Personality and Prejudice: From Big Five Personality Factors to Facets

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ABSTRACT Extending our previous research on personality and prejudice, we tested the predictive power of Big Five facet compared with factor scores in three studies. Study 1 \((N = 170)\) examined the predictive power of factors and facets when explaining generalized prejudice, a composite of four prejudice types. Study 2 \((N = 158)\) focused on sexism and Study 3 \((N = 80)\) examined the impact of personality and experimentally manipulated social norm against expressing sexism. Multiple regression analyses showed the strongest facets (Tender-Mindedness and Values) to outperform the strongest factors (Agreeableness and Openness to Experience) in predicting prejudice in all three studies. We discuss the outcome against the background of previous empirical findings and the two major approaches—the personality and the social psychological—to explaining individual differences in prejudice.

During more than five decades, psychological research has tried to find out why some people are more prejudiced than others. This research has highlighted two major lines of explanation based on personality or social psychology. The personality explanation suggests that prejudice is caused by people’s personalities or personality-related characteristics (e.g., Adorno, Frenkel-Brunswik, Levinson, & Sanford, 1950; Altemeyer, 1981; Ekehammar & Akrami, 2003). The social psychology explanation implies that prejudice is caused by

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people's social group membership, social identity, social self-categorization, social position, and situational factors (e.g., Guimond, Dambrun, Michinov, & Duarte, 2003; Reynolds, Turner, Haslam, & Ryan, 2001).

Within the personality approach, previous research suggests two major theoretical frameworks to explain individual differences in prejudice. One line originates from the authoritarian-personality theory (Adorno et al., 1950), which is further developed in the theory of right-wing authoritarianism (RWA; e.g., Altemeyer, 1998). The other is social dominance theory (e.g., Sidanius & Pratto, 1999) where the central individual difference variable is social dominance orientation (SDO). However, some recent research has questioned if RWA and SDO are personality variables at all. Rather, these critics suggest that RWA and SDO are measures of social attitudes, social beliefs, or social evaluations (e.g., Duckitt, Wagner, du Plessis, & Birum, 2002; Kreindler, 2005; Saucier, 2000) and should be placed in the social psychology rather than the personality domain. On the other hand, our previous research suggests that RWA and SDO fall between personality and social psychology with distinct roots in core personality (e.g., Akrami & Ekehammar, 2006b; Ekehammar, Akrami, Gylje, & Zakrisson, 2004).

What, then, is the relationship between core personality on the one hand and prejudice on the other? Drawing on the distinction suggested by Asendorpf and Van Aken (2003), core personality traits are based on genetic differences and/or early childhood experiences, with limited susceptibility to social and contextual influences later in life. Surface traits, in contrast, are personality characteristics that are susceptible to social and environmental influences. 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. It seems reasonable to classify these factors as core personality factors because of their substantial heritability coefficients and their early expression in temperament in human infants and in other animal species (e.g., Bouchard & Loehlin, 2001; Clark & Watson, 1999; Plomin & Caspi, 1999). Also, they are likely to be causally prior to prejudice. This is in accord with the model of McCrae and Costa (1996, 1999), who classified the Big Five personality as “basic tendencies” positioned first in a causal chain. Further, McCrae and Costa denoted various phenomena, such as attitudes, that are influenced both by basic tendencies and by
contextual factors as “characteristic adaptations.” In our case, we argue that SDO, RWA, and prejudice fall within this category. We also maintain that, within “characteristic adaptations,” SDO and RWA are prior to prejudice. This conclusion is based on our previous research where we found SDO and RWA mediating the affect of core personality (basic tendencies) on prejudice (Ekehammar et al., 2004; see also Duriez & Soenens, 2006). Finally, “objective biography” is about the individual’s actions and behaviors and is positioned at the end of the causal chain. In our case, we argue that discrimination stemming from the individual’s prejudice is observable behavior that falls within this category. The McCrae and Costa (1996) conceptualization has recently been further developed in a framework of fundamental principles for an integrative science of personality that has been put forward by McAdams and Pals (2006). This set of principles, labeled “a new Big Five” by the authors, includes McCrae and Costa’s “basic tendencies” as “dispositional traits,” within which the Big Five factors are placed, and “characteristic adaptations,” which agree with McCrae and Costa’s corresponding concept. Whereas Allport (1954) regarded prejudice as a personality factor by itself, we suggest that prejudice falls within the category of characteristic adaptations and can be explained by basic tendencies, such as the Big Five factors and facets.

Recently, we (Ekehammar & Akrami, 2003) examined the relation of the Big Five personality factors with generalized prejudice (a composite of four types of prejudice). The results showed that Openness to Experience (denoted Openness in the following) and Agreeableness displayed rather strong correlations with generalized prejudice. Ekehammar et al. (2004) replicated this general picture using causal modeling. Also, in an unpublished study, McFarland (2001) reported that these two Big Five factors displayed the largest correlations with his generalized prejudice measure. Finally, Flynn (2005) found significant correlations between Openness and various measures of racial prejudice. When using all Big Five factors for predicting generalized prejudice in a linear multiple regression analysis, we (Ekehammar & Akrami, 2003) arrived at a high predictive power ($R = .56$). Agreeableness and Openness displayed, as expected, the largest regression weights. Also, McFarland (2001) found that only Openness and Agreeableness made significant contributions to the regression equation, and the predictive power
was comparable to ours. In conclusion, it seems that Agreeableness and Openness are those single Big Five factors that are most closely associated with prejudice.

Because most trait models of personality are hierarchical (e.g., Paunonen, 1998), with traits (facets) subsumed under factors (domains), there is always the question of which level to choose for the study of personality and its relations to other variables. Paunonen and coworkers (e.g., Paunonen, 1998; Paunonen & Ashton, 2001; Paunonen, Haddock, Försterling, & Keinonen, 2003; see also Mershon & Gorsuch, 1988) have made a strong case for suggesting the trait rather than the factor level for predicting, and understanding, various external behaviors and constructs. According to Paunonen (1998), there is reliable specific variance in most facets because the facets underlying a personality factor are obviously not perfectly correlated. The empirical results of Paunonen and coworkers have shown substantial benefits in using the facet rather than factor level when examining the relation of the Big Five factors with various external variables (see also Costa & McCrae, 1995, but see Ones & Viswesvaran, 1996).

Against this background, the present three studies aimed to extend our previous research on the relation between personality and prejudice. We make a closer examination of this relationship by analyzing the Big Five facets rather than factors to find out if this shift would improve predicting prejudice and increase our understanding of the nomological network underlying personality and prejudice. We find it reasonable to state that the core personality approach to the study of prejudice has been given too little attention in recent research. Further, when core personality has been studied, the focus has been on the factor or domain level rather than the facet or trait level. Thus, we think that the fairly modest relationships (e.g., Ekehammar et al., 2004) found between personality and prejudice in previous research could depend on the fact that the factor level, rather than the facet level, was chosen. In Study 1, we examine generalized prejudice—a composite of four types of prejudice—and test whether a prediction based on Big Five facets would be more powerful than a prediction based on Big Five factors. In Study 2, we examine one type of prejudice—sexism—based on the most powerful Big Five factor and facet predictors disclosed in Study 1. In Study 3, we manipulate the impact of social norms against expressing sexism in an experimental study. Thus, we examine the predictive power of
the Big Five factors and facets after having considered the effect of social psychological variables.

**Hypotheses**

First, we expect in all studies that a prediction of generalized prejudice, or a specific prejudice, would be more powerful when using Big Five facets instead of factors. In a similar way, we expect the most important single facets to be more closely related to prejudice than the most important single factors.

Second, we expect Agreeableness and Openness to be the most powerful factors for predicting prejudice. This expectation was based on our previous empirical research and on theoretical considerations. Thus, Agreeableness, as the opposite of antagonism, includes components like tender-mindedness (see John & Srivastava, 1999) as well as empathy (see Graziano & Eisenberg, 1997), all of which could be expected to relate negatively to prejudice. In a similar way, Openness includes components that have to do with nonconformity and unconventionality (see John & Srivastava, 1999) and relates negatively to authoritarianism (McCrae & Costa, 1997; Peterson, Smirles, & Wentworth, 1997) and positively to liberal sociopolitical values (McCrae, 1996). These characteristics would imply a negative relation between Openness and prejudice.

Third, we expect the Agreeableness facet Tender-Mindedness (as the opposite pole of tough-mindedness) to be a powerful facet for predicting prejudice. We base this expectation on the works of Duckitt et al. (2002), who linked personality to prejudice through some intermediate constructs in a causal model. However, they did not use the Big Five factors as a point of departure but introduced tough-/tender-mindedness and social conformity as the central core personality constructs. Thus, tough-/tender-mindedness appears to be a potent Big Five facet when relating personality to prejudice. In fact, one of the first proposed models on the relation between personality and social attitudes had tough-/tender-mindedness as one of the two primary factors (Eysenck, 1951, 1961). Further, considering the definition of the Openness facet Values and the words of Costa and McCrae (1992, p. 17) that “Openness to Values may be considered the opposite of dogmatism (Rokeach, 1960),” we expect Values to show a substantial relation to prejudice. In fact, Openness and its facets can also be linked to Duckitt et al.’s (2002) social conformity
factor. People who are characterized as open to the various experiences expressed in the facets, not least Values, could also be regarded as being nonconforming or autonomous.

**STUDY 1**

In this study, we examine generalized prejudice to determine whether a prediction based on Big Five facets would be more powerful than a prediction based on factors. We base generalized prejudice on a composite of ethnic prejudice, sexism, homophobia, and prejudice toward people with intellectual disabilities.

**Method**

*Participants.* The sample comprised 170 (63% women) Swedish non-psychology university and high school students, aged between 16 and 50 years (\(M = 19.9\) years). The students represented various academic disciplines.

*Personality instrument.* We used the Swedish version (Bergman, 2003) of the Revised NEO Personality Inventory (NEO-PI-R; Costa & McCrae, 1992), which measures the Big Five factors Neuroticism, Extraversion, Openness, Conscientiousness, and Agreeableness as well as the six facets within each factor (see Table 1). We scored the items on 5-step (0–4) Likert-type scales in accord with the manual.

*Prejudice instruments.* Participants responded to all prejudice instruments on a 5-step Likert-type scale ranging from *Do not agree at all* (1) to *Agree fully* (5) with reversed scoring for appropriate items. The Modern Racial Prejudice Scale (Akrami, Ekehammar, & Araya, 2000) measures modern (covert, subtle) ethnic prejudice in a Scandinavian context following the item content of McConahay’s (1986) Modern Racism Scale. The scale contains nine items (example: “Discrimination against immigrants is no longer a problem in Sweden”). The Swedish Modern Sexism Scale (Ekehammar, Akrami, & Araya, 2000) measures attitudes toward women in a Scandinavian context and is based on items from the Modern Sexism Scale (Swim, Aikin, Hall, & Hunter, 1995). The scale comprises eight items (example: “Discrimination of women is no longer a problem in Sweden”). The Modern Attitude Toward People with Mental Disabilities Scale (Akrami, Ekehammar, Claesson, & Sonnander, 2006) intends to measure attitudes toward people with mental disabilities and takes into account the distinction between classical and modern prejudice. The scale
Table 1
Basic Statistics for the Big Five Factors and Facets and Their Correlations With Generalized Prejudice in Study 1

<table>
<thead>
<tr>
<th>Big Five Factors and Facets</th>
<th>M</th>
<th>SD</th>
<th>α</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Neuroticism (N)</strong></td>
<td>97.9</td>
<td>23.5</td>
<td>.89</td>
<td>− .12</td>
</tr>
<tr>
<td>Anxiety (N1)</td>
<td>17.1</td>
<td>6.0</td>
<td>.75</td>
<td>− .11</td>
</tr>
<tr>
<td>Hostility (N2)</td>
<td>14.5</td>
<td>4.7</td>
<td>.58</td>
<td>− .01</td>
</tr>
<tr>
<td>Depression (N3)</td>
<td>18.2</td>
<td>6.0</td>
<td>.75</td>
<td>− .14</td>
</tr>
<tr>
<td>Self-Consciousness (N4)</td>
<td>15.2</td>
<td>5.7</td>
<td>.59</td>
<td>− .05</td>
</tr>
<tr>
<td>Impulsiveness (N5)</td>
<td>19.1</td>
<td>5.0</td>
<td>.58</td>
<td>− .23</td>
</tr>
<tr>
<td>Vulnerability (N6)</td>
<td>14.1</td>
<td>5.0</td>
<td>.69</td>
<td>.04</td>
</tr>
<tr>
<td><strong>Extraversion (E)</strong></td>
<td>120.5</td>
<td>20.6</td>
<td>.87</td>
<td>− .23</td>
</tr>
<tr>
<td>Warmth (E1)</td>
<td>23.2</td>
<td>5.0</td>
<td>.72</td>
<td>− .42</td>
</tr>
<tr>
<td>Gregariousness (E2)</td>
<td>21.4</td>
<td>5.3</td>
<td>.69</td>
<td>− .22</td>
</tr>
<tr>
<td>Assertiveness (E3)</td>
<td>15.4</td>
<td>5.2</td>
<td>.68</td>
<td>− .06</td>
</tr>
<tr>
<td>Activity (E4)</td>
<td>16.7</td>
<td>4.4</td>
<td>.56</td>
<td>− .05</td>
</tr>
<tr>
<td>Excitement-Seeking (E5)</td>
<td>20.3</td>
<td>5.5</td>
<td>.62</td>
<td>.11</td>
</tr>
<tr>
<td>Positive Emotions (E6)</td>
<td>23.4</td>
<td>5.2</td>
<td>.73</td>
<td>− .31</td>
</tr>
<tr>
<td><strong>Openness (O)</strong></td>
<td>120.0</td>
<td>22.1</td>
<td>.87</td>
<td>− .49</td>
</tr>
<tr>
<td>Fantasy (O1)</td>
<td>21.8</td>
<td>5.8</td>
<td>.75</td>
<td>− .25</td>
</tr>
<tr>
<td>Aesthetics (O2)</td>
<td>18.6</td>
<td>6.9</td>
<td>.79</td>
<td>− .34</td>
</tr>
<tr>
<td>Feelings (O3)</td>
<td>23.4</td>
<td>4.9</td>
<td>.70</td>
<td>− .49</td>
</tr>
<tr>
<td>Actions (O4)</td>
<td>16.4</td>
<td>4.8</td>
<td>.55</td>
<td>− .30</td>
</tr>
<tr>
<td>Ideas (O5)</td>
<td>17.6</td>
<td>5.8</td>
<td>.70</td>
<td>− .12</td>
</tr>
<tr>
<td>Values (O6)</td>
<td>22.2</td>
<td>4.5</td>
<td>.62</td>
<td>− .55</td>
</tr>
<tr>
<td><strong>Agreeableness (A)</strong></td>
<td>123.8</td>
<td>23.0</td>
<td>.90</td>
<td>− .49</td>
</tr>
<tr>
<td>Trust (A1)</td>
<td>19.8</td>
<td>5.8</td>
<td>.75</td>
<td>− .33</td>
</tr>
<tr>
<td>Straightforwardness (A2)</td>
<td>18.5</td>
<td>5.7</td>
<td>.71</td>
<td>− .39</td>
</tr>
<tr>
<td>Altruism (A3)</td>
<td>24.8</td>
<td>4.6</td>
<td>.74</td>
<td>− .36</td>
</tr>
<tr>
<td>Compliance (A4)</td>
<td>16.8</td>
<td>5.4</td>
<td>.67</td>
<td>− .13</td>
</tr>
<tr>
<td>Modesty (A5)</td>
<td>20.2</td>
<td>5.4</td>
<td>.71</td>
<td>− .36</td>
</tr>
<tr>
<td>Tender-Mindedness (A6)</td>
<td>23.6</td>
<td>4.6</td>
<td>.65</td>
<td>− .61</td>
</tr>
<tr>
<td><strong>Conscientiousness (C)</strong></td>
<td>102.7</td>
<td>22.1</td>
<td>.89</td>
<td>− .03</td>
</tr>
<tr>
<td>Competence (C1)</td>
<td>19.8</td>
<td>4.7</td>
<td>.68</td>
<td>− .18</td>
</tr>
<tr>
<td>Order (C2)</td>
<td>16.4</td>
<td>5.0</td>
<td>.60</td>
<td>.01</td>
</tr>
<tr>
<td>Dutifulness (C3)</td>
<td>19.8</td>
<td>5.3</td>
<td>.65</td>
<td>− .13</td>
</tr>
<tr>
<td>Achievement-Striving (C4)</td>
<td>15.5</td>
<td>4.9</td>
<td>.63</td>
<td>.01</td>
</tr>
<tr>
<td>Self-Discipline (C5)</td>
<td>16.0</td>
<td>6.2</td>
<td>.80</td>
<td>.01</td>
</tr>
<tr>
<td>Deliberation (C6)</td>
<td>15.3</td>
<td>5.4</td>
<td>.74</td>
<td>.14</td>
</tr>
</tbody>
</table>

*Note: Coefficients in **boldface** are significant at p < .05, N = 170.*
includes 11 items (example: “People with mental disabilities are getting too demanding in their push for equal rights”). The Attitude to Homosexuality Scale (Ekehammar & Akrami, 2006) intends to measure attitudes toward lesbians and gay men in a Scandinavian context. The total scale score is an index of general attitude to homosexuality. The scale contains 10 items (example: “Homosexuality should be abandoned”).

Social desirability scale. We used a short form of the Marlowe-Crowne Social Desirability Scale constructed by Rudmin (1999). The scale contains 14 items (example: “I have never deliberately said something that hurt someone’s feelings”). Participants responded to the items on a 5-step Likert scale ranging from Is absolutely not true (1) to Is absolutely true (5).

Results and Comments

Analyses of prejudice scale scores. We examined participants’ scores on the four prejudice scales by computing pair-wise correlation and Cronbach’s alpha coefficients. The alpha reliabilities varied between .74 and .93. Further, the size of the scale intercorrelations was moderate to high (between .37 and .62) and was statistically significant ($p < .001$) as well. We conducted a principal components analysis on the correlation matrix. There was only one factor with an eigenvalue greater than unity (2.38), explaining 60% of the total variance, and a scree plot suggested one factor as well. Following Allport (1954), we labeled this factor Generalized Prejudice. The loadings on this factor varied from .71 to .83. Finally, we computed standardized factor scores for each participant, with higher scores indicating higher generalized prejudice. We used these scores in the analyses below.

Analyses of Big Five factor and facet scores. In Table 1, we present some basic statistics for the Big Five factors and facets. The means match well with the means provided in the American NEO-PI-R manual (Costa & McCrae, 1992) for college-age people. As the table shows, the Cronbach’s alpha reliabilities of the Big Five factors were satisfactory, varying from .87 to .90. These figures are in line with those in the American manual. However, five of the Big Five facet scales displayed coefficients below .60, which is not satisfactory. (The Swedish and American NEO-PI-R manuals report three, so the difference is not alarming.)
Control analyses. As previous research has reported gender differences in prejudice (e.g., Akrami et al., 2000; Ekehammar, Akrami, & Araya, 2003) and for some Big Five facets and factors (Costa & McCrae, 1992), we checked for gender differences in the present sample. Also, because of the age differences reported in the NEO-PI-R manual, we examined age differences in Big Five traits and in prejudice as well. The results disclosed several significant gender differences in prejudice, Big Five factor, and facet scores. There were also two significant correlations between Age and Big Five facets. Therefore, we examined the correlations between Big Five variables and Generalized Prejudice by controlling for the effects of Gender and Age using partial correlation coefficients. However, a comparison of the zero-order and partial correlations displayed no significant differences. Thus, we report only the zero-order correlations.

Relations between Big Five personality and Generalized Prejudice. In Table 1, we present the correlations of all Big Five factors and facets with Generalized Prejudice. The results show that among the Big Five factors, Openness and Agreeableness display the strongest negative relationships. Extraversion also has a significant negative correlation with Generalized Prejudice. Thus, the more open, agreeable, and extraverted you are, the less prejudice you display. Focusing on the Big Five facets, the results show that 15 of the 30 single facets display significant ($p < .05$) correlations with Generalized Prejudice. One Conscientiousness, one Neuroticism, three Extraversion, five Openness, and five Agreeableness facets showed significant relations with prejudice. Tender-Mindedness and Values are the single facets that show the strongest correlations with prejudice. Ideas and Compliance were the only Openness and Agreeableness facets, respectively, that did not correlate with Generalized Prejudice. Among the Extraversion facets, those that have to do with positive emotion and warmth show negative correlations with prejudice, whereas those that deal with assertiveness and activity are unrelated to prejudice.

Multiple regression analysis (MRA). We used MRA to examine which of the factors and facets contributed to predicting prejudice. Further, we tested whether a prediction based on facets would be more powerful than one based on factors using a stepwise MRA by including only those variables that gave a significant increase in
predictive power ($\Delta R^2$). We used a strict significance level ($p < .01$) to include solid facets only. The results (see Table 2) showed that $R$ was significantly higher when using facet instead of factor scores, $t(167) = 2.72$, $p < .01$. Two Big Five factors, Agreeableness and Openness, contributed to predicting prejudice, whereas three Big Five facets did the same: Tender-Mindedness, Values, and Warmth. Using these three predictors of prejudice, the multiple correlation was .70. In fact, this figure for facet prediction is quite competitive with corresponding coefficients obtained when using the two most powerful (Altemeyer, 1998; McFarland, 2001) predictors of prejudice, SDO and RWA. We also conducted all analyses above taking social desirability into account. Partialling out the effect of social desirability had, however, only negligible effects on the results.

Comments. In line with the outcome of our previous studies (Ekehammar & Akrami, 2003; Ekehammar et al., 2004) we found the Big Five factors Agreeableness and Openness to be the two most efficient predictors of Generalized Prejudice. In addition, the present study revealed that Extraversion had a significant relation with prejudice but this correlation was lower than for Agreeableness and Openness. A closer look at the results of Ekehammar and Akrami (2003) shows that Extraversion in that study also

Table 2
Stepwise Multiple Regression Analyses ($\Delta R^2$, $p < .01$) for Predicting Generalized Prejudice From the Big Five Factors and Facets, Respectively, in Study 1

<table>
<thead>
<tr>
<th>Predictor</th>
<th>$\beta$</th>
<th>$R_{total}$</th>
<th>Adjusted $R^2_{total}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression Model for Factors</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Openness</td>
<td>-.38</td>
<td>.61</td>
<td>.37</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>-.37</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regression Model for Facets</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tender-Mindedness (A6)</td>
<td>-.38</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Values (O6)</td>
<td>-.33</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Warmth (E1)</td>
<td>-.18</td>
<td>.70</td>
<td>.48</td>
</tr>
</tbody>
</table>

Note: Coefficients in **boldface** are significant at $p < .05$ at least, $N = 170$. 

displayed systematic, but nonsignificant, negative correlations with prejudice. However, the correlation coefficients for Agreeableness and Openness were of the same magnitude in that study (−.45) as in the present one (−.49). Thus, when focusing on the relation between prejudice and Big Five factors, the two studies give a very consistent picture. Still another similarity with the results of our previous studies (Ekehammar & Akrami, 2003; Ekehammar et al., 2004) is that the various types of prejudice were highly related, and a factor analysis yielded a one-factor solution in all three cases.

**STUDY 2**

The results of Study 1 provided support for our main hypothesis that the Big Five facet scores are stronger predictors of prejudice than the factor scores. However, multiple regression analyses suffer in general from lack of robustness, and a stepwise solution found in one sample might turn out differently in another. More important, generalized prejudice is a broad concept, and the correlations of a specific type of prejudice with personality factors and facets could differ in magnitude. Therefore, it is necessary to examine the replicability of the results using a single type of prejudice. Thus, in Study 2, we focus on sexism as the dependent and the Big Five factors and facets as independent variables.

**Method**

**Participants.** The sample comprised 158 (50% women) Swedish non-psychology university students and nonstudents, aged between 19 and 50 years (M = 24.7 years). The participants represented various academic disciplines and occupations.

**Instruments.** We used the NEO-PI-R, the Swedish Modern Sexism Scale, and the social desirability scale from Study 1.

**Results and Comments**

**Basic statistics.** We examined the mean scores and Cronbach’s alpha reliability coefficients for all variables. The results showed that the means were slightly higher than those in Study 1 but in
accord with those reported in the Swedish and American manuals. The Cronbach’s alpha reliability coefficient for the sexism scale was .80. The reliability coefficients for the Big Five factors ranged between .88 and .93, and for the facets between .58 and .83, with only two facets having a reliability coefficient below .60. These figures are higher than those reported in the NEO-PI-R manuals and in Study 1.

Relations between Big Five personality and sexism. We computed correlations between the Big Five factors and facets on the one hand and sexism on the other. Among the factors, only Openness (−.32) and Agreeableness (−.27) showed a significant ($p < .05$) correlation with sexism. Among the facets, four of the Openness facets (Aesthetics, Feelings, Actions, and Values) and three of the Agreeableness facets (Trust, Compliance, and Tender-Mindedness) correlated significantly with sexism. Also Warmth, a facet of Extraversion, showed a significant correlation with sexism. These correlations were negative and ranged between −.18 and −.43. The Big Five facets that displayed the highest correlations with sexism were Values (−.43) and Tender-Mindedness (−.38). Although these figures are lower than those reported in Study 1, they support the view that Openness and Agreeableness, and their facets Values and Tender-Mindedness, are the strongest correlates of sexism.

Control analyses. As in Study 1, we partialled out gender and age from the zero-order correlations. The results revealed some minor differences in the size of the correlation coefficients, but none of these differences was significant. Thus, we base our analyses on the zero-order correlations.

Multiple regression analysis (MRA). We conducted MRAs to examine which factors and facets are significant predictors of sexism and whether the factor or the facet prediction is the most powerful. As in Study 1, we used a strict significance level ($p < .01$) to include only solid facets. Entering the Big Five factors in a stepwise MRA showed that Openness and Agreeableness were the only significant factors predicting sexism. In a second analysis, entering all facets in a stepwise MRA, the result showed that only Values (O) and Tender-Mindedness (A) yielded a significant contribution to the prediction.
We found the multiple correlation coefficient for the facet ($R = .51$) prediction to be significantly higher than that for the factor ($R = .41$) prediction, $t(155) = 1.75$, $p < .05$ (see Table 3). Partialling out the effect of social desirability in all analyses had only negligible effects on the results.

**Comments.** Study 2 replicates the main outcome of Study 1 and shows that Agreeableness and Openness are the most important factors—and Values and Tender-Mindedness the strongest facets—in predicting sexism. Like Study 1, the facet prediction outperformed the factor prediction. The size of the multiple correlation coefficients of the predictions in Study 2 was lower than in Study 1. This might be because generalized prejudice is a broader concept than sexism and is affected by dimensions that are not relevant for sexism. This is also indicated by the fact that Warmth did not make a significant contribution in explaining sexism as it did in explaining Generalized Prejudice in Study 1.

1. This conclusion is supported by a reanalysis of the data in Study 1 using sexism instead of Generalized Prejudice as the dependent variable in a stepwise multiple regression. The results of this analysis showed that Warmth did not contribute significantly ($p < .01$) to the prediction of sexism.

### Table 3

**Stepwise Multiple Regression Analyses ($\Delta R^2, p < .01$) for Predicting Sexism From the Big Five Factors and Facets, Respectively, in Study 2**

<table>
<thead>
<tr>
<th>Predictor</th>
<th>$\beta$</th>
<th>$R_{\text{total}}$</th>
<th>Adjusted $R^2_{\text{total}}$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Regression Model for Factors</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Openness</td>
<td>-.30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agreeableness</td>
<td>-.25</td>
<td>.41</td>
<td>.15</td>
</tr>
<tr>
<td><strong>Regression Model for Facets</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tender-Mindedness (A6)</td>
<td>-.35</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Values (O6)</td>
<td>-.28</td>
<td>.51</td>
<td>.25</td>
</tr>
</tbody>
</table>

*Note: Coefficients in **boldface** are significant at $p < .05$ at least, $N = 158.$*
STUDY 3

In our previous research, we put forward an integrated personality and social psychology model to explain prejudice as a response to the prevailing tendency to examine either personality or social psychology factors when studying prejudice (Akrami & Ekehammar, 2006a). We argued that prejudice is best explained by taking both approaches into consideration. This argument is not less important in the present article. Thus, examining the contribution of Big Five facets compared to the factors within an integrated personality and social psychology model provides a critical examination of our main hypothesis.

Social psychological research has shown that prejudice is influenced by variables, such as group membership and group identification (e.g., Brewer & Brown, 1998), and also by contextual factors, such as social norms and social threat (e.g., Crandall, Eshleman, & O’Brien, 2002; Duckitt, 2006; Duckitt & Fisher, 2003; Heaven, Organ, Supavadeeprasit, & Leeson, 2006). Therefore, to represent the social psychological approach, in Study 3 we focused on three of these variables—social group membership, social group identification, and experimentally manipulated social norm. To this end, we examined the power of personality factors and facets when predicting prejudice under specific situational circumstances, such as a social norm against prejudice expression. As in Study 2, sexism was the dependent variable.

However, unlike the two previous studies, we focused only on the Big Five factors Agreeableness and Openness and their facets. We made this decision for reasons of efficiency and because Study 1 and Study 2 revealed that these factors (together with their facets) are the major predictors of prejudice. Also, in addition to modern sexism, we included a scale of classical sexism. We examined whether activation of the social norm affects the scores on modern and classical sexism to the same extent. We expected that participants in the social norm condition would score lower in both modern and classical sexism.

Method

Participants and design. The sample comprised 80 (49% women) Swedish nonpsychology university students and nonstudents, aged between 19
and 54 years ($M = 24.7$ years). The participants represented various academic disciplines and occupations. We employed a between-subjects design (no norm activation vs. norm activation). There were 20 men and 20 women in the no norm-activation condition and 21 men and 19 women in the norm-activation condition.

**Procedure.** Two female experimenters carried out the data collection, and one of them acted as a confederate. The role as experimenter or confederate was randomly assigned before each experimental session. The experimenter greeted the participants on arrival and randomly assigned them to one of the treatment conditions. There were two or three participants (at least one male or one female) and one confederate in each experimental session. Participants in the norm-activation condition were told that they were to participate in two studies, one concerning personality and the other social attitudes. Participants in the control condition were told that they were to participate in a study dealing with personality and social attitudes. After a brief instruction, the experimenter led the participants to the experimental room and told them to choose one of the four booths where computers were placed and to start by clicking the start button. Further instructions were given on the computer screen.

Participants in both conditions responded to the variables/scales in the following order: background variables (age, gender, and education), the NEO-PI-R, a social desirability scale (Rudmin, 1999), and the Gender Identification Scale (see further below). Those in the control condition continued the computerized task by responding to the Modern and the Classical Sexism Scale while the experimenter led participants in the norm-activation condition to another room. This room had a small table, four chairs, and a small box where participants put their completed questionnaires. When all participants (including the confederate) were gathered, the experimenter handed each of them a questionnaire consisting of three pages. The first page included the questions on background variables. The second page contained the Modern Sexism Scale, starting with the item: “Discrimination of women is no longer a problem in Sweden.” The third page contained the Classical Sexism Scale, starting with the item “I prefer a male boss to a female.” The experimenter left the room, and the confederate’s task was to comment on the content of the questionnaire at the beginning of the second and third page. Thus, when participants had turned the first page and were about to respond to the first item of the Modern Sexism Scale, the confederate looked at the participants and said, “I cannot understand who could agree with this; discrimination of women is present everywhere throughout our society. It is crazy to say that women are not discriminated against.” The confederate continued then to complete the questionnaire and turned to the next page.
when the participants did. Again, the confederate commented on the first item of the Classical Sexism Scale by stating, “This is crazy! Are we really in the twenty-first century? I cannot believe that anyone could agree with this.” After having completed their questionnaires, the experimenter debriefed and thanked the participants for their participation.

**Instruments.** In addition to the NEO-PI-R, the Swedish Modern Sexism Scale, and the social desirability scale employed in Study 1, we used the Swedish Classical Sexism Scale and a scale measuring Gender Identification. The seven-item Classical Sexism Scale has the same origin as the Modern Sexism Scale (for reliability and validity data, see Ekehammar et al., 2000) and intends to measure classical (blatant, “old-fashioned”) sexism in a Scandinavian context. To assess participants’ gender group identification, we used a scale that asked participants to mark (on a 10-cm visual analog scale) whether they felt closer to women or men on seven different domains (attitudes, priorities in daily life, relations, life experience, choice of occupation, interests and hobbies, and gender identity). The left side of each response scale was anchored “Women” and the right side “Men.” The responses to all items were averaged for each participant. Higher scores indicate closeness to men (for a similar scale construction, see Wilson & Liu, 2003).

**Results and Comments**

**Basic statistics.** We examined the Cronbach’s alpha reliability coefficients for the Big Five factors and facets, the sexism scales, and the gender identification scale. The Cronbach’s alpha reliability coefficients for the modern and the classical sexism scale and the gender identification scale were .80, .71, and .89, respectively. The reliability coefficients for the Agreeableness and Openness factors were .91 and .89, respectively. The reliability coefficients for the facets ranged between .62 and .85, with Values and Tender-Mindedness having a reliability coefficient of .62 and .76, respectively. These figures are in line with those reported in Study 1, Study 2, and the original NEO-PI-R manuals.

**The effect of social norm.** The correlation between the modern and classical sexism scale scores was high ($r = .57$, $p < .01$). Analyses of the mean scores on sexism for the norm and no-norm groups showed significant differences in both Modern [$F(1, 78) = 5.58$, $p = .02$] and Classical Sexism [$F(1, 78) = 11.15$, $p = .00$]. In line with our predictions,
participants in the social norm condition scored lower on Modern ($M = 1.85$) and Classical ($M = 1.38$) Sexism than those in the control group ($M = 2.24$ and $1.79$, respectively).

Further, the impact of the experimental manipulation on Modern ($\eta = .26$) and Classical ($\eta = .35$) Sexism scores did not differ significantly, $t(77) = 1.12, p = .27$, and so we combined the scales. In the following analyses we will refer to the combined scale as the Sexism scale. Finally, there were no significant differences between the norm and no-norm groups in mean scores of Agreeableness ($\eta = .02, p = .83$), Openness ($\eta = .10, p = .40$), Values ($\eta = .01, p = .94$), Tender-Mindedness ($\eta = .17, p = .14$), Gender Identification ($\eta = .01, p = .96$), and Social Desirability ($\eta = .09, p = .44$).

Multiple regression analysis (MRA). To examine whether the factors or the facets—and the personality or the social psychological variables—are the most powerful predictors of sexism, we conducted a series of MRAs. As the main focus of the present study was not to examine the interplay between personality and social psychology variables, we did not include any interaction effects in the regression analyses (but see Akrami & Ekehammar, 2006a).

In Model 1 we entered the social psychological variables—group membership, social group identification, and social norm—in the first step. In the second step, we entered the Big Five personality factors. In Model 2, we replaced the Big Five personality factors with the facets (Values and Tender-Mindedness). The results, presented in Table 4, show that both the personality and the social psychology variables are significant predictors of sexism. The social psychological variables together explained 31% of the variance in Sexism, whereas the personality variables explained 8% using factors and 23% using facets. The multiple correlation coefficient ($R$) for the model with facets ($R = .74$) was significantly [$t(77) = 2.76, p < .01$] higher than the coefficient for the model with factors ($R = .62$).

Although the analyses above respond to the main question raised in the present study, there is a different way to examine the main hypothesis: a head-to-head comparison of the factor and the facet predictions. To this end, we conducted another set of MRAs and, as in the analyses above, we entered the social psychological variables in the first step. Then, in Model 1, we entered the factors followed by
the facets and, in Model 2, the facets followed by the factors. The results of these analyses are presented in Table 5 and show that the facets contributed significantly to the prediction when entered after the factors. However, the factors did not make a significant contribution when entered after the facets. We also conducted the analyses above by partialling out the effect of social desirability and found only negligible effects on the results.

**Table 4**

<table>
<thead>
<tr>
<th>Step</th>
<th>Regression Model 1—Factors</th>
<th>Regression Model 2—Facets</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Social Norm (Control = 0, Norm = 1)</td>
<td>Gender (Woman = 1, Man = 2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Gender Identification</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Identification With Men)</td>
</tr>
<tr>
<td>2</td>
<td>Openness</td>
<td>Agreeableness</td>
</tr>
</tbody>
</table>

**Note:** Coefficients in **boldface** are significant at \(p < .05\) at least, \(N = 80\). The \(\beta\)s refer to those in the final models.

the facets and, in Model 2, the facets followed by the factors. The results of these analyses are presented in Table 5 and show that the facets contributed significantly to the prediction when entered after the factors. However, the factors did not make a significant contribution when entered after the facets. We also conducted the analyses above by partialling out the effect of social desirability and found only negligible effects on the results.

**Comments.** The present results are in accord with those in Study 1 and Study 2 and support our main hypothesis that the Big Five facets are more powerful predictors of prejudice than the factors. Also, these findings support an integrated model where both personality and social psychology variables are significant predictors of prejudice (see Akrami & Ekehammar, 2006a).
To the best of our knowledge, the present three studies are the first where Big Five facets have been related to prejudice. 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 Big Five to various external variables and, second, one can increase understanding the nomological network behind the relation between personality and other behaviors or constructs.

Starting with the first point, we found the Big Five facets to have significantly higher power when predicting prejudice than the factors. Using stepwise multiple regression analyses, the results showed that $R$ increased significantly when using facets rather than factors. Also, the facets Tender-Mindedness (underlying the Agreeableness factor) and Values (underlying the Openness factor) were the most powerful single predictors of prejudice, outperforming corresponding factors as single predictors. In conclusion, our results support Paunonen et al. (2003) in their claim that Big Five facets can outperform Big Five factors when predicting various external variables. This conclusion has both practical and theoretical implications.

### Table 5

<table>
<thead>
<tr>
<th>Step</th>
<th>Regression Model 1: Factors—Facets</th>
<th>Regression Model 2: Facets—Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\Delta R$</td>
<td>$\Delta R^2$</td>
</tr>
<tr>
<td>1</td>
<td>Social Psychology Variables</td>
<td>.55</td>
</tr>
<tr>
<td>2</td>
<td>Factors (Openness &amp; Agreeableness)</td>
<td>.28</td>
</tr>
<tr>
<td>3</td>
<td>Facets (Tender-Mindedness &amp; Values)</td>
<td>.40</td>
</tr>
<tr>
<td>1</td>
<td>Social Psychology Variables</td>
<td>.55</td>
</tr>
<tr>
<td>2</td>
<td>Facets (Tender-Mindedness &amp; Values)</td>
<td>.48</td>
</tr>
<tr>
<td>3</td>
<td>Factors (Openness &amp; Agreeableness)</td>
<td>.11</td>
</tr>
</tbody>
</table>

*Note: Coefficients in **boldface** are significant at $p < .05$ at least, $N = 80.$*
applied settings, where an employer wants to exclude prejudiced candidates using personality tests, a statistical prediction based on facets would be more accurate than one based on factors. A theoretical implication is that personality is related to prejudice also at a lower level in a hierarchical model of personality—in this case, the Five-Factor Model.

Turning to the second point, which perhaps is of more theoretical than practical interest, we hypothesized that Agreeableness and Openness are those Big Five factors most closely linked to prejudice. This hypothesis was supported in all our studies and confirmed our previous findings (Ekehammar & Akrami, 2003) as well. Thus, Agreeableness, as the opposite of antagonism, includes components like tender-mindedness and altruism as well as nonhostility and empathy, which relate negatively to prejudice. In a similar way, Openness includes components that have to do with nonconformity and unconventionality and is inversely related to authoritarianism and positively related to liberal sociopolitical values. All these characteristics of Openness would imply a negative relation to prejudice.

Our results in Study 1 showed that several underlying facets, five in each case, support the Agreeableness and Openness factors. Thus, all Agreeableness facets except Compliance displayed significant correlations with Generalized Prejudice: Trust—believing that other people are honest and have good intentions; Straightforwardness—being frank, sincere, and ingenuous; Altruism—showing generosity, consideration of others, and having a willingness to assist others in need of help; Modesty—being humble and self-effacing although not necessarily lacking in self-esteem; and Tender-Mindedness—having attitudes of sympathy and concern for others and being moved by others’ needs (Costa & McCrae, 1992). Although correlated, these facets are conceptually different. Tender-mindedness (the opposite pole of tough-mindedness) displayed the largest facet–prejudice correlation \((r = –.61)\) within Agreeableness and overall. Thus, our hypothesis about this facet was supported and tough-/tender-mindedness seems to be a potent personality construct when relating personality to prejudice (see also Duckitt et al., 2002; Eysenck, 1961). One could also note that being meek and mild and willing to forgive and forget, which defines the Compliance facet of Agreeableness, was not related to prejudice.

As to Openness, Study 1 showed that all facets except Ideas displayed significant correlations with Generalized Prejudice:
Fantasy—being open to fantasy and having an active fantasy life; Aesthetics—having a deep appreciation for art and beauty; Feelings—evaluating emotion as an important part of life; Actions—preferring novelty and variety to familiarity and routine; and Values—having a readiness to reexamine social, political, and religious values (Costa & McCrae, 1992). Of these facets, we found Values to be the single strongest predictor ($r = -0.55$) in Study 1, and our hypothesis for this facet received support. Interestingly, being receptive to one’s own inner feelings and emotions and evaluating emotion as an important part of one’s life, which defines the Feelings facet of Openness, displayed the next highest correlation (after Values) with prejudice. Thus, it seems that the emotional side of Openness is also connected negatively to prejudice. However, having intellectual curiosity and the active pursuit of intellectual interests for their own sake, which defines the Ideas facet of Openness, was not correlated with prejudice.

Further, in Study 1, Extraversion turned out to be a third Big Five factor significantly related to Generalized Prejudice. A look at the Extraversion facet level disclosed that three of the six facets contributed to this relationship: Warmth—being affectionate and friendly, genuinely liking people, and forming close attachments to others; Gregariousness—preferring and enjoying the company of others; and Positive Emotions—having a tendency to experience positive emotions such as joy, happiness, love, and excitement (Costa & McCrae, 1992). On the other hand, the facets Assertiveness—being dominant, forceful, and socially ascendant; Activity—having a rapid tempo, energy, and a need to keep busy; and Excitement-Seeking—craving excitement and stimulation—showed no relation to Generalized Prejudice. Thus, it seems as if those aspects of Extraversion that have to do with friendliness, attachment to others, and experiencing positive emotions contributed to the Extraversion-prejudice relationship. However, the Extraversion facets that relate to dominance, tempo, energy, and excitement-seeking did not contribute at all. In fact, those facets that contribute seem to have conceptual links to some facets underlying Agreeableness, and there have been suggestions (John, 1990; Goldberg, 1992) that Warmth should be included in the Agreeableness factor instead.

Also in Study 2, the facet prediction based on Values and Tender-Mindedness outperformed the factor prediction based on Agreeableness and Openness. Thus, the results of Study 2 support the
generalizability of the findings in Study 1. Study 2 also confirms the robustness of the hierarchical regression solution presented in Study 1. Hierarchical regression analyses are sensitive to sample characteristics, and replications are needed to draw firm conclusions. However, a notable difference between the outcome of Study 1 and Study 2 was that the Extraversion facet Warmth did not make a significant contribution in explaining sexism. As mentioned earlier, Warmth seems to be important in explaining a broader form of prejudice (Generalized Prejudice) rather than a specific type of prejudice like sexism. To sum up, the results of Study 2 confirmed our hypotheses.

In Study 3 we tested our main prediction in an experimental setting. Thus, we examined whether facets or factors are the best predictors of expressing prejudice under different situational conditions. In line with Study 1 and Study 2, the results confirmed our main hypothesis and showed that the facet prediction based on Values and Tender-Mindedness outperformed the factor prediction based on Agreeableness and Openness. In addition, the results of Study 3 are supportive of an integrated personality and social psychology model in explaining prejudice. Thus, both the personality (Big Five factors or facets) and the social psychological variables (social norm, gender, and gender identification) contributed significantly in predicting sexism.

What implications do our results have for the personality (and the social psychological) explanations of prejudice? After the publication of *The Authoritarian Personality* (Adorno et al., 1950) research on prejudice focused mainly on personality and individual differences. However, at present, one would probably say that the social psychology approach has a dominant position, and there are few attempts, if any, that try to integrate the personality and social psychology approaches (see Akrami, 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 situational factors (e.g., social norm, social threat) rather than by their personalities. Theoretical frameworks behind these views can be found in social identity theory and self-categorization theory (e.g., Tajfel & Turner, 1986), 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, “In sum, 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.”

We think that our present results make it really difficult to discard personality explanations of prejudice. First, our analysis of four different types of prejudice showed, as in two of our previous studies (Ekehammar & Akrami, 2003; Ekehammar et al., 2004), that these different types of prejudice are empirically related and form one single factor. Thus, if you are prejudiced toward people with a different ethnic origin, you are likely to express sexism, homophobia, and prejudice toward people with disabilities. This outcome is difficult to explain on the basis of social psychological models and theories.

Second, our present analyses have clearly disclosed tight links between prejudice and certain factors and facets of core personality. For the Big Five factors, the results are in line with what we have previously found (Ekehammar & Akrami, 2003). For the Big Five facets, the results reveal a tight link between Tender-Mindedness and Values on the one hand and prejudice on the other. In fact, our results show that the predictive power of these two facets is comparable with that of SDO and RWA combined (see McFarland, 2001). It should be mentioned that SDO and RWA are regarded as the two most powerful individual-differences predictors of prejudice (e.g., Altemeyer, 1998). These findings are difficult to explain from the previously mentioned social psychological theories, which give no or only a marginal role for people’s core personality. Some of these models (e.g., Guimond et al., 2003) claim that a person’s prejudice would increase with increasing social status, at least within hierarchy-enhancing environments (see Sidanius & Pratto, 1999). For example, an undergraduate law student who enters graduate school would then increase her prejudice, which would further increase when she receives her doctorate degree, and even more when she receives a position as assistant professor, and so on until she reaches the top of the academic hierarchy. According to our present findings, the person is then likely to undergo a simultaneous personality change reflected in a gradual decrease in Openness, and she ends in having a poor fantasy life and little appreciation for art and beauty, among other things. In fact, we do not see this scenario as very realistic. Evidence from other research shows that the opposite is more
likely because Openness has been found to be positively correlated with social status, particularly education (e.g., Costa & McCrae, 1992).

Finally, we must also conclude that the present results show that the Big Five facets, single or in combination, do not give a perfect prediction of prejudice. Thus, there is more variance in prejudice to be explained, and we think that other social psychological factors than those examined here can come into the picture. Actually, we are arguing for an integrated personality and social psychological approach to the study of prejudice, and we present and test such a model in another work (Akrami & Ekehammar, 2006a).

REFERENCES


