

Right-Wing Authoritarianism and Social Dominance Orientation

Their Roots in Big-Five Personality Factors and Facets

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Abstract. Extending previous research on the relation of Big-Five personality with right-wing authoritarianism and social dominance orientation, we examined the relationships of Big-Five *facet* scores rather than *factor* scores. The results ($N = 332$) of stepwise regression analyses showed that Openness to Experience was the only significant predictor of right-wing authoritarianism at the factor level, whereas Values and Ideas were significant predictors at the facet level. A similar analysis of social dominance orientation showed that Agreeableness and Openness to Experience contributed significantly to the prediction at the factor level, whereas Tender-Mindedness and Values were the best significant predictors at the facet level. The prediction based on facet scores was more accurate than the prediction based on factor scores. A random split of the sample confirmed the robustness of the findings. The results are discussed against the background of the personality and the social psychology approaches to explaining individual differences in prejudice.

Keywords: missing, please supply

Introduction

For a long time, psychological research has tried to answer the question why some people are more prejudiced than others. This research has emphasized two major lines of explanation: (1) Prejudice is the result of stable factors within people, that is, their personalities or personality-related characteristics – the personality explanation (e.g., Adorno, Frenkel-Brunswik, Levinson, & Sanford, 1950; Altemeyer, 1998; Duckitt, Wagner, du Plessis, & Birum, 2002; Ekehammar, Akrami, Gylje, & Zakrisson, 2004); or (2) Prejudice is caused by factors linked to people's outside world, for example, their social group membership, social identity, social self-categorization, or social position – the social-psychological explanation (e.g., Guimond, Dambrun, Michinov, & Duarte, 2003; Reynolds, Turner, Haslam, & Ryan, 2001; Tajfel & Turner, 1986).

Within the personality approach, which is also the main focus of the present study, two major theories have been proposed to explain individual differences in prejudice – authoritarian personality theory (Adorno et al., 1950), further developed in the more recent theory of right-wing authoritarianism (RWA; e.g., Altemeyer, 1998), and social dominance theory (SDT; e.g., Sidanius & Pratto, 1999). The central individual difference variable in SDT is social dominance orientation (SDO; Pratto, Sidanius, Stallworth, & Malle, 1994). Previous studies have shown that combining people's scores on RWA and SDO permits a powerful prediction of their prejudice (e.g., McFarland, 1998).

According to Altemeyer (e.g., 1981, 1998), high-RWA

people are characterized by an adherence to conventional norms and values, uncritical submission to authorities, and aggressive feelings toward people violating the norms. SDO, on the other hand, is argued to be “a general attitudinal orientation toward intergroup relations, reflecting whether one generally prefers such relations to be equal, versus hierarchical” (Pratto et al., 1994, p. 742). The definition of SDO suggests that high-SDO people support intergroup hierarchies and tend to arrange social groups in a superior-inferior order. According to Altemeyer (1998), SDO refers primarily to authoritarian dominance whereas RWA primarily refers to authoritarian submission.

Previous research has documented that authoritarian or high-RWA people as well as high-SDO people are characterized by generalized prejudice – a composite measure of various types of prejudice (Ekehammar et al., 2004; McFarland, 1998), hold negative attitudes toward women (e.g., Altemeyer, 1998; Ekehammar, Akrami, & Araya, 2000), lesbians and gays (e.g., Altemeyer, 1998; Lipka & Arad, 1999; Whitley, 1999), African-Americans (e.g., Altemeyer, 1998; Lambert & Chasteen, 1997), and various ethnic groups (e.g., Akrami, Ekehammar, & Araya, 2000; Duriez & Soenens, 2005; Reynolds et al., 2001; Sidanius & Pratto, 1999; Van Hiel & Mervielde, 2002).

From the start, it seems quite clear that authoritarianism was conceived of as a personality construct, developed as it was within “authoritarian personality theory.” Also, SDO was first (Pratto et al., 1994) presented in a paper with the subtitle “A personality variable predicting social and political attitudes,” which quite explicitly classifies SDO as a personality variable causally prior to social and political

attitudes. However, some recent research has questioned whether RWA and SDO can be classified as personality variables at all (e.g., Duckitt et al., 2002; Duriez, Van Hiel, & Kossowska, 2005; Guimond et al., 2003; Kreindler, 2005; Reynolds et al., 2001; Van Hiel, Pandelaere, & Duriez, 2004). As these critics suggest, RWA and SDO should instead be seen as social attitudes, social beliefs, or social evaluations, which would imply that they belong to the social psychology rather than the personality domain.

What, then, is the relationship between core or basic personality on the one hand and RWA and SDO on the other? Drawing on the distinction between core and surface personality traits suggested by Asendorpf and Van Aken (2003), core personality traits are based on genetic differences and/or very early childhood experiences and have limited susceptibility to social and contextual influences later in life. Surface traits, on the other hand, are personality characteristics that are susceptible to social and environmental influences and may change over time. The five-factor (Big Five) model of personality (see, e.g., McCrae & Costa, 1996, 1999) is probably the most widely accepted model of personality structure at present, encompassing the factors Neuroticism (Emotional Instability), Extraversion, Openness to Experience, Conscientiousness, and Agreeableness. It seems reasonable to regard these factors as core personality factors because of their substantial heritability coefficients, and the early expression of at least some of them in temperament as early as infancy in humans and in other animal species as well (e.g., Bouchard & Loehlin, 2001; Clark & Watson, 1999). Also, it seems reasonable to assume that these core factors are causally prior to RWA and SDO, as implied in the model of McCrae and Costa (1999), where Big-Five personality is classified as "basic tendencies" and positioned first in a causal chain.

In two recent studies, we (Akrami & Ekehammar, 2005; Ekehammar et al., 2004) examined some causal models relating the Big-Five personality factors to RWA, SDO, and prejudice. The model having the best fit to the data showed that RWA and SDO are placed in an intermediate causal position between the Big-Five personality factors and prejudice, thus supporting McCrae and Costa's (1999) model. Duriez and Soenens (2005) have also recently verified this causal order in another cultural context (Belgium). A look at the zero-order correlations of Big-Five *factors* with RWA and SDO in previous studies suggests that SDO and RWA have partly different relationships to core personality. Whereas the social dominator (a high-SDO person) is characterized by low Agreeableness (e.g., Ekehammar et al., 2004; Heaven & Bucci, 2001) and sometimes by low Openness to Experience (e.g., Duriez & Soenens, 2005; Ekehammar et al., 2004), the social submitter (a high-RWA person) is characterized primarily by low Openness to Experience, sometimes combined with high Conscientiousness (e.g., Altemeyer, 1996; Butler, 2000, Study 1 & 2; Duriez & Soenens, 2005; Ekehammar et al., 2004; Heaven & Bucci, 2001; Hodson & Sorrentino, 1999; Peterson, Smirles, & Wentworth, 1997), and sometimes by high Ex-

traversion as well (Ekehammar et al., 2004; Lippa & Arad, 1999; Trapnell, 1994).

Since most trait models of personality are hierarchical (e.g., Paunonen, 1998), with broad and general factors at the top and specific and narrow behaviors at the bottom, there is always a question of which level to choose for the study of personality and its relations to other variables. Paunonen and colleagues (Paunonen, 1998; Paunonen & Ashton, 2001; Paunonen, Haddock, Försterling, & Keinonen, 2003) have suggested the trait rather than the factor level for predicting, and understanding, various external behaviors and constructs. According to Paunonen (1998), there is reliable trait-specific variance in most trait measures (facets) because the facets underlying a personality factor are evidently not perfectly correlated, and the conclusion from Paunonen's research was that "several studies have demonstrated substantial benefits to using lower-level Big-Five personality trait measures as predictors of behavior outcomes over using higher-level measures of the traits' factors. Moreover, those benefits have included not only increased accuracy in prediction, but an improved understanding of the nomological network underlying traits and behaviors" (Paunonen et al., 2003, p. 415). Thus, these studies have very convincingly shown that there can be substantial benefits from using the facet rather than the factor level when examining the relationship between the five-factor (Big-Five) model and various external variables.

Against the background outlined above, the present study aimed to extend previous research on the relation of core personality with RWA and SDO by making a closer examination of this relationship through analyses of the Big-Five facets, rather than the factors, in the first place. We wanted to find out if this shift would make an improvement in the prediction of RWA and SDO from Big-Five personality traits and, further, if it would improve the understanding of the nomological network underlying personality, RWA, and SDO. To make possible a comparison of the predictive power of the facets with the factors, we employed a Big-Five instrument that provides measures at both the factor and facet levels. Thus, we chose the NEO-PI-R (Costa & McCrae, 1992) on the basis of recommendations made by independent researchers: "At this point, Costa and McCrae's 30 facets represent the most elaborated and empirically validated model" (John & Srivastava, 1999, p. 124).

Method

Participants

The sample comprised 332 Swedish university and senior high-school students, 180 women (54%) and 152 men (46%), aged between 17 and 57 years ($M = 23.2$ years). The students were not psychology students but represented various other academic disciplines, such as social science, medicine, natural science, economics, humanities, and technology.

Table 1. Means, Cronbach's α reliability coefficients (α), zero-order correlations (r), and partial correlations (partial r ; controlling for gender, age, and RWA/SDO) of Big-Five factors and facets with RWA and SDO in total sample ($N = 332$)

Big-Five Factors and Facets	RWA		SDO		M	SD	α
	r	Partial r^a	r	Partial r^b			
<i>Neuroticism (N)</i>	-.01	-.04	-.06	.01	94.0	26.0	.92
Anxiety (N1)	.01	-.02	-.06	-.00	16.3	6.5	.80
Hostility (N2)	-.01	-.05	-.00	.05	13.9	5.2	.68
Depression (N3)	-.03	-.03	-.08	-.02	17.2	6.4	.81
Self-Consciousness (N4)	.05	.03	-.02	-.00	14.6	5.7	.71
Impulsiveness (N5)	-.14	-.16	-.08	.02	19.1	4.9	.58
Vulnerability (N6)	.05	.02	-.04	.01	12.9	5.6	.77
<i>Extraversion (E)</i>	-.03	-.04	-.03	-.01	119.7	21.3	.88
Warmth (E1)	-.01	.05	-.20	-.17	23.1	5.1	.74
Gregariousness (E2)	.04	.05	-.04	-.06	20.9	5.5	.73
Assertiveness (E3)	-.13	-.16	.08	.11	15.5	5.7	.78
Activity (E4)	.12	.10	.04	.01	16.9	4.7	.63
Excitement-Seeking (E5)	-.06	-.11	.12	.12	19.8	5.5	.62
Positive Emotions (E6)	-.07	-.06	-.10	-.05	23.6	5.7	.80
<i>Openness to Experience (O)</i>	-.49	-.43	-.35	-.15	127.2	22.3	.88
Fantasy (O1)	-.26	-.21	-.20	-.10	22.2	5.7	.77
Aesthetics (O2)	-.27	-.24	-.20	-.06	19.5	7.3	.83
Feelings (O3)	-.22	-.15	-.29	-.18	24.1	5.1	.74
Actions (O4)	-.28	-.25	-.18	-.04	17.7	5.1	.63
Ideas (O5)	-.34	-.30	-.13	-.01	19.8	6.2	.75
Values (O6)	-.65	-.59	-.43	-.21	23.8	4.4	.62
<i>Agreeableness (A)</i>	-.08	.11	-.46	-.43	124.4	22.4	.90
Trust (A1)	-.18	-.07	-.32	-.25	20.8	5.9	.82
Straightforwardness (A2)	.01	.12	-.32	-.30	18.0	5.6	.73
Altruism (A3)	-.00	.10	-.25	-.25	24.8	4.8	.78
Compliance (A4)	.00	.07	-.15	-.15	17.4	5.5	.71
Modesty (A5)	.07	.21	-.34	-.36	19.2	5.4	.71
Tender-Mindedness (A6)	-.22	-.01	-.60	-.54	24.1	4.7	.68
<i>Conscientiousness (C)</i>	.11	.10	.01	-.00	107.2	23.1	.90
Competence (C1)	-.02	-.00	-.03	-.03	20.8	4.8	.70
Order (C2)	.09	.06	.01	.02	16.7	5.3	.65
Dutifulness (C3)	.11	.13	-.06	-.07	21.1	5.4	.67
Achievement-Striving (C4)	.08	.04	.05	.06	16.5	5.0	.64
Self-Discipline (C5)	.13	.11	.03	-.00	16.1	6.3	.82
Deliberation (C6)	.08	.08	.04	.00	16.0	5.5	.75

Note. Coefficients in **boldface** are significant at $p < .01$, at least. The factor scores range from 0–96 and the facet scores range from 0–32. ^aAge, Gender, and SDO are partialled out, ^bAge, Gender, and RWA are partialled out.

Instruments

Big-Five Personality

We used the official Swedish version (Bergman, 2003) of the Revised NEO Personality Inventory (NEO-PI-R; Costa & McCrae, 1992). This 240-item instrument measures the Big-Five factors Neuroticism, Extraversion, Openness to Experience, Conscientiousness, and Agreeableness as well

as the six facets within each factor (see Table 1). The items were scored in accordance with the NEO-PI-R manual (Costa & McCrae, 1992). Means and Cronbach's α reliabilities are shown in Table 1. The reliability coefficients were satisfactory when looking at the Big-Five factors, varying from .88 to .92. These figures are systematically higher than those presented in the Swedish NEO-PI-R manual (Bergman, 2003) and at the same level as those in

the American manual (Costa & McCrae, 1992). The Big-Five facet scales in the present sample displayed one coefficient only below .60 whereas both the Swedish (Bergman, 2003) and the American (Costa & McCrae, 1992) manual reported three. In the present case, the facet scale α s varied between .58 and .83 with an average of .72, which must be considered satisfactory taking into account the low number of items (8) within each facet.

Right Wing Authoritarianism (RWA)

A Swedish version of the RWA scale, originally constructed by Altemeyer (1981), has recently been presented by Zakrisson (2005) and was used in the present study. The scale contains 15 items (scored from 1 – *not agree* to 5 – *fully agree*). Some examples: “Our country needs a powerful leader to overthrow the radical and immoral values that are present in today’s society” (approving suggests high RWA), AND “It is better to accept bad literature than to censor it” (approving suggests low RWA). In the present sample, the Cronbach’s α reliability of the RWA scale was shown to be .85.

Social Dominance Orientation (SDO)

The Swedish translation of the 16-item SDO scale (items scored from 1 – *not agree* to 5 – *fully agree*), constructed by Pratto et al. (1994), measures the level of social dominance orientation that a person displays. Some item examples: “Some groups of people are just inferior to others” (approving suggests high social dominance), and “We would have fewer problems if we treated all groups equally” (approving suggests low social dominance). In the present sample, the Cronbach’s α reliability of the SDO scale was shown to be .86.

Results and Comments

Relations of Big-Five Personality with RWA and SDO

Before examining the relations of the Big-Five factors and facets with RWA and SDO, we did some control analyses to check for possible confounding variables such as age and gender. Previous research has reported systematic gender differences in SDO (see, e.g., Sidanius & Pratto, 1999) and gender and age differences in some Big-Five facets and factors (see Bergman, 2003; Costa & McCrae, 1992). In the present sample, the results also showed some gender and age differences in SDO and in some Big-Five facets and factors. Furthermore, we found RWA ($M = 2.10$, $SD = 0.66$) and SDO ($M = 1.88$, $SD = 0.62$) to be significantly correlated in the present sample ($r = .39$, $p = .000$). This

figure is quite in line with the results of our two most recent studies in Sweden (Akrami & Ekehammar, 2005, Study 1 & 2) and with previous research in Europe and Australia as well (e.g., Roccato & Ricolfi, 2005). Thus, in addition to the zero-order correlations we also computed partial correlations controlling for gender, age, SDO (when analyzing RWA), and RWA (when analyzing SDO).

In Table 1, we present the zero-order and partial correlations between the Big-Five factors and facets on the one hand, and RWA and SDO on the other. The results show that among the Big-Five factors, Openness to Experience displayed significant (negative) relationships with RWA and SDO whereas Agreeableness displayed a significant (negative) correlation with SDO only. However, partialing out the effect of age, gender, and RWA, the magnitude of the correlation between Openness to Experience and SDO decreased substantially. Thus, participants high in RWA and SDO seem to have in common a low degree of Openness to Experience whereas the high-SDO participant also is characterized by a low degree of Agreeableness.

Examining the Big-Five facets, the results show that 9 of the 30 single facets display significant ($p < .01$) correlations with RWA whereas 12 (9 for the partial correlations) facets show significant correlations with SDO (see Table 1). Focusing first on RWA, the results show that all six Openness to Experience facets display significant correlations with RWA with Values being the strongest single predictor ($r = -.65$). The pattern was the same when examining the partial correlations. According to Costa and McCrae’s (1992) comments on the Values facet, “closed individuals tend to accept authority and honor tradition and as a consequence are generally conservative, regardless of political party affiliation. Openness to values may be considered the opposite of dogmatism (Rokeach, 1960)” (p. 17). Thus, the facet Values bears some close resemblance with the definition of RWA so the strong empirical correlation between them is not surprising. Furthermore, Table 1 shows a correlation between RWA and one Neuroticism facet, Impulsiveness. In the NEO-PI-R, Impulsiveness “refers to the inability to control cravings and urges . . . and should not be confused with spontaneity, risk-taking, or rapid decision time” (Costa & McCrae, 1992, p. 16). Thus, the high-RWA participant is somewhat more able to control cravings and urges, which might be linked to the norm-controlled aspect of the authoritarian personality. The Agreeableness factor did not show any significant correlation with RWA but two of the Agreeableness facets, Trust and Tender-Mindedness, did. However, the magnitude of these correlation coefficients was substantially reduced when the effect of SDO (and gender and age) was partialled out.

An examination of the correlations between the Big-Five facets and SDO (see Table 1) shows that all of the Agreeableness facets and five of the Openness to Experience facets were negatively correlated with SDO. When adjusting for RWA, gender, and age, all Agreeableness facets remained significant ($p < .01$) but only two of the Open-

Table 2. Results of standard multiple regression analyses for predicting RWA from the Big-Five factors or the best single facet within each factor

Factors and Facets	Sample 1 (<i>n</i> = 166)			Sample 2 (<i>n</i> = 166)		
	β	<i>R</i>	Adjusted <i>R</i> ²	β	<i>R</i>	Adjusted <i>R</i> ²
Factors						
Neuroticism	.07			.12		
Extraversion	.20			.08		
Openness to Experience	-.53			-.54		
Agreeableness	.03			-.04		
Conscientiousness	.08	.52	.25	.16	.54	.27
Facets						
Impulsiveness (N5)	.03			-.00		
Assertiveness (E3)	-.02			-.12		
Values (O6)	-.63			-.65		
Tender-Mindedness (A6)	-.04			-.01		
Self-Discipline (C5)	.13	.65	.40	.14	.69	.46

Note. Coefficients in **boldface** are significant at $p < .01$, at least.

Table 3. Results of standard multiple regression analyses for predicting SDO from the Big-Five factors or the best single facet within each factor

Factors and Facets	Sample 1 (<i>n</i> = 166)			Sample 2 (<i>n</i> = 166)		
	β	<i>R</i>	Adjusted <i>R</i> ²	β	<i>R</i>	Adjusted <i>R</i> ²
Factors						
Neuroticism	-.03			-.00		
Extraversion	-.00			.16		
Openness to Experience	-.29			-.31		
Agreeableness	-.44			-.42		
Conscientiousness	.05	.56	.29	.05	.55	.28
Facets						
Impulsiveness (N5)	-.02			.03		
Warmth (E1)	-.08			.11		
Values (O6)	-.27			-.25		
Tender-Mindedness (A6)	-.50			-.55		
Dutifulness (C3)	.09	.64	.39	-.04	.67	.43

Note. Coefficients in **boldface** are significant at $p < .01$, at least.

Table 4. Stepwise multiple regression analyses (ΔR^2 significant at $p < .01$, at least) for predicting RWA from the significant (see Table 1) Big-Five factors and facets

Factors and Facets	Sample 1 (<i>n</i> = 166)			Sample 2 (<i>n</i> = 166)		
	β	<i>R</i>	Adjusted <i>R</i> ²	β	<i>R</i>	Adjusted <i>R</i> ²
Factors						
Openness to Experience	-.47	.47	.22	-.51	.51	.26
Facets						
Values (O6)	-.59			-.63		
Ideas (O5)	-.27	.69	.46	-.18	.69	.47

Note. Coefficients in **boldface** are significant at $p < .01$, at least.

Table 5. Stepwise multiple regression analyses (ΔR^2 significant at $p < .01$, at least) for predicting SDO from the significant (see Table 1) Big-Five factors and facets

Factors and Facets	Sample 1 ($n = 166$)			Sample 2 ($n = 166$)		
	β	R	Adjusted R^2	β	R	Adjusted R^2
Factors						
Agreeableness	-.44			-.40		
Openness to Experience	-.29	.56	.30	-.27	.53	.27
Facets						
Tender-Mindedness – A6	-.44			-.59		
Values – O6	-.24			-.23		
Trust (A1) / Compliance (A4)	-.20	.66	.42	.18	.68	.46

Note. Coefficients in **boldface** are significant at $p < .01$, at least.

ness to Experience facets (Feelings and Values) remained significant. However, the most significant difference as compared to RWA is that SDO is significantly related to the Big-Five factor Agreeableness, and this correlation is built on all facets within this factor. The strongest predictor of SDO among these facets is Tender-Mindedness (the opposite of tough-mindedness), which is the facet that displays the highest correlation with SDO overall. Although Extraversion as a factor was not significantly related to SDO, one of the Extraversion facets (Warmth) showed such a relationship.

Multiple Regression Analyses (MRAs)

To examine the robustness of the results, we randomly split the sample into two gender-matched halves using SPSS. These samples will be referred to as Sample 1 ($N = 166$; 90 women and 76 men) and Sample 2 ($N = 166$; 90 women and 76 men).

Evidently, the six facet scores within each Big-Five factor are correlated and the next step was then to use MRA to examine which of the facets, as well as factors, contributed to the prediction of RWA and SDO, respectively. Furthermore, following Paunonen (e.g., 1998) we wanted to find out if a prediction of RWA and SDO based on facet scores would be more powerful than one based on factor scores. These analyses were run using the zero-order correlation matrix as input.

First, we performed a standard MRA using the five factor scores as predictors and compared the outcome with the results from an MRA using the best facet within each factor (i.e., the one with the highest correlation with RWA and SDO, respectively) as predictor. When predicting RWA from Big-Five facets instead of factor scores (see Table 2), the results showed an improved prediction and increased the multiple correlation (R) from .52 to .65 in Sample 1 and from .54 to .69 in Sample 2. The differences between the R s for factor and facet predictions are in both cases statistically significant, $t(163) = 2.14$, $p = .02$ and $t(163) = 2.91$, $p = .002$, respectively. When predicting SDO from facet instead of factor scores (see Table 3), R increased from .56

to .64 in Sample 1 and from .55 to .67 in Sample 2. Again, the differences between the R s for factor and facet predictions were significant in both samples, $t(163) = 1.86$, $p = .03$ and $t(163) = 3.10$, $p = .001$, respectively.

If we had used all 30 Big-Five facet scores instead of the best one within each factor as predictors to compare to the prediction based on all factors, R for predicting RWA would have been raised from .52 to .76 in Sample 1 and from .54 to .77 in Sample 2, $t(163) = 5.81$, $p = .000$ and $t(163) = 5.86$, $p = .000$, respectively. In the same way, predicting SDO using all facets would have raised R from .56 to .73 in Sample 1 and from .55 to .74 in Sample 2, $t(163) = 4.65$, $p = .000$ and $t(163) = 4.96$, $p = .000$, respectively.

In a further analysis, we compared Big-Five factor and facet predictions of RWA and SDO, respectively, using a stepwise MRA including only those variables (factors or facets) that provided a significant ($p < .01$) increase in predictive power (ΔR^2). The results for RWA (see Table 4) show, again, that R was higher when using facet instead of factor scores, $R = .69$ and .47 in Sample 1, and .69 and .51 in Sample 2. The R s of the facet predictions were significantly higher than the factor predictions in both samples, $t(163) = 4.52$, $p = .000$, and $t(163) = 3.94$, $p = .000$, respectively. In both samples, only one Big-Five factor, Openness to Experience, contributed to the prediction of RWA and two Big-Five facets, Values and Ideas, contributed significantly to the prediction. Also, when predicting SDO (see Table 5), R increased significantly when using facet instead of factor scores, $R = .66$ and .56 in Sample 1, and .68 and .53 in Sample 2. The R s of the facet predictions were significantly higher than those of the factor predictions in both samples, $t(163) = 2.75$, $p = .003$, and $t(163) = 3.54$, $p = .000$, respectively. Two Big-Five factors, Agreeableness and Openness to Experience, contributed to the prediction of SDO, and so did three Big-Five facets, Tender-Mindedness, Values, and Trust/Compliance (in Sample 1/Sample 2).

All MRAs presented above were rerun using the partial correlation matrix (controlling for gender, age, and RWA/SDO) as input. The results of these analyses showed the same pattern of relations as presented above. However, the magnitude of the R s was somewhat reduced.

Discussion

To the best of our knowledge, the present study is the first one where all Big-Five facets (as measured with the NEO-PI-R) have been related to RWA and SDO, respectively. According to Paunonen et al. (2003), there are at least two benefits of using Big-Five facets, instead of factors, in psychological research. First, one can expect an increase in predictive accuracy when relating the Big Five to various external variables and, secondly, one can better understand the nomological network behind the relation between personality and other behaviors or constructs. Starting with the first point, we can conclude that in the present study the Big-Five facet scores, combined in various ways, were found to have significantly higher power when predicting RWA than the Big-Five factors. Using stepwise MRA, for example, the results showed that R increased when using those facets, rather than factors, that provided significant contributions to the regression equation when predicting RWA and SDO. Thus, in conclusion, our present results support Paunonen et al. (2003) in their contention that Big-Five facets can be expected to outperform Big-Five factors when predicting various external variables. A theoretical implication of our present findings is that core personality is related to RWA and SDO at a lower level in a hierarchical model of personality, in this case the five-factor model.

Turning to the second point of Paunonen et al. (2003), our present results showed similarities as well as differences between the Big-Five facets when the relationships to RWA and SDO were examined. The obvious similarity was that both RWA and SDO were substantially related to most of the facets within the Openness to Experience factor as well as to the total Openness to Experience factor. Thus, the fairly high correlation that has been obtained between RWA and SDO, at least in Europe and Australia (e.g., Roccas & Ricolfi, 2005), seems to be a result of the fact that they are both linked to several, and partly the same, facets of Openness to Experience. However, when controlling for RWA, the partial correlation analyses disclosed that the magnitude of the correlations between SDO and the Openness facets dropped substantially and only two of them remained significant. Despite some similarities between RWA and SDO on this point, the most significant Big-Five facet for predicting RWA, but not for predicting SDO, was Openness to Values. As noted above in our comments on the results, this factor seems to capture important characteristics of the *submissive* right-wing authoritarian (see Altemeyer, 1998).

SDO, on the other hand, seems to be primarily distinguished from RWA through its substantial relationships with Agreeableness and all of its facets. Thus, whereas two facets of Agreeableness were significantly related to RWA (only one when controlling for SDO), all of its facets correlated with SDO, also when controlling for RWA. Especially, tough-mindedness (the opposite of the facet Tender-Mindedness) seems to be a distinguishing characteristic of

the social dominator (a high-SDO person), as this Big-Five facet was the strongest single facet predictor of SDO. This is interesting to note because one of the first proposed models of the relation between personality and social attitudes had tough-/tender-mindedness as one of the two primary factors (Eysenck, 1961). Further, a more recent attempt to link personality to prejudice, in a causal model, has been presented by Duckitt et al. (2002). Although these authors did not use the Big-Five factors or the five-factor model as a point of departure, on the basis of other considerations they introduced, among other components, tough-mindedness as one central personality construct in their model, which showed a good fit to their data. Thus, tough-/tender-mindedness seems to be a potent personality construct when relating personality to SDO, which is sustained by our examination of the Tender-Mindedness facet of Agreeableness in the present study.

Another interesting finding in our study was that the Extraversion facet Warmth was significantly (and negatively) related to SDO, but not to RWA. This facet has to do with personality characteristics conceptually linked to agreeableness (see John & Srivastava, 1999, p. 116). Rather surprisingly, however, the Extraversion facet Assertiveness (being dominant, forceful, and socially ascendant; Costa & McCrae, 1992) did not show any relationship to SDO. Conceptually (see Altemeyer, 1998; Sidanius & Pratto, 1999), this facet seems to capture significant characteristics of the social dominator.

To sum up the discussion thus far, the submissive (high RWA) and the dominant (high SDO) authoritarian, in Altemeyer's (1998) terminology, seem to have something in common in their closed-mindedness (as the opposite of openness to experience). However, the dominant authoritarian is, in addition, characterized by tough-mindedness (as the opposite of tender-mindedness) and by lacking warmth, whereas the submissive authoritarian has low impulsiveness probably linked to his/her norm-controlled character.

RWA and SDO have been found, in North America, to have low, positive correlations or, in Europe, to have moderate positive correlations such as were found in the present study (see Roccas & Ricolfi, 2005). As each of them is substantially related to various forms of prejudice a combination of them makes a powerful predictor of prejudice (e.g., McFarland, 1998). However, because of their partly different relations to Big-Five personality facets, a combination of the most potent facet predictors would also allow a fairly good prediction of prejudice. In fact, we (Ekehammar & Akrami, 2005) have recently examined this possibility and the results revealed that a prediction of generalized prejudice (a composite of four different kinds of prejudice) based on a combination of Big-Five facets had the same level of accuracy as had previously been reported when predicting prejudice based on RWA and SDO (e.g., Altemeyer, 1998; McFarland & Adelson, 1996).

How, then, are our present results related to previous research findings? As already noted above, we have not

been able to find any previous studies relating all Big-Five facets to RWA and SDO, respectively. However, we have traced four studies that have examined and discussed the relations of the Openness to Experience factor and its facets with RWA or authoritarianism (Butler, 2000, Study 2; Hodson & Sorrentino, 1999; Trapnell, 1994; Van Hiel & Merielde, 2004, Study 1). Interestingly, in all these studies five of the six openness facets displayed significant correlations with RWA (or authoritarianism, in Hodson & Sorrentino's study) and Openness to Values was the facet with the strongest relation in all cases. Thus, as to the relationship of the Openness to Experience facets with RWA/authoritarianism, there seems to be a congruent picture across the previous studies and the present one. When it comes to Big-Five factors, there are quite a few previous and comparable studies, as outlined in our introduction. Having reviewed previous studies, we concluded that a high-SDO person tends to be low in Agreeableness (in at least seven studies) and sometimes low in Openness to Experience (in at least three studies). On the other hand, the high-RWA person tends to be high in Conscientiousness and low in Openness to Experience (either or both factors found in at least 13 studies). One could add that we (Ekehammar et al., 2004) actually found a negative correlation between RWA and neuroticism as well, which was not the case in the present study. Thus, there is a substantial similarity between the general picture of previous studies and the results of the present one. However, the few differences among studies are probably a result of the fact that different samples have been employed, the studies have been carried out in different sociopolitical contexts (see Duriez et al., 2005), and last but not least, various Big-Five or five-factor instruments have been used. If different instruments sample partly different proportions of items from the facets within a factor, the results could vary from study to study, as the results from the present study imply. Evidently, these points also suggest that the present findings should be replicated with other samples and in other sociopolitical contexts. We think, however, that the NEO-PI-R is the best choice at present (see John & Srivastava, 1999, p. 124).

Finally, what are the implications of our present results for personality and the social psychological explanations of prejudice? After the publication of *The Authoritarian Personality* (Adorno et al., 1950), research on prejudice and intergroup conflict was strongly focused on personality and individual differences. However, at present, one could probably say that the social psychological approach has a dominant position, and there are few attempts, if any, that try to integrate the personality and social psychology approaches (but see Akrami, 2005; Akrami & Ekehammar, 2005). In short, the social psychological approach suggests that intergroup phenomena, like prejudice and discrimination, can be explained by people's group membership, group identification, or social position rather than by their personalities. The theoretical bases behind these views can be found in social identity theory (e.g., Tajfel & Turner, 1986), self-categorization theory (e.g., Turner, Hogg,

Oakes, Reicher, & Wetherell, 1987), and group socialization models (e.g., Guimond et al., 2003). From these perspectives, Reynolds et al. (2001, p. 433) state that "... it may be misleading and inappropriate to locate *explanations* of prejudice at the level of individual personality." More recently, Kreindler (2005, p. 104) concluded that "... although it is readily apparent that people differ in their expression of prejudice, the determination to explain this in terms of underlying dispositions may be an impediment to progress." Originating from self-categorization and social identity theory, a main argument behind the cited statements is that explaining prejudice by personality factors is pessimistic and hinders political and social efforts to prevent it. However, while social psychologists have found support for the social psychological explanation (e.g., Guimond et al., 2003; Verkuyten & Hagendoorn, 1998) the present paper lends support to the personality explanation. We must also conclude that our present findings show that the Big-Five factors or facets do not give a perfect prediction of RWA or SDO. Thus, there is more variance in these two variables to be explained and we think that social psychological factors can come into the picture here. In fact, we are arguing for an integrated personality and social psychological approach to the study of prejudice; RWA, and SDO and our most recent work put this issue to empirical test (Akrami & Ekehammar, 2005).

Acknowledgments

This research was supported by Grant no. 2000-0282 from the Bank of Sweden Tercentenary Foundation to Bo Ekehammar. We want to thank two anonymous reviewers for their insightful comments on an earlier version of this article.

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