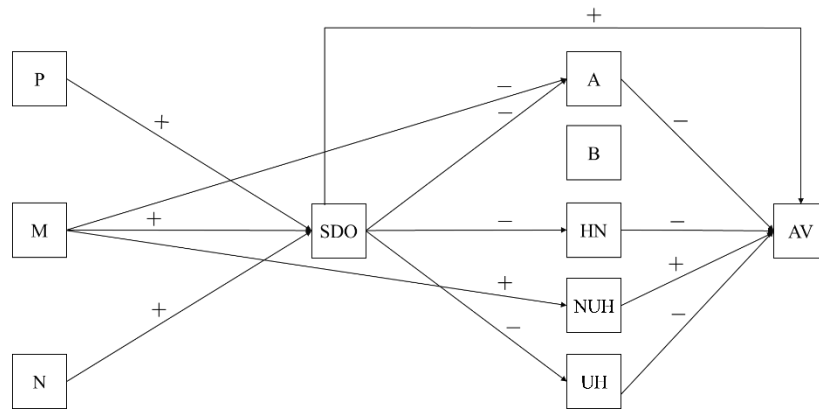

FIGURE 4

Mediation effects of SDO, intergroup attitudes, and humanity attributions in the relationship between the dark personalities and approach behavioral tendencies ($N = 600$). Only significant regression coefficients (standardized coefficients) are reported. Curved paths denote significant correlations, ranging from .28 to .50 for the three personalities, $ps < .001$, and from .12 to .39 for attitudes and humanity attributions, $ps \leq .014$. P = psychopathy; M = Machiavellianism; N = narcissism; SDO = social dominance orientation; A = attitudes toward outgroups; B = blatant humanization; HN = human nature traits; NUH = non-uniquely human traits; UH = uniquely human traits; AP = approach tendencies. Findings on the covariates are not reported; covariates were two dummy variables, which allowed us to control for the specific characteristics of the three subsamples (i.e., the samples that rated: the Roma, individuals with IDD, the homeless).
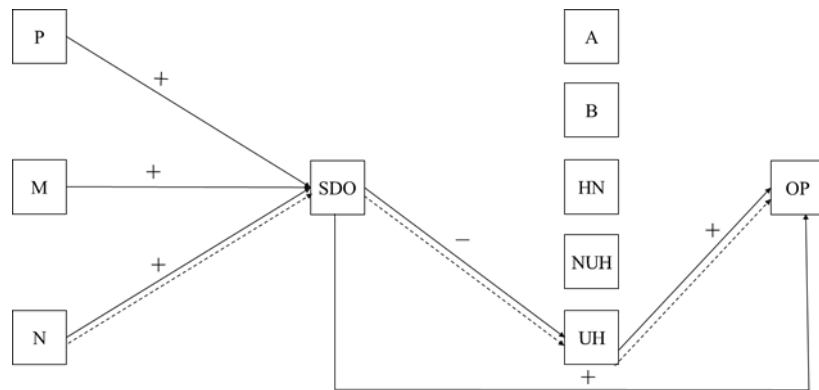* $p < .05$. ** $p \leq .01$. *** $p \leq .001$.

Notably, the association of human or non-human characteristics with behavioral tendencies was unique, namely, achieved once controlling for attitudes — a core predictor of behavior and behavioral intentions. It should finally be noted that, unlike more subtle forms of dehumanization, blatant dehumanization was never involved in the relationship between personalities and behavioral tendencies (Figure 5) (all data regarding the models of Figures 1-4 are available from the corresponding author upon request).

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a)   Avoidance as the outcome

b)   Tendency to oppose the outgroups as the outcome

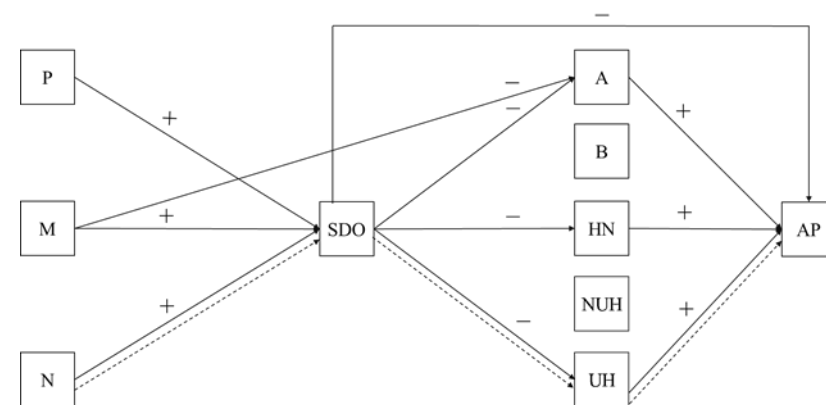c)   Approach behavioral tendencies as the outcome

FIGURE 5

Significant indirect effects of the dark personalities on behavioral tendencies, included in Figures 2-4. For all mediation effects reported, the 95% bias-corrected confidence interval did not include zero. The double mediation effects, depicted in dotted line, are nonsignificant: N →⁺ SDO →⁻ UH →⁺ OP (panel b); N →⁺ SDO →⁻ UH →⁺ AP (panel c). P = psychopathy; M = Machiavellianism; N = narcissism; SDO = social dominance orientation; A = attitudes toward outgroups; B = blatant humanization; HN = human nature traits; NUH = non-uniquely human traits; UH = uniquely human traits; AV = avoidance tendencies; OP = tendency to oppose the outgroups; AP = approach tendencies.

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DISCUSSION

In this study, we discovered that the three dark personalities — psychopathy, Machiavellianism, and narcissism — are associated with SDO — an ideological orientation, reflecting the desire for hierarchical relationships between groups. SDO, in turn, mediates the relationship between the Dark Triad and negative outgroup evaluations (Figure 1). Hypotheses 1-3 were thus confirmed. The desire for dominance and power, characterizing the three personalities, leads Machiavellians, narcissists, and people with psychopathy to support inequalities between groups. Biased attitudes and the ascription of a lower human status to outgroups, which are related to SDO, likely serve the function of protecting one's group's superiority and justifying negative action tendencies toward the outgroups (low-status outgroups).

However, direct effects of Machiavellianism on attitudes and humanity perceptions (Figure 1) were observed. It may be that Machiavellians directly endorse negative outgroup evaluations to justify their intention to keep derogated outgroups away (Figures 5a and 5c) — an intention which is incoherent with their inclination to manipulate other people to achieve their personal goals. Future studies should explore what happens when powerful outgroups, such as entrepreneurs or politicians, are evaluated.

We observed an unexpected negative relationship between SDO and the attribution of non-uniquely human traits to outgroups (e.g., drive, impulsiveness). It is not easy to explain this finding. However, we believe that the denial of both human traits and traits that humans share with animals displays an extreme form of humanity negation in which a group is excluded from the human category. Further research may replicate this finding.

The hypothesis that the relationship between the three personalities and negative behavioral tendencies is mediated by both SDO and the denial of human characteristics to outgroups through a double mediation process (Hypothesis 4) was supported for avoidance (Figure 5a), but not attack tendencies (Figure 5b). In fact, the denial of uniquely human traits mediated the relationship between SDO and lower, but not higher, tendencies to face the outgroup. The perception of outgroup members as characterized by low levels of reasoning capacities and, thus, as little responsible for their actions, seems to weaken the propensity to attack qualifying social dominance orientation (see the direct path linking SDO to the inclination to oppose the outgroup in Figure 5b). Future studies should investigate for which groups the denial of uniquely human features explains the relationship between SDO and lower inclinations to face the outgroup, for which it explains stronger inclinations to attack (e.g., Muslims, ISIS's members).

In the structural equation models of Figures 2-4, the association of blatant humanization with behavioral tendencies was significant only for avoidance (Figure 2). The limited unique effects of the Ascent of Humans scale probably depend on social desirability bias, which drops the correlations of this measure with behavioral tendencies. It is, in fact, not easy to place people with disabilities, or the homeless, closer to the image of a monkey than to that of a human being. We believe that the Ascent of Humans scale is a valid (de)humanization measure in the context of conflicting relationships or when outgroups are seen as particularly threatening.

However, how can we attenuate the relationship between dark personalities and the tendency to dehumanize the outgroups? One possibility is to focus on SDO, which is linked to all three personalities. Recent studies have shown that positive intergroup contact can reduce SDO levels, which in turn are related to lower levels of prejudice toward minority groups (Dhont, Van Hiel, & Hewstone, 2014; Shook, Hopkins, & Koech, 2016; Trifiletti et al., 2019; Vezzali et al., 2018). Thus positive contact should decrease the association of SDO (and the Dark Triad) with outgroup dehumanization. Future research should test whether the relationship between positive contact and higher humanizing perceptions is mediated by lower

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levels of SDO, and whether the dark personalities moderate this mediation effect. It would be interesting to find that the mediation effects of reduced SDO are stronger for people who are high in psychopathy, Machiavellianism, or narcissism (in fact, intolerant people seem to benefit more than egalitarians from intergroup positive contact; see Hodson, Costello, & MacInnis, 2013).

The present study shows some limitations. One is its cross-sectional design that does not allow conclusions on the causal relationships between variables. Future research should test the mediation models by using longitudinal design. Also, we did not assess behaviors but behavioral inclinations. It would be interesting to identify what actions (e.g., non-helping behaviors, signing petitions to damage the outgroup) are associated with the dark personalities through the mediation of dehumanizing perceptions.

Notably, replicating previous studies (e.g., Capozza, Di Bernardo, Falvo, Vianello, & Calò, 2016; Goff, Jackson, Di Leone, Culotta, & DiTomasso, 2014; Kteily et al., 2015), we found that humanity attributions have unique associations with behavioral tendencies, after controlling for attitude effects — a result which supports the theoretical distinction between the two constructs. In spite of its limitations, this work is crucial, given the lack of evidence on the relationship between dark traits and intergroup humanity attributions. In general, it shows the importance of considering personality variables for a full understanding of group relations in society.

NOTES

1. In Italy, Roma people are approximately 180,000, corresponding to about 0.25% of the total population. They usually live in "nomad camps," which are located in peripheral areas (Villano, Fontanella, Fontanella, & Di Donato, 2017).
2. We also considered the rich, wishing to include a competent group among the target outgroups.
3. The group pairs were: Roma and Italians; the rich and the poor; individuals with IDD and people with no disability; the homeless and socially integrated people.
4. The concept of human nature was introduced by Haslam (2006). It includes the essential features of human species (e.g., emotionality, relational skills). The denial of uniquely human traits leads to animalistic dehumanization, whereas the denial of human nature traits leads to mechanistic dehumanization, that is, to the assimilation of the target to a machine or robot.
5. Participants who were assigned the rich/poor couple evaluated the poor first.
6. In the whole sample, alphas were: .77 (UH traits), .79 (NUH traits), .80 (HN traits), when outgroups were evaluated; they were: .84 (UH traits), .81 (NUH traits), .78 (HN traits), when ingroups and the poor were evaluated.
7. Alphas were computed considering the three samples which evaluated the Roma, the homeless, and individuals with IDD ($N = 600$).
8. The difference was marginal, $p = .054$, on the non-uniquely human dimension.
9. Attitudes were also involved in the double mediation effect: dark personalities $\rightarrow$ higher SDO $\rightarrow$ lower positive attitudes $\rightarrow$ stronger avoidance inclinations (Figure 5a).
10. Attitudes were also involved in the double mediation effect: dark personalities $\rightarrow$ higher SDO $\rightarrow$ lower positive attitudes $\rightarrow$ lower approach tendencies (Figure 5c).

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