Honesty-Humility, the Dark Tetrad, and ideological beliefs: Their incremental validity in predicting explicit prejudice toward asylum seekers

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A R T I C L E   I N F O

A B S T R A C T

Two studies examined how individual differences relate to prejudiced attitudes toward asylum seekers. Results consistently showed that prejudiced people had relatively low scores on Honesty-Humility and relatively high scores on the Dark Tetrad (narcissism, Machiavellianism, psychopathy, and everyday sadism) and ideological beliefs (social dominance orientation, patriotism, and nationalism). More importantly, multiple regression analyses revealed that the Dark Tetrad (in particular, Machiavellianism) provided incremental validity beyond Honesty–Humility in predicting explicit prejudice, but both the Dark Tetrad and Honesty-Humility were outpredicted by ideological beliefs. These findings suggest that the narrower Dark Tetrad personality traits provide additional useful information for explaining intergroup attitudes beyond the broader Honesty-Humility personality trait. However, the Dark Tetrad traits (and Honesty-Humility) are only distal determinants of explicit prejudice, while ideological beliefs are the proximal determinant. Study 2 also included a measure of implicit prejudice toward asylum seekers. Overall, Honesty-Humility, the Dark Tetrad, and ideological beliefs were much less predictive of implicit (compared to explicit) prejudiced attitudes.

1. Introduction

Although explicitly negative views of out-groups and their individual members have diminished over time (Charlesworth & Banaji, 2019), members of marginalized groups are still perceived less favorably than members of non-marginalized groups (Esses, 2021). For example, in recent years, a large number of people were forcibly evicted from their homes, which has led to negative attitudes toward migrants in many Western countries (Walter, 2021). It should be noted, however, that self-reported intergroup attitudes tend to be positive (Charlesworth & Banaji, 2019) and only a relatively small minority treat members of marginalized groups more negatively than members of non-marginalized groups (Campbell & Brauer, 2021). Likewise, many people do not have negative attitudes toward asylum seekers (Hartley & Pedersen, 2015). Overall, it appears that negative attitudes toward out-group members compared to in-group members are due to a numerical minority of individuals scoring relatively high on explicit bias, rather than most individuals being mildly biased (cf. Campbell & Brauer, 2021). Who is this numerical minority expressing negative views of out-group members in general and asylum seekers in particular?

In the present research, the role of basic and dark personality traits, as well as ideological variables in predicting explicit prejudice toward asylum seekers is examined. It is hypothesized that prejudiced people score relatively low on Honesty-Humility and relatively high on the Dark Tetrad and ideological beliefs. More importantly, it is also hypothesized that the Dark Tetrad subscales predict explicit prejudice beyond Honesty-Humility, but that ideological beliefs outpredict the Dark Tetrad (and Honesty-Humility).

1.1. Personality, ideological beliefs, and explicit prejudice

Abundant evidence has been accumulated that personality and explicit prejudice are related. Among the Big Five, arguably the most dominant model in personality psychology, explicit prejudice is predicted primarily by low openness to experience and low agreeableness (for a meta-analysis, Sibley & Duckitt, 2008). Extending the Big Five, the HEXACO model includes a morality-relevant sixth factor termed Honesty-Humility. People who score relatively high on Honesty-Humility are characterized as sincere, fair, and humble, while those who score low are characterized as smart, greedy, and overbearing (Ashton & Lee, 2005). Honesty-Humility has a negative association with explicit prejudice toward derogated minority groups (Legault et al., 2022; Sibley et al., 2010).

Whereas the Big Five and the HEXACO model aim to cover the entire

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personality spectrum in a few broad personality factors, other personality theories focus on specific individual differences traits. Broad personality traits summarize a large body of behavioral information and are predictive of a variety of relevant criteria (i.e., they have the advantage of high bandwidth). More narrowly defined personality traits, in contrast, have the advantage of high fidelity, in that they provide a more precise description of behavior and can more accurately predict criteria that are closely linked to that description (John et al., 2008). The fact that different breadths of personality traits have advantages and disadvantages is called the bandwidth fidelity tradeoff (cf. Cronbach & Gleser, 1957).

Regarding the dark side of human personality, it has been proposed that four dimensions, termed the Dark Tetrad, provide useful information beyond broad models of personality (Paulhus, 2014). The Dark Tetrad traits are narcissism (e.g., characterized by an inflated self-image; Raskin & Hall, 1979), Machiavellianism (e.g., characterized by the tendency to exploit others; Jones & Paulhus, 2009), psychopathy (e.g., characterized by callousness and unemotionality; Board & Fritzon, 2005), and everyday sadism (e.g., characterized by pleasure derived from harming others; Greitemeyer et al., 2019). These dark personality factors have been shown to correlate positively with explicit prejudice (e.g., Anderson & Cheers, 2018; Hodson et al., 2009; Jonason et al., 2020).

The Dark Tetrad typology has inspired much empirical research. Whereas many studies provided support for the utility of the model, some researchers doubt whether the Dark Tetrad is needed in addition to the HEXACO model (Lee & Ashton, 2014). In particular, given the strong negative correlations between the Dark Tetrad subscales and Honesty-Humility, it has been argued that the common variance of the Dark Tetrad is nearly redundant with (low) Honesty–Humility and therefore the Dark Tetrad offers little additional predictive validity beyond the inverse facet of Honesty-Humility (e.g., Book et al., 2016; Hodson et al., 2018). In other words, it is claimed that the narrow Dark Tetrad traits provide only slightly better prediction accuracy than does the broad Honesty–Humility trait and hence the less parsimonious traits of the Dark Tetrad are almost superfluous beyond Honesty–Humility.

In other research, however, the Dark Tetrad does provide useful information beyond Honesty–Humility. For example, research has shown that the broad Honesty–Humility factor cannot make the nuanced predictions as the narrower Dark Tetrad traits. In fact, Jones and Paulhus (2017) found that all Dark Triad subscales were related to dishonest behavior when there was no risk of being caught. In contrast, when punishment was a serious risk, only those high in psychopathy cheated. Another study showed that all HEXACO personality factors except for emotionality were related to transformational leadership, but the Dark Tetrad subscales (apart from everyday sadism) were incremental positive predictors (Schreyer et al., 2021). In another study, narcissism and psychopathy predicted proactive and reactive relational aggression over and above Honesty–Humility (Knight et al., 2018). Finally, task performance has been shown to be positively related to narcissism and Machiavellianism and negatively related to psychopathy and everyday sadism and these relationships held when controlling for the impact of Honesty-Humility (Fernández-del-Río et al., 2020). These findings suggest that the Dark Tetrad traits are not just the opposite pole of Honesty-Humility and thus they provide fidelity. I therefore predicted that the Dark Tetrad subscales would add significant variance in predicting explicit prejudice beyond Honesty–Humility.

Although basic personality traits and dark personality traits are associated with explicit prejudiced attitudes, ideological beliefs appear to be even more influential. Ideological beliefs relate to how society should be structured and how people should behave. In the present research, the role of social dominance orientation (SDO), patriotism, and nationalism is considered. SDO refers to the enforcement and maintenance of hierarchical social systems and the inequality between human groups (Pratto et al., 1994). Whereas individuals low in SDO endorse that all people should be treated equally, individuals high in SDO prefer

that inferior groups are dominated by superior groups. SDO has been shown to be a strong predictor of prejudiced attitudes in general (Sibley & Liu, 2010) and attitudes toward asylum seekers in particular. In fact, in a meta-analysis (Anderson & Ferguson, 2018), SDO was the strongest correlate of anti-asylum seeker sentiment.

Patriotism and nationalism are two forms of national identification. Both concepts are about pride in one's own country, with patriotism having more positive connotations than nationalism. Patriotism denotes a positive attachment to one's own country, while nationalism involves a positive assessment of one's own country paired with a derogation of other countries (Kosterman & Feshbach, 1989). In some studies, nationalism was associated with explicit prejudice, whereas patriotism was not. In other studies, however, patriotism was also predictive of explicit prejudice (e.g., Hoyt & Goldin, 2016; Keller, 2005).

Ideological beliefs have been shown to be negatively correlated with Honesty-Humility (e.g., Sibley et al., 2010) and positively correlated with dark personalities (e.g., Jonason, 2015; Jones & Figueredo, 2013) and may account for the relationship between personality and prejudice. According to the dual process motivational model (Duckitt & Sibley, 2010), personality shapes how people view their social world. After repeated social experiences, these broad social worldviews then may become chronically salient and manifest as an ideological belief. For example, viewing the world as a competitive place leads people to adopt social dominance oriented attitudes. SDO and other ideological beliefs in turn are then the proximal determinants of intergroup attitudes and operate as the mediating mechanism between personality and explicit prejudice (Duckitt & Sibley, 2010). For example, recent research found that dark personality traits were positively associated with prejudice toward refugees, but this relationship was fully mediated by differences in SDO (Żemojtel-Piotrowska et al., 2020; see also Jonason, 2015). Overall, it is anticipated that ideological beliefs are stronger predictors of explicit prejudice than are Honesty-Humility and the Dark Tetrad and that the influence of Honesty-Humility and the Dark Tetrad on explicit prejudice considerably diminishes when ideological beliefs are taken into account.

1.2. The present research

To sum up, the present research aimed to show that (a) although there is some overlap between Honesty-Humility and the Dark Tetrad, the Dark Tetrad traits do explain explicit prejudice beyond Honesty-Humility and (b) ideological beliefs outpredict Honesty-Humility and the Dark Tetrad and statistically reduce the influence of Honesty-Humility and the Dark Tetrad on explicit prejudice. Concretely, the following hypotheses were tested in two studies:

H1. Honesty-Humility is negatively related to explicit prejudice.

H2. The Dark Tetrad subscales are positively related to explicit prejudice.

H3. Ideological beliefs (SDO, patriotism, and nationalism) are positively related to explicit prejudice.

H4. The Dark Tetrad predicts explicit prejudice beyond Honesty-Humility.

H5. Ideological beliefs predict explicit prejudice beyond Honesty-Humility and the Dark Tetrad, whereas the influence of Honesty-Humility and the Dark Tetrad on explicit prejudice is considerably reduced when ideological beliefs are taken into account.

In addition to the hypothesis tests, further analyses were carried out. According to the dual process motivational model (Duckitt & Sibley, 2010), ideological beliefs should function as a mechanism by which personality produces individual differences in prejudice. Hence, mediation analyses examined whether ideological beliefs would account for the relationships between prejudice and Honesty-Humility and the Dark Tetrad subscales. Such a finding would further provide evidence for

Hypothesis 5 that ideological beliefs outpredict Honesty-Humility and the Dark Tetrad subscales.

Furthermore, the impact of a variety of control variables was explored. In a simultaneous multiple regression analysis, I controlled for political orientation, as those on the political right have more negative attitudes toward asylum seekers and immigrants compared to those on the political left (e.g., Hainmueller & Hopkins, 2014; Onraet et al., 2021), have higher values on ideological beliefs (e.g., Ho et al., 2012) and the Dark Tetrad (e.g., Duspara & Greitemeyer, 2017). I also controlled for participant sex and age, since prejudice is more pronounced in men (e.g., Turoy-Smith et al., 2013) and older people (e.g., Pedersen et al., 2008).

In both studies, all participants were run before any analyses were performed, and all data exclusions and variables analyzed are reported. Participants learned that the data are analyzed anonymously, that participation is voluntary, and that they can stop responding to the questions at any time. Our university requires no formal approval from an ethics committee if the research is in accordance with guidelines of the German Psychological Society.

2. Study 1

2.1. Method

Participants were invited via various social network groups dealing with political issues, ranging from the politically left to the politically right. Two hundred and sixty-nine individuals completed the questionnaire (159 women, 109 men, 1 diverse). (The one diverse participant was not included in the regression analysis when controlling for participant sex.) Participants were mostly German ($N = 202$) and Austrian ($N = 55$) citizens. Twelve participants had a different citizenship. The data collection took place in spring 2019. A sensitivity analysis showed that with this sample size, the study had 80 % statistical power to detect a correlation of $r \geq 0.17$, corresponding to small to medium sized (and larger) effects.

After participants provided demographic data, their political orientation was assessed using a slider on a scale from 1 (*left-wing orientation*) to 101 (*right-wing orientation*). Afterwards, participants reported their attitude toward asylum seekers, adapting an Australian scale (Pedersen et al., 2005) to a European context. The scale comprises 16 items, sample item: "Asylum seekers are ungrateful by protesting in the manner that they do." The scale ranged from 1 (*completely disagree*) to 7 (*completely agree*), scale reliability was: $\alpha = 0.94$. Higher scores reflect more explicit prejudice.

Participants then responded to measures of the Dark Tetrad. The Short Dark Triad (Jones & Paulhus, 2014) comprises measures of narcissism (sample item: "People see me as a natural leader," $\alpha = 0.63$), Machiavellianism (sample item: "It's not wise to tell your secrets," $\alpha = 0.77$), and psychopathy (sample item: "I like to get revenge on authorities," $\alpha = 0.69$). To assess everyday sadism, the Revised Assessment of Sadistic Personality (Plouffe et al., 2017) was employed (sample item: "I never get tired of pushing people around," $\alpha = 0.78$). There were nine items for each scale; the scales ranged from 1 (*completely disagree*) to 5 (*completely agree*).

Afterwards, participants completed a 14-item SDO scale (Pratto et al., 1994). Sample item: "Some groups of people are just not up to other groups." ($\alpha = 0.91$). Patriotic (11 items, $\alpha = 0.85$) and nationalistic (7 items, $\alpha = 0.76$) attitudes were assessed next (Kosterman & Feshbach, 1989). Sample items: "I love my country" and "Other countries should try to make their government as much like ours as possible." The scales ranged from 1 (*completely disagree*) to 7 (*completely agree*).

Finally, Honesty-Humility was assessed by 10 items of the HEXACO-Personality Inventory (PI-R) (Ashton & Lee, 2009). Sample item: "Having a lot of money is not especially important to me." The scale was from 1 (*strongly disagree*) to 5 (*strongly agree*), scale reliability was: $\alpha = 0.72$.

A measure of social desirability concerns was also employed (Kemper et al., 2012). However, as scale reliability was low ($\alpha = 0.54$), this measure is not considered further.

2.2. Results

Descriptive statistics and intercorrelations of all measures are shown in Table 1. As expected, explicit prejudice was negatively correlated with Honesty-Humility and positively correlated with the Dark Tetrad subscales (except narcissism), SDO, patriotism, and nationalism. Female participants had lower scores on explicit prejudice, whereas older participants and participants with a right-wing political orientation had higher scores.

To test the hypotheses, a hierarchical multiple regression was performed next (Table 2). Explicit prejudice was first regressed on Honesty-Humility. The Dark Tetrad subscales were added in Step 2, and SDO, patriotism, and nationalism were entered in Step 3. The first model showed that Honesty-Humility was significantly negatively associated with explicit prejudice. In the second model, only Machiavellianism was a significant predictor. The increase in R^2 ($\Delta R^2 = 0.06$) was statistically significant, $p = .001$. The third model showed that SDO, patriotism, and nationalism were the strongest predictor variables, and the prediction of explicit prejudice was greatly improved, $\Delta R^2 = 0.55$, $p < .001$. (The absence of) multi-collinearity was checked using VIF values. All values were below 3, indicating that multi-collinearity should not have greatly distorted the findings.

Next, mediation analyses were carried out to examine whether ideological beliefs would account for the relationships between personality (Honesty-Humility, narcissism, Machiavellianism, psychopathy, and everyday sadism) and explicit prejudice. To test whether SDO, patriotism, and nationalism mediate the relationships between personality and explicit prejudice, five bootstrapping analyses based on 5000 bootstraps were performed (Tables 3a–3e). In all analyses, the confidence interval for the total indirect effect did not include 0, suggesting that Honesty-Humility, narcissism, Machiavellianism, psychopathy, and everyday sadism are linked to explicit prejudice through ideological beliefs.

Finally, in a simultaneous multiple regression, the impact of participant sex and age and political orientation was controlled for. Explicit prejudice was regressed on Honesty-Humility, narcissism, Machiavellianism, psychopathy, everyday sadism, SDO, patriotism, nationalism, participant sex and age, and political orientation. The overall regression was significant, $F(11, 256) = 32.85$, $p < .001$, $R^2 = 0.74$. SDO, $\beta = 0.44$, $p < .001$, patriotism, $\beta = 0.11$, $p = .015$, and nationalism, $\beta = 0.14$, $p = .005$, remained significant predictors. Age was positively related to explicit prejudice, $\beta = 0.08$, $p = .018$, whereas narcissism was a negative predictor, $\beta = -0.08$, $p = .047$. Political orientation was also a strong predictor, $\beta = 0.32$, $p < .001$.

2.3. Discussion

As hypothesized, Honesty-Humility, the Dark Tetrad subscales, and ideological beliefs were significantly associated with explicit prejudice toward asylum seekers. More importantly, the Dark Tetrad (namely, Machiavellianism) accounted for variance in explicit prejudice after taken Honesty-Humility into account. However, when adding the ideological variables to the model, both Honesty-Humility and the Dark Tetrad subscales were no longer significant predictors of explicit prejudice. In contrast, all three ideological belief variables received a significant regression weight. Although they are closely related with each other, this finding suggests that SDO, patriotism, and nationalism exhibit incremental validity, with each measure predicting people's prejudiced attitudes beyond those predicted by the others. Furthermore, mediation analyses showed that personality influenced explicit prejudice indirectly through ideological beliefs. Overall, Study 1 shows (a) that the Dark Tetrad traits are not just the opposite pole of Honesty-

Table 1
Means, standard deviations, and bivariate correlations (Study 1).

	M	SD	1	2	3	4	5	6	7	8	9	10	11
1. Explicit prejudice	3.52	1.35											
2. Honesty-Humility	3.63	0.63	−0.26										
3. Narcissism	2.52	0.55	0.10	−0.35									
4. Machiavellianism	2.85	0.66	0.33	−0.48	0.31								
5. Psychopathy	2.09	0.60	0.23	−0.46	0.46	0.43							
6. Everyday sadism	1.58	0.58	0.25	−0.51	0.40	0.46	0.65						
7. SDO	2.70	1.15	0.76	−0.33	0.26	0.43	0.31	0.37					
8. Patriotism	4.48	1.11	0.59	−0.12	0.01	0.22	0.02	0.11	0.46				
9. Nationalism	3.18	1.14	0.65	−0.34	0.17	0.41	0.19	0.31	0.58	0.47			
10. Participant sex	–	–	−0.28	0.27	−0.16	−0.35	−0.40	−0.39	−0.34	−0.12	−0.28		
11. Participant age	37.9	15.1	0.23	0.13	−0.01	−0.02	−0.02	−0.07	0.17	0.16	0.12	−0.11	
12. Political orientation	42.8	26.5	0.73	−0.16	0.04	0.25	0.15	0.18	0.59	0.57	0.59	−0.24	0.15

Note. Participant sex is coded: 1 = men, 2 = women; $|r| > 0.12$, $p < .05$; $|r| > 0.15$, $p < .01$; $|r| > 0.21$, $p < .001$.

Table 2
Hierarchical regression analysis on explicit prejudice (Study 1).

Step	Predictor variables	Final βs								R^2	Adj. R^2
		HH	NA	MA	PS	ES	SDO	P	N		
1	HH	−0.26*								0.07	0.06
2	HH + NA + MA + PS + ES	−0.09	−0.07	0.24*	0.07	0.08				0.13	0.11
3	HH + NA + MA + PS + ES + SDO + P + N	−0.01	−0.10*	−0.04	0.12*	−0.07	0.57*	0.20*	0.22*	0.68	0.67

Note. HH = Honesty-Humility; NA = narcissism; MA = Machiavellianism; PS = psychopathy; ES = everyday sadism; SDO = social dominance orientation; P = patriotism; N = nationalism.
Adj. = adjusted.
* $p < .05$

Table 3a
Mediation analysis for Honesty-Humility (HH) on explicit prejudice through ideological beliefs (Study 1).

	Effect	SE	95 % CI
HH ➔ SDO	−0.59	0.10	[−0.80, −0.39]
HH ➔ Nationalism	−0.62	0.10	[−0.82, −0.41]
HH ➔ Patriotism	−0.21	0.11	[−0.42, 0.00]
SDO ➔ Prejudice	0.65	0.05	[0.54, 0.75]
Nationalism ➔ Prejudice	0.24	0.06	[0.12, 0.37]
Patriotism ➔ Prejudice	0.25	0.06	[0.14, 0.37]
Direct effect HH ➔ Prejudice	−0.04	0.08	[−0.12, 21]
Total indirect effect	−0.59	0.12	[−0.82, −0.36]
HH ➔ SDO ➔ Prejudice	−0.39	0.08	[−0.55, −0.23]
HH ➔ Nationalism ➔ Prejudice	−0.15	0.04	[−0.24, −0.07]
HH ➔ Patriotism ➔ Prejudice	−0.05	0.03	[−0.13, 0.01]

Table 3c
Mediation analysis for Machiavellianism on explicit prejudice through ideological beliefs (Study 1).

	Effect	SE	95 % CI
Machiavellianism ➔ SDO	0.74	0.10	[0.55, 0.93]
Machiavellianism ➔ Nationalism	0.71	0.10	[0.52, 0.90]
Machiavellianism ➔ Patriotism	0.37	0.10	[0.17, 0.57]
SDO ➔ Prejudice	0.66	0.05	[0.55, 0.76]
Nationalism ➔ Prejudice	0.25	0.06	[0.13, 0.37]
Patriotism ➔ Prejudice	0.25	0.06	[0.14, 0.36]
Direct effect Machiavellianism ➔ Prejudice	−0.09	0.08	[−0.25, 0.08]
Total indirect effect	0.76	0.10	[0.55, 0.97]
Machiavellianism ➔ SDO ➔ Prejudice	0.49	0.07	[0.35, 0.64]
Machiavellianism ➔ Nationalism ➔ Prejudice	0.18	0.05	[0.08, 0.28]
Machiavellianism ➔ Patriotism ➔ Prejudice	0.09	0.04	[0.03, 0.18]

Table 3b
Mediation analysis for narcissism on explicit prejudice through ideological beliefs (Study 1).

	Effect	SE	95 % CI
Narcissism ➔ SDO	0.54	0.12	[0.30, 0.78]
Narcissism ➔ Nationalism	0.35	0.12	[0.11, 0.59]
Narcissism ➔ Patriotism	0.02	0.12	[−0.22, 0.26]
SDO ➔ Prejudice	0.67	0.05	[0.57, 0.77]
Nationalism ➔ Prejudice	0.25	0.06	[0.13, 0.37]
Patriotism ➔ Prejudice	0.24	0.06	[0.12, 0.35]
Direct effect Narcissism ➔ Prejudice	−0.21	0.09	[−0.39, −0.03]
Total indirect effect	0.46	0.13	[0.19, 0.71]
Narcissism ➔ SDO ➔ Prejudice	0.36	0.09	[0.19, 0.54]
Narcissism ➔ Nationalism ➔ Prejudice	0.09	0.04	[0.01, 0.18]
Narcissism ➔ Patriotism ➔ Prejudice	0.01	0.03	[−0.06, 0.07]

Table 3d
Mediation analysis for psychopathy on explicit prejudice through ideological beliefs (Study 1).

	Effect	SE	95 % CI
Psychopathy ➔ SDO	0.59	0.11	[0.37, 0.81]
Psychopathy ➔ Nationalism	0.37	0.11	[0.15, 0.60]
Psychopathy ➔ Patriotism	0.04	0.11	[−0.19, 0.26]
SDO ➔ Prejudice	0.63	0.05	[0.53, 0.74]
Nationalism ➔ Prejudice	0.23	0.06	[0.11, 0.35]
Patriotism ➔ Prejudice	0.26	0.06	[0.15, 0.38]
Direct effect Psychopathy ➔ Prejudice	0.06	0.09	[−0.11, 0.23]
Total indirect effect	0.47	0.14	[0.21, 0.73]
Psychopathy ➔ SDO ➔ Prejudice	0.37	0.09	[0.21, 0.57]
Psychopathy ➔ Nationalism ➔ Prejudice	0.09	0.04	[0.02, 0.16]
Psychopathy ➔ Patriotism ➔ Prejudice	0.01	0.04	[−0.06, 0.09]

Humility and provides (b) support for a key prediction derived from the dual process motivational model (Duckitt & Sibley, 2010) that ideological beliefs account for the influence of personality on explicit prejudice.

One aim of Study 2 was to examine whether these findings would replicate. Extending Study 1, a measure of implicit prejudice toward asylum seekers was included. Whereas explicit prejudice refers to negative attitudes that are consciously held, implicit prejudice refers to negative attitudes that people hold without being aware of it. Measures of implicit and explicit prejudice are only weakly positively related,

Table 3e
Mediation analysis for everyday sadism on explicit prejudice through ideological beliefs (Study 1).

	Effect	SE	95 % CI
Everyday sadism ➜ SDO	0.74	0.11	[0.52, 0.96]
Everyday sadism ➜ Nationalism	0.61	0.11	[0.39, 0.84]
Everyday sadism ➜ Patriotism	0.21	0.12	[−0.02, 0.43]
SDO ➜ Prejudice	0.66	0.05	[0.55, 0.76]
Nationalism ➜ Prejudice	0.25	0.06	[0.13, 0.37]
Patriotism ➜ Prejudice	0.25	0.06	[0.13, 0.36]
Direct effect Everyday sadism ➜ Prejudice	−0.10	0.09	[−0.28, 0.08]
Total indirect effect	0.69	0.14	[0.42, 0.96]
Everyday sadism ➜ SDO ➜ Prejudice	0.49	0.10	[0.31, 0.68]
Everyday sadism ➜ Nationalism ➜ Prejudice	0.15	0.05	[0.07, 0.25]
Everyday sadism ➜ Patriotism ➜ Prejudice	0.05	0.04	[−0.02, 0.14]

supporting the idea that explicit and implicit attitudes are distinct constructs. For example, in one study (Anderson, 2018), the correlation between explicit and implicit attitudes toward asylum seekers was $r = 0.17$. Moreover, participants explicitly reported neutral attitudes toward asylum seekers, but implicit evaluations were negative. Subsequent research (Anderson & Cheers, 2018) found that explicit and implicit attitudes toward asylum seekers relate differently to dark personality traits. Narcissism, Machiavellianism, and psychopathy were positively related to classical attitudes (the latter two were also positively related to modern attitudes), but they were all unrelated to implicit attitudes. Another study (Moor et al., 2019) found that explicit attitudes toward gay men were negatively related to SDO, narcissism, Machiavellianism, and psychopathy, whereas implicit attitudes were not predicted by either SDO or the Dark Tetrad measures. However, in the Anderson (2018) study, SDO was negatively related to implicit attitudes toward asylum seekers, and the correlation was even of a moderate to large magnitude ($r = 0.38$). Given these mixed findings, I deemed it important to provide another test of the relationship between personality, ideological beliefs, and implicit attitudes.

3. Study 2

3.1. Method

Participants were 170 psychology students (118 women, 52 men) who received course credit. There were 131 German, 31 Austrian, and 6 Italian citizens. Seven participants had a different citizenship. The data collection took place in June 2021. A sensitivity analysis showed that with this sample size, the study had 80 % statistical power to detect a correlation of $r \geq 0.21$, corresponding to small to medium sized (and larger) effects.

The procedure and the materials were similar to Study 1, with the exception that a measure of implicit prejudice was included. Concretely, participants responded to an implicit association test (IAT) (Greenwald et al., 1998). The IAT is a computerized task that measures the associative strength between concepts. The underlying idea is that two concepts that are closely related should produce faster reaction times than two concepts that are less closely related. Weber and colleagues (Weber et al., 2020) successfully employed an IAT to assess people's implicit attitude toward refugees. A positive difference (d) score reflects a strong association between white Europeans-good and refugees-bad, whereas a negative d score reflects a strong association between white Europeans-bad and refugees-good. That is, the more positive the d score, the higher the level of implicit prejudice. The mean IAT score was 0.35, which was significantly different from 0, $t(170) = 10.84$, $p < .001$, meaning that the present sample of participants had less favorable implicit attitudes toward refugees relative to white Europeans.

Explicit prejudice was assessed with a slightly shortened version (13 items) of the same scale that was employed in Study 1 ($\alpha = 0.68$). Honesty-Humility ($\alpha = 0.74$) and the Dark Tetrad were assessed as in

Study 1 (narcissism: $\alpha = 0.67$, Machiavellianism: $\alpha = 0.71$, psychopathy: $\alpha = 0.67$, everyday sadism: $\alpha = 0.78$). SDO ($\alpha = 0.67$), patriotism ($\alpha = 0.67$), nationalism ($\alpha = 0.67$), and political orientation were also assessed as in Study 1. At the end of the questionnaire, a measure of blatant dehumanization toward refugees was added. As the measure was included as a pilot for future research, findings of this measure are not reported here, but the data are publicly available (https://osf.io/u5rxj/).

3.2. Results

3.2.1. Explicit prejudice

Descriptive statistics and intercorrelations of all measures are shown in Table 4. In contrast to Study 1, explicit prejudice was not associated with Honesty-Humility. Replicating Study 1, explicit prejudice was positively correlated with Machiavellianism and everyday sadism, SDO, patriotism, and nationalism. As also in Study 1, female participants scored lower on explicit prejudice, whereas participants with a right-wing political orientation scored higher.

To test the hypotheses, a hierarchical multiple regression on explicit prejudice was carried out next (Table 5). Machiavellianism was a significant predictor when controlling for the impact of Honesty-Humility (Model 2). In contrast to Study 1, everyday sadism also received a significant regression weight. Honesty-Humility was also a significant predictor variable, but the relationship reversed and was now positive. Compared to Model 1, Model 2 showed an increase in R^2 of $\Delta R^2 = 0.16$, $p < .001$. When additionally controlling for SDO, patriotism, and nationalism (Model 3), Honesty-Humility and Machiavellianism remained significant (positive) predictor variables. Importantly, SDO, patriotism, and nationalism received all a significant regression weight. The model fit was greatly improved, $\Delta R^2 = 0.35$, $p < .001$. Multicollinearity was not a serious problem, as all VIF values were below 2.

Regarding mediation (Tables 6a–6e), in all analyses, the confidence interval for the total indirect effect did not include 0, which replicates the finding that ideological beliefs account for the relationship between personality (i.e., Honesty-Humility, narcissism, Machiavellianism, psychopathy, and everyday sadism) and explicit prejudice.

When controlling for the impact of participant sex and age and political orientation, the overall regression was significant, $F(11, 158) = 18.43$, $p < .001$, $R^2 = 0.56$. Honesty-Humility, $\beta = 0.16$, $p = .025$, Machiavellianism, $\beta = 0.15$, $p = .033$, SDO, $\beta = 0.38$, $p < .001$, patriotism, $\beta = 0.16$, $p = .017$, and nationalism, $\beta = 0.15$, $p = .024$, remained significant predictors. Political orientation also received a significant regression weight, $\beta = 0.27$, $p < .001$.

3.2.2. Implicit prejudice

Implicit prejudice was positively correlated with Machiavellianism, everyday sadism, SDO, patriotism, and nationalism. Female participants had lower scores on implicit prejudice, whereas participants with a right-wing political orientation had higher scores. Explicit and implicit prejudice were positively correlated, but only to a moderate extent.

In a hierarchical multiple regression (Table 7), none of the predictor variables remained significant. In a simultaneous regression, when controlling for the impact of participant sex and age and political orientation, only participant sex was a significant predictor, $\beta = -0.19$, $p = .035$. The overall regression was significant, $F(11, 158) = 1.89$, $p = .044$, but the extent to which implicit prejudice was predicted was relatively modest, $R^2 = 0.12$.

3.3. Discussion

Study 2 replicated the main findings from Study 1 that the Dark Tetrad subscales explain differences in explicit prejudice beyond Honesty-Humility and that ideological beliefs outpredict Honesty-Humility and the Dark Tetrad (although Machiavellianism remained a significant predictor variable). Once again, all three ideological belief

Table 4

Means, standard deviations, and bivariate correlations (Study 2).

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Explicit prejudice	2.45	0.61												
2. Implicit prejudice	0.35	0.42	0.21											
3. Honesty-Humility	3.37	0.62	−0.06	−0.07										
4. Narcissism	2.63	0.56	0.13	0.13	−0.31									
5. Machiavellianism	2.66	0.54	0.33	0.16	−0.52	0.22								
6. Psychopathy	1.97	0.49	0.07	0.13	−0.49	0.33	0.42							
7. Everyday sadism	1.69	0.61	0.20	0.20	−0.41	0.29	0.37	0.60						
8. SDO	2.05	0.76	0.58	0.17	−0.34	0.26	0.42	0.34	0.41					
9. Patriotism	3.81	0.87	0.48	0.17	−0.03	−0.00	0.20	−0.10	0.05	0.25				
10. Nationalism	2.72	0.80	0.46	0.21	−0.29	0.23	0.37	0.14	0.24	0.38	0.44			
11. Participant sex	–	–	−0.24	−0.25	0.04	−0.18	−0.11	−0.24	−0.43	−0.31	−0.07	−0.10		
12. Participant age	20.9	3.3	0.02	0.02	0.05	−0.02	0.00	−0.01	−0.04	0.02	0.09	0.03	−0.08	
13. Political orientation	30.2	14.9	0.57	0.18	0.05	0.15	0.14	−0.01	0.06	0.37	0.47	0.34	−0.20	0.02

Note. Participant sex is coded: 1 = men, 2 = women; $|r| > 0.15$, $p < .05$; $|r| > 0.19$, $p < .01$; $|r| > 0.28$, $p < .001$.

Table 5

Hierarchical regression analysis on explicit prejudice (Study 2).

Step	Predictor variables	Final βs								R^2	Adj. R^2
		HH	NA	MA	PS	ES	SDO	P	N		
1	HH	−0.06								0.00	0.00
2	HH + NA + MA + PS + ES	0.18*	0.09	0.40*	−0.15	0.20*				0.16	0.13
3	HH + NA + MA + PS + ES + SDO + P + N	0.23*	0.01	0.14*	−0.05	0.02	0.47*	0.26*	0.18*	0.51	0.48

Note. HH = Honesty-Humility; NA = narcissism; MA = Machiavellianism; PS = psychopathy; ES = everyday sadism; SDO = social dominance orientation; P = patriotism; N = nationalism.

Adj. = adjusted.

* $p < .05$.

Table 6a

Mediation analysis for honesty-humility (HH) on explicit prejudice through ideological beliefs (Study 2).

	Effect	SE	95 % CI
HH ➜ SDO	−0.42	0.09	[−0.60, −0.25]
HH ➜ Nationalism	−0.38	0.10	[−0.57, −0.19]
HH ➜ Patriotism	−0.04	0.11	[−0.26, 0.17]
SDO ➜ Prejudice	0.40	0.05	[0.30, 0.50]
Nationalism ➜ Prejudice	0.15	0.05	[0.05, 0.25]
Patriotism ➜ Prejudice	0.19	0.04	[0.10, 0.28]
Direct effect HH ➜ Prejudice	0.18	0.06	[0.06, 30]
Total indirect effect	−0.24	0.06	[−0.36, −0.12]
HH ➜ SDO ➜ Prejudice	−0.17	0.04	[−0.26, −0.09]
HH ➜ Nationalism ➜ Prejudice	−0.06	0.02	[−0.11, −0.02]
HH ➜ Patriotism ➜ Prejudice	−0.01	0.02	[−0.05, 0.04]

Table 6c

Mediation analysis for Machiavellianism on explicit prejudice through ideological beliefs (Study 2).

	Effect	SE	95 % CI
Machiavellianism ➜ SDO	0.59	0.10	[0.40, 0.78]
Machiavellianism ➜ Nationalism	0.55	0.11	[0.34, 0.76]
Machiavellianism ➜ Patriotism	0.32	0.12	[0.08, 0.56]
SDO ➜ Prejudice	0.35	0.05	[0.24, 0.45]
Nationalism ➜ Prejudice	0.11	0.05	[0.01, 0.22]
Patriotism ➜ Prejudice	0.21	0.04	[0.12, 0.30]
Direct effect Machiavellianism ➜ Prejudice	0.04	0.07	[−0.11, 0.18]
Total indirect effect	0.33	0.06	[0.22, 0.46]
Machiavellianism ➜ SDO ➜ Prejudice	0.20	0.05	[0.12, 0.30]
Machiavellianism ➜ Nationalism ➜ Prejudice	0.06	0.03	[0.01, 0.13]
Machiavellianism ➜ Patriotism ➜ Prejudice	0.07	0.03	[0.02, 0.13]

Table 6b

Mediation analysis for narcissism on explicit prejudice through ideological beliefs (Study 2).

	Effect	SE	95 % CI
Narcissism ➜ SDO	0.36	0.10	[0.16, 0.55]
Narcissism ➜ Nationalism	0.33	0.11	[0.11, 0.54]
Narcissism ➜ Patriotism	−0.00	0.12	[−0.24, 0.24]
SDO ➜ Prejudice	0.36	0.05	[0.26, 0.46]
Nationalism ➜ Prejudice	0.12	0.05	[0.02, 0.23]
Patriotism ➜ Prejudice	0.21	0.05	[0.12, 0.30]
Direct effect Narcissism ➜ Prejudice	−0.03	0.07	[−0.16, 0.10]
Total indirect effect	0.17	0.06	[0.05, 0.29]
Narcissism ➜ SDO ➜ Prejudice	0.13	0.04	[0.05, 0.21]
Narcissism ➜ Nationalism ➜ Prejudice	0.04	0.02	[0.01, 0.09]
Narcissism ➜ Patriotism ➜ Prejudice	−0.00	0.02	[−0.05, 0.05]

Table 6d

Mediation analysis for psychopathy on explicit prejudice through ideological beliefs (Study 2).

	Effect	SE	95 % CI
Psychopathy ➜ SDO	0.52	0.11	[0.30, 0.74]
Psychopathy ➜ Nationalism	0.22	0.12	[−0.02, 0.47]
Psychopathy ➜ Patriotism	−0.18	0.13	[−0.44, 0.09]
SDO ➜ Prejudice	0.38	0.05	[0.27, 0.48]
Nationalism ➜ Prejudice	0.13	0.05	[0.03, 0.23]
Patriotism ➜ Prejudice	0.20	0.05	[0.11, 0.29]
Direct effect Psychopathy ➜ Prejudice	−0.10	0.08	[−0.25, 0.05]
Total indirect effect	0.19	0.08	[0.04, 0.34]
Psychopathy ➜ SDO ➜ Prejudice	0.20	0.05	[0.10, 0.31]
Psychopathy ➜ Nationalism ➜ Prejudice	0.03	0.02	[−0.00, 0.07]
Psychopathy ➜ Patriotism ➜ Prejudice	−0.03	0.03	[−0.10, 0.01]

measures independently contributed to the prediction of explicit prejudice, further showing that SDO, patriotism, and nationalism tap distinct constructs. As also in Study 1, mediation analyses replicated the basic pattern that the relationship between personality and explicit prejudice is accounted for by ideological beliefs.

With regard to implicit prejudice, personality and ideological beliefs had less of an impact. Although Machiavellianism and everyday sadism and all ideological belief measures were positively correlated with

Table 6e

Mediation analysis for everyday sadism on explicit prejudice through ideological beliefs (Study 2).

	Effect	SE	95 % CI
Everyday sadism ➔ SDO	0.50	0.09	[0.33, 0.68]
Everyday sadism ➔ Nationalism	0.31	0.10	[0.12, 0.51]
Everyday sadism ➔ Patriotism	0.07	0.11	[−0.14, 0.29]
SDO ➔ Prejudice	0.37	0.05	[0.26, 0.47]
Nationalism ➔ Prejudice	0.12	0.05	[0.02, 0.23]
Patriotism ➔ Prejudice	0.21	0.04	[0.12, 0.30]
Direct effect Everyday sadism ➔ Prejudice	−0.04	0.06	[−0.16, 0.09]
Total indirect effect	0.24	0.06	[0.13, 0.36]
Everyday sadism ➔ SDO ➔ Prejudice	0.18	0.04	[0.11, 0.28]
Everyday sadism ➔ Nationalism ➔ Prejudice	0.04	0.02	[0.01, 0.08]
Everyday sadism ➔ Patriotism ➔ Prejudice	0.02	0.02	[−0.03, 0.06]

implicit prejudice, these relationships did not hold in the regression analyses. Overall, explicit much more than implicit prejudice was explained by the predictor variables (56 % relative to 12 % of the variation).

As in previous research (for a meta-analysis, Greenwald et al., 2009), the correlation between explicit and implicit attitudes was of a small to moderate magnitude. Overall, the present findings suggest that explicit and implicit prejudice measures tap distinct constructs and further support the idea of a dual-process model of attitudes.

4. General discussion

The present research had two main aims, namely whether dark personality traits are associated with explicit prejudice beyond basic personality and whether ideological beliefs outpredict basic and dark personality traits. With regard to the first, both studies provided consistent evidence that the relationship between the Dark Tetrad and explicit prejudice remains significant when controlling for the impact of Honesty-Humility. This finding contributes to the debate about whether the Dark Tetrad subscales are fully represented by the Honesty-Humility dimension of the HEXACO model (Book et al., 2016; Hodson et al., 2018). The Dark Tetrad subscales were indeed strongly negatively correlated with Honesty-Humility, indicating that Honesty-Humility accounts for variance in the Dark Tetrad. However, although there was overlap between the Dark Tetrad and Honesty-Humility, the Dark Tetrad traits explained unique variance in explicit prejudice beyond Honesty-Humility, suggesting that the Dark Tetrad traits are not just the opposite pole of the Honesty-Humility factor. Regarding the bandwidth-fidelity dilemma, it appears that the more narrow Dark Tetrad personality traits provide additional useful information in explaining intergroup attitudes beyond the broad Honesty–Humility personality trait.

The Dark Tetrad subscales were significantly correlated with each other, but there was also a distinctive profile (cf. Greitemeyer, 2022; Greitemeyer & Sagioglou, 2017; Jones & Paulhus, 2017). In both studies, Machiavellianism had the most robust association with explicit prejudice. This finding aligns with previous research showing that Machiavellianism, but not narcissism or psychopathy, is related to classic attitudes toward asylum seekers (Anderson, 2018). Future research may address why exactly Machiavellianism more than the

other Dark Tetrad subscales is predictive of explicit prejudice.

With regard to the second aim, both studies showed that ideological beliefs had a greater predictive utility than did basic and dark personality. This is in line with previous theoretical (Duckitt & Sibley, 2010) and empirical (Żemojtel-Piotrowska et al., 2020) work that individual differences in prejudice stem from personality traits and that ideological beliefs account for why some personalities are more prejudiced than others. In fact, in both studies, the influence of personality on explicit prejudice disappeared when taking ideological beliefs into account. Furthermore, ideological beliefs mediated the relationships between explicit prejudice and Honesty-Humility and the Dark Tetrad subscales. Overall, it appears that personality is a distal determinant of explicit prejudice, whereas ideological beliefs are the proximal determinant.

It is noteworthy that all ideological belief variables were strongly correlated with explicit prejudice and that they showed independent predictive validity. Besides SDO, two forms of national identification were used, with one (nationalism) having more positive connotations than the other (patriotism). As patriotism does not imply out-group derogation, one could have expected nationalism to be more closely associated with explicit prejudice than patriotism. However, in both studies, as in some previous research (Hoyt & Goldin, 2016; Keller, 2005), patriotism and nationalism were associated with explicit prejudice to a similar degree. Interestingly, nationalism much more than patriotism was negatively associated with Honesty-Humility and positively associated with the Dark Tetrad, indicating that nationalism is indeed the darker form of national identification compared to patriotism.

In addition to ideological beliefs, political orientation had a robust association with the explicit prejudice measure: conservative people had more negative explicit attitudes toward asylum seekers. This is in line with previous research showing that political conservatives more than political liberals tend to oppose immigrants and favor more restrictive immigration policies (for a review, Ceobanu & Escandell, 2010) and that they perceive asylum seekers as a threat (Onraet et al., 2021). As also in previous research, a right-wing political orientation was positively associated with ideological beliefs (e.g., Ho et al., 2012). Importantly, however, political orientation and ideological beliefs independently contributed to the prediction of explicit prejudice. That is, although there is shared variance between political orientation and ideological beliefs, both have a distinct impact on how out-groups are perceived.

With regard to ideological beliefs, I focused on SDO, patriotism, and nationalism. Another ideological belief that has been shown to be related to prejudiced attitudes is rightwing authoritarianism (RWA). In fact, according to the dual-process motivational model of ideological attitudes (Duckitt & Sibley, 2010), SDO and RWA are the two main ideological attitudes that influence intergroup behavior. Future research may thus examine whether the influence of Honesty-Humility and the Dark Tetrad on explicit prejudice is also reduced when RWA is taken into account.

On an exploratory basis, Study 2 tested how Honesty-Humility, the Dark Tetrad, and ideological beliefs are associated with implicit prejudice. Although there were positive relationships between implicit prejudice and Machiavellianism, everyday sadism, and ideological beliefs, these relationships did not hold in regression analyses. Most notably,

Table 7

Hierarchical regression analysis on implicit prejudice (Study 2).

Step	Predictor variables	Final βs								R^2	Adj. R^2
		HH	NA	MA	PS	ES	SDO	P	N		
1	HH	−0.07								0.01	0.00
2	HH + NA + MA + PS + ES	0.09	0.08	0.12	0.00	0.17				0.06	0.03
3	HH + NA + MA + PS + ES + SDO + P + N	0.10	0.06	0.05	0.05	0.13	0.03	0.11	0.10	0.09	0.04

Note. HH = Honesty-Humility; NA = narcissism; MA = Machiavellianism; PS = psychopathy; ES = everyday sadism; SDO = social dominance orientation; P = patriotism; N = nationalism.
Adj. = adjusted.

participant sex was correlated with the Dark Tetrad, ideological beliefs, and implicit prejudice (with female participants having lower scores in each case) and seemed to account for the impact of the Dark Tetrad and ideological beliefs on implicit prejudice. It has to be acknowledged, however, that a relatively small amount of the variance in implicit attitudes toward asylum seekers was explained in the current model. Furthermore, as none of the Dark Triad personality traits was significantly correlated with implicit prejudice toward asylum seekers in previous research (Anderson & Cheers, 2018) and that inconsistent evidence was reported on the relationship between ideological beliefs and implicit prejudiced attitudes (Anderson, 2018; Moor et al., 2019), more research is needed to determine to what extent implicit prejudice is predicted by dark personalities and ideological beliefs.

As in the Anderson and Cheers study (2018), participants had negative implicit attitudes toward asylum seekers. In contrast, their reported explicit attitudes were neutral. Previous research showed that explicit and implicit intergroup attitudes are predictive of intergroup behavior, but that the predictive validity of the implicit IAT measure is greater than that of self-report measures (Greenwald et al., 2009). As our sample had negative implicit attitudes, it is to be feared that they would also behave in a discriminatory manner toward asylum seekers. Future research that examines the impact of personality, ideological beliefs, and explicit and implicit attitudes on intergroup behavior would be welcome.

Such a study may also examine whether dark personality traits and ideological beliefs interact in predicting discriminatory behavior. In fact, research has shown that both Machiavellianism and psychopathy interact with RWA to create racist actions (Jones, 2013), suggesting that individuals scoring relatively high on Machiavellianism and psychopathy are not necessarily racist, but they discriminate more than others when they have racist attitudes.

A major limitation of the present studies is the employment of a cross-sectional design. A longitudinal design is better suited to establish the hypothesized directional links from basic personality, dark personality, and ideological beliefs to explicit prejudice. A further limitation is the reliance on self-report measures. It should be therefore kept in mind that participants may not have accurately reported on their personalities, ideological beliefs, and prejudiced attitudes.

To conclude, in line with previous research, participants with negative explicit attitudes toward asylum seekers scored relatively low on Honesty-Humility and relatively high on the Dark Tetrad and ideological beliefs. More importantly, and as hypothesized, both studies showed that ideological beliefs were more predictive of explicit prejudice than the Dark Tetrad, which in turn was more predictive than the basic Honesty-Humility personality trait. Changing people's ideological beliefs therefore seems promising in order to reduce explicit prejudices. Previous research (Mancini et al., 2020) found that people high in SDO tend to hold the belief that asylum seekers are making false claims and perceive them as a threat to their in-group, which in turn drive their negative attitudes. Tailored communication strategies could therefore emphasize that most asylum seekers are fleeing war and violence and give people a sense of control, making asylum seekers less likely to be perceived as economic asylum seekers and reducing threat perceptions. As the media and politicians can influence how citizens perceive asylum seekers (Esses et al., 2017), there is hope that a different portrayal of refugees and asylum seekers in the media and in political communication can lead to an improved public attitude.

CRediT authorship contribution statement

Tobias Greitemeyer is the sole author of this work.

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