Evaluation of the Self on the Big Two and their Facets: Exploring the Model and its Nomological Network

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ABSTRACT

Social evaluation of the self, of others, and of groups rests on two dimensions, also called 'the Big Two' (Horizontal: Communion, Warmth; Vertical: Agency, Competence). These Big Two have recently been broken down into two facets each. The Vertical dimension comprises Ability and Assertiveness, the Horizontal dimension Friendliness and Morality (Abele et al., 2008, 2016, 2021). In three studies, the present paper further explores this dimensions/facets conceptualization. We ask if the facets add explanatory power over and above the dimensions; and we analyze a number of criterion variables not considered before. Participants always had to rate themselves on the dimensions/facets and answered additional measures. These were social desirable responding and item valence. These are interesting from a methodological point of view. Self-efficacy and dominance orientation (vertical facets) and social value orientation (horizontal facets) were of interest with respect to the distinction of the facets. Finally, life satisfaction and self-awareness were analyzed as more remote constructs. Findings supported the dimension/facets model; they supported the construct validity of the Big Two; they supported the construct validity of the facets; and they revealed instances, under which distinguishing between the facets is promising. Further research perspectives regarding targets of evaluation and regarding construct validity particularly of the Horizontal facets are outlined. We summarize that the facet conceptualization is an important extension of the prominent Big Two approach.

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Abundant research has demonstrated that social perceivers rely on two fundamental dimensions or 'Big Two' in order to navigate the social world. These are the Vertical and Horizontal dimensions, also called *agency* and *communion* or *competence* and *warmth* (for reviews see Abele et al., 2021; Abele & Wojciszke, 2014, 2018; Fiske, Cuddy & Glick, 2007; Koch et al., 2021; Paulhus & Trapnell, 2008; Yzerbyt, 2018; Yzerbyt, Provost & Corneille, 2005). People rely on these dimensions when describing and evaluating the self, others, and groups. While the Vertical dimension refers to qualities relevant for goal-attainment, such as being determined or capable, the Horizontal dimension refers to qualities relevant for the establishment and maintenance of social relationships, such as being friendly or fair. The Big Two capture the two recurring challenges of human life: Pursuing individual goals and belonging to social groups (Ybarra et al., 2008). Moreover, the Big Two conceptualization is an integrative framework for different lines of research in social, personality, motivation, political, and cross-cultural psychology (Abele & Wojciszke, 2014, 2018).

As has been first proposed in 2008 (Abele, Cuddy, Judd, & Yzerbyt, 2008), these Big Two may be broken down in two facets each. Regarding the Vertical dimension, successful goal-pursuit or 'getting ahead' requires both skill (being competent, capable) and motivation/volition (being determined, confident). Hence, the facets of the Vertical dimension are *Ability* (skill) and *Assertiveness* (motivation/volition; Abele et al., 2016, 2021). Regarding the Horizontal dimension, establishing and maintaining social relationships or 'getting along' also requires skill and motivation. Even if less clear than with respect to the Vertical facets, the facet of *Friendliness* (behaving warm, empathic) may be regarded as the 'skill' component and the facet of *Morality* (being fair, behaving trustworthy) may be regarded as the motivational component of the Horizontal dimension. Hence the facets of the Horizontal dimension are *Friendliness* and *Morality* (Abele et al., 2016, 2021). The present research aims at further analyzing the utility of the two dimensions/ four facets conceptualization by providing new data on the model and its association with a number of criterion variables.

EMPIRICAL SUPPORT FOR THE FOUR FACET APPROACH

Abele and colleagues (2016) conducted the first large international study which aimed at (1) testing the Big Two Model and the postulated four facets in different languages/cultures (English, French, German, Polish, and Chinese); (2) compare the fit of the Big Two and four facets models in confirmatory factor analyses; and (3) relate the model to further psychological constructs in order to

explore convergent and discriminant validity. Participants always rated the self.[1] Findings revealed that the proposed dimensions and facets could be reliably distinguished in all languages analyzed. Both the two-dimensions and the four-facets models described the data well. Findings also revealed that the Vertical dimension was strongly related to independent self-construal, agentic values, agentic impression management, and to emotional stability and extraversion. The Horizontal dimension showed the highest and most consistent correlations with agreeableness, interdependent self-construal, and communal values. More important in the present context, the facets belonging to one dimension partly differed in their relationship to the further constructs: Assertiveness was more related to independent self-construal, to emotional stability, extraversion and to agentic impression management than Ability. Conversely, Ability was more related to openness than Assertiveness. Friendliness was strongly related to interdependent self-construal, to communal values, to agreeableness, and also to extraversion. Morality showed high associations with communal values, and was less related to extraversion and agreeableness than Friendliness.

Further research in our group (Abele & Hauke, 2019) tested the association of the facets with self-esteem and esteem of others. Whereas it is already well-known that self-esteem is dominated by the Vertical dimension (Wojciszke et al., 2011), we could additionally show that Assertiveness is associated with self-esteem, more than Ability. Evaluation of others was primarily based on Morality and Ability. Another series of studies by Hauke and Abele (2020) revealed that the distinction of the facets helps to better understand targets' reactions to gossip. Carrier, Louvet, Chauvin, and Rohmer (2014) showed that what they called agency (in present terms Assertiveness) was more strongly related to status perception than competence (in present terms Ability).

It should be noted that there are also alternative component conceptualizations stemming from Big Two research. Some of these distinguish within the Vertical dimension. Louvet, Cambon, Milhabet, and Rohmer (2019), for instance, differentiated between an agency and an effort component of the Vertical dimension (see also Carrier, Louvet, Chauvin & Rohmer, 2014). Others distinguished within the Horizontal dimension. Both Ellemers and colleagues (overview see Ellemers, 2017) and Brambilla and colleagues (overview see Brambilla, Sacchi, Rusconi, & Goodwin et al., 2021) differentiated morality and sociability. Still others add a third 'Big' dimension. In the ABC model, for instance, agency (Vertical) and communion (Horizontal) are accomplished by 'beliefs' (Koch et al., 2016). These conceptualizations all received empirical support. However, the present research is concentrated on the four facets as explained here.

PRESENT RESEARCH

The present paper addresses two issues: Continuing previous research (Abele et al., 2016; Abele & Hauke, 2019; Hauke & Abele, 2020) we wanted to further analyze, if the facets add explanatory power over and above the Big Two. Stated differently: Are the facets similarly related to the criterion as their respective dimension or are there differences between the facets belonging to one dimension? Second, we wanted to study additional criterion variables not covered by Abele et al. (2016). In this way we wanted to further explore the nomological network of the Big Two and their facets with respect to self-evaluation. We studied the following criterion variables that were of interest both with respect to methodological issues (here: social desirable responding and valence of the scale items) and with respect to the issue of the facets' differential explanatory power (here: self-efficacy and dominance orientation as related to Assertiveness versus Ability; social value orientation as related to Friendliness versus Morality). And we included two further criterion variables (life satisfaction and self-consciousness) which are more remote from the present constructs, but could – in part – also be related to the Big Two/four facets model.

Social desirable responding and valence. Social desirable responding has long been regarded as a variable that should be controlled for, as the social desirability response set is the tendency to present the self in a manner that will be viewed favorably by others or to give answers that are in accordance with social norms (for reviews see Holden & Passey, 2009; Paulhus, 2018). Answers on other scales may be confounded by this tendency. The widely used Crowne & Marlow scale (1960) was designed to capture individual differences in the tendency to give desirable responses on self-reports. We selected this variable once because of methodological reasons. The degree of social desirable responding could confound the relationship of self-evaluation on the dimensions/facets with other variables. On the other hand we selected this variable because of theoretical interest. If social desirable responding is motivationally driven (see above: give answers that are in accordance with societal norms), then it should be more related to the facets that are also motivational like Assertiveness and – to a smaller degree – Morality.

Whereas social desirable responding is an individual's tendency to answer in accordance with social norms, 'valence' is a more abstract construct. It does not refer to specific targets, like self, others, or groups, but rather to the evaluation of a given trait – irrespective of a specific target. Our interest into this variable is again both methodologically and theoretically driven: Methodologically, valence is important because more negative information usually has stronger weight in impression formation than more positive information ('positive – negative asymmetry'; Skowronski & Carlston, 1989). It has also been demonstrated that valence and dimension (Horizontal versus Vertical) do interact with higher weight of negative information in case of Horizontal, and higher weight of positive information in case of Vertical (Reeder & Brewer, 1979). Even if the items used in Big Two research usually do not differ extremely with respect to valence, it is nevertheless worth knowing their general valence in order to potentially control for it. Theoretically, valence is interesting because previous research provided evidence for differential valence of the dimensions, but there is only little research in the facets yet indicating that morality is more positively evaluated than friendliness, and ability more positively than assertiveness (Hauke & Abele, 2019). Findings across different languages show that the association of valence ratings with ratings of traits' belongingness to the Vertical or Horizontal dimension are stronger for the Horizontal than Vertical dimension (Abele & Wojciszke, 2007; Polish; Suitner & Maass, 2008, Italian; Abele, Bruckmüller & Uchronski, 2009, German). The Horizontal dimension is usually evaluated more positively than the Vertical. Indirect evidence for differential valence of the facets may be taken from research on the importance of morality versus friendliness in group contexts (overview Brambilla et al., 2001; Ellemers, 2017) and in evaluation of others (Abele & Hauke, 2019) showing a higher importance of Morality. This could mean that Morality is evaluated more positively than Friendliness. Findings on valence of the Vertical facets are more complex: Abele and Hauke (2019) showed that evaluation of others is more positive with higher Ability, but not with higher Assertiveness of these others. On the other hand, self-esteem is more positive with higher Assertiveness ratings, but not with higher Ability ratings. Despite this last-mentioned finding, we expect that the valence ratings of Ability traits are more positive than those of Assertiveness traits.

Self-efficacy and dominance orientation. Both variables were specifically selected to test the explanatory power of the Vertical facets. Self-efficacy is defined as individuals' beliefs about their capability to perform some behavior or to meet a standard. Individuals with high self-efficacy beliefs set higher goals for themselves, put in more effort, and persist longer on a difficult task, which means that their motivation/volition is strong (Bandura, 1986; Bandura, 1997). Self-efficacy should be more associated with the Vertical than the Horizontal dimension. Moreover, we will test if the Assertiveness facet is more strongly related than the Ability facet, because both self-efficacy and Assertiveness are motivational constructs.

Dominance orientation can be defined as the tendency to exert power and influence over others. People high in dominance orientation tend to take initiative and to seek control over activities, again a motivational construct (Schuler & Prochaska, 2001). We predict a stronger relation to Vertical than Horizontal. We also predict a stronger relation to Assertiveness than Ability, because Assertiveness is the motivational component of the

Vertical dimension and dominance orientation is also motivational.

Social value orientation. Whereas self-efficacy and dominance orientation were chosen to study the differential association with the Vertical facets, social value orientation was chosen to analyze the association with the Horizontal facets. Social value orientation is a construct that measures how people make decisions in social contexts (Murphy, Ackermann, & Handgraaf, 2011). People can allocate 'money' (points) to the self and an – undefined – other by choosing between different alternatives. They can decide in an egoistic manner, an altruistic manner, prosocially (maximizing joint outcome), or else (cf. Murphy et al., 2011). We predict that social value orientation is more strongly related to the Horizontal than the Vertical dimension. A prediction for the facets of the Horizontal dimension is difficult: Morality might be related to decisions that equalize the outcome of self and other, because this could be the fairness rule applied in a setting in which no information on, for instance, deservingness of the self or the other, is available. Friendliness might be related to decisions that favor the other, because the allocation of points to self or other has no serious consequences for the self, and persons seeing themselves high on Friendliness might like to please others.

Life satisfaction and self-consciousness. Whereas the criterion variables mentioned so far can be clearly related to the Big Two and their facets, life satisfaction and self-consciousness are more remote constructs and will be analyzed in a more exploratory fashion.

Life satisfaction is the cognitive component of an individual's well-being (Diener, 2012). It implies to be content or to accept one's life circumstances, and it is a subjective evaluation of one's life quality. A previous study had shown that both Big Two dimensions are positively related to life satisfaction, the Vertical, however, more than the Horizontal (Abele, 2014). The facets have not been studied yet. We predict that the Assertiveness facet is more related to life satisfaction than the Ability facet, since life satisfaction as measured in respective scales (Diener, Emmons, Larsen, & Griffin, 1985), always implies the evaluation of some goal-setting and success in this goal-setting (one item of the Diener et al., 1985 scale reads: 'So far I have gotten the important things I want in life').

Self-consciousness refers to the capacity of becoming the object of one's own attention (Duval & Wicklund, 1972; Fenigstein, Scheier, & Buss, 1975). In contrast to self-efficacy, for instance, it is less a motivational, but more a cognitive construct. Fenigstein et al. (1975) distinguished between private and public self-consciousness: Private self-consciousness is focused on thoughts and reflections that deal with the self and one's plans, goals, and experiences (example: 'I am aware of the way my mind works when I work through

a problem'). We predict that private self-consciousness is related to the Vertical dimension, and here more to the Ability facet (more cognitive) than the Assertiveness facet (more motivational). Public self-consciousness is concerned with reactions of others to the self. Research has shown that public self-consciousness is related to social anxiety (Elphinstone & Whitehead, 2019). We will here test divergent validity, for example, that public self-consciousness and self assessments on the dimensions and facets are independent.

STUDY 1
METHOD
Power considerations and sample
We relied on GPower (Faul, Erdfelder, Lang & Buchner, 2007) to compute the number of participants needed to achieve a power of 90% to detect a medium effect ($f^2 = 0.15$) with a .05 α criterion. The minimum required number of participants suggested by GPower in a linear regression with four predictors (four facets) was 108. Hence we aimed at collecting data from at least 108 participants in our studies. Data collection was not continued after analyses. The sample comprised 114 German Bachelor students (93 women, 21 men; age $M = 21.35$, $SD = 5.94$). The here reported measures were part of a larger study with variables not related to the present issues and without any manipulations.[2] Participants received course credit for participation.

Measures
Vertical and *Horizontal* dimension and their facets were measured with four items per facet. Items were 'friendly', 'caring', 'warm', and 'empathic' (Horizontal-*Friendliness*, Cronbach's α = .73); 'trustworthy', 'just', 'fair', and 'reliable' (Horizontal-*Morality*, Cronbach's α = .71); 'never give up easily', 'confident', 'able to resist pressure', and 'assertive' (Vertical-*Assertiveness*, Cronbach's α = .62); and 'intelligent', 'competent', 'efficient', and 'capable' (Vertical-*Ability*, Cronbach's α = .53). Reliability of the Vertical dimension was Cronbach's α = .69, of the Horizontal dimension, Cronbach's α = .80. Items belonging to the different sub-scales were presented in mixed order. They were answered on a bipolar format with a 5-point response scale (e.g., *very friendly* – 2-1-0-1-2 – *very unfriendly*). The positive and negative poles were counterbalanced on the left or right side of the scale. These bipolar scales were later recoded from 1 to 5 with higher ratings representing the positive pole of the trait ('very friendly' in the above example).

We assessed *social desirability* by means of the SES-17 (Crowne & Marlowe, 1960; German: Stöber, 1999; 17 items; Cronbach's α = .83; sample item: 'I never hesitate to go out of my way to help someone in trouble'). Participants answered the items as being *correct* (counted as 1) or *false* (counted as 0).

RESULTS AND DISCUSSION

Participants rated themselves higher on the Horizontal, than the Vertical dimension, t (113) = 9.91, p < .001, Cohen's d = 0.93. Within dimensions, they rated themselves higher on Ability than Assertiveness, t (113) = 7.20, p < .001, Cohen's d = 0.67, but almost the same on Morality and Friendliness, t (113) = 0.85, p = .40, Cohen's d = 0.08. Social desirable responding was above the theoretical scale mean, t(113) = 4.77, p < .001, Cohen's d = 0.45. Table 1 shows the means, intercorrelations, and regressions for the dimensions (1a) and facets (1b) on social desirable responding.

The two dimensions and four facets are positively correlated with social desirable responding. The regression for the dimensions reveals that both dimensions are similarly related to social desirable responding. The regression with the facets shows that Assertiveness and Morality are significantly related to social desirable responding, but not Ability and Friendliness.

Summarizing, Study 1 showed that participants rated themselves highest on Morality and Friendliness, lower on Ability and lowest on Assertiveness. However, all these ratings were above the theoretical mean of the rating scale. These findings are in accord with previous data (Abele et al., 2016). The associations of the self-ratings on the dimensions and facets with social desirable responding supported our reasoning. Both dimensions were related. Also, Morality and Assertiveness being more motivational constructs were more related to the motivational variable of social desirable responding than Friendliness and Ability. It should be noted, however, that the reliabilities of the

Vertical dimension and its facets were low. Study 2 will deal with this issue by using a more differentiated response scale.

STUDY 2

METHOD

Power considerations and sample

Power considerations were the same as in Study 1, and we aimed at collecting data from at least 108 participants. Data collection was not continued after analyses. The sample comprised 125 German Bachelor students (101 women, 22 men) with a mean age of 21.78 (SD = 5.63). Data were collected online. The here reported measures were also part of a larger study with variables not related to the present issues and without any manipulations. Participants received course credit for participation.

Measures

Vertical and *Horizontal* dimension and their facets were measured with the same four items and in the same fashion as in Study 1. The only difference pertained to the response scale. It was now a 7-point response scale (e.g., *very friendly* – 3-2-1-0-1-2-3 – *very unfriendly*). The positive and negative poles were counterbalanced on the left or right side of the scale. These bipolar scales were later recoded from 1 to 7 with higher ratings representing the positive pole of the trait (Friendliness, Cronbach's α = .75; Morality, Cronbach's α = .66; Assertiveness, Cronbach's α = .70; Ability, Cronbach's α = .63; Vertical dimension, Cronbach's α = .72; Horizontal dimension, Cronbach's α = .78).

(a)

VARIABLE	*M (SD)*	CORRELATION		REGRESSION	
		1	**2**		
Social desirable respondingy	0.58 (0.18)	.30***	.37***	R = .42	F(2,111) = 12.12, p < .001
1 Vertical	3.67 (0.49)		.27***	β = .22	p = .01
2 Horizontal	4.25 (0.53)			β = .31	p < .001

(b)

VARIABLE	*M (SD)*	CORRELATION				REGRESSION	
		1	**2**	**3**	**4**		
Social desirable responding		.32***	.18*	.27**	.38***	R = .45	F(4,109) = 7.02, p < .001
1 A	3.45 (0.57)		.43***	.12	.22	β = .25	p = .009
2 Ab	3.89 (0.49)			.22**	.24**	β = –.02	p = .85
3 F	4.22 (0.60)				.55***	β = .08	p = .42
4 M	4.27 (0.60)					β = .28	p = .008

Table 1 Descriptive Statistics, Correlations, and Regression of Social Desirable Responding on the Dimensions **(a)** and on the Facets **(b)** (Study 1).
Notes. V = Vertical; H = Horizontal; A = Assertiveness; Ab = Ability; F = Friendliness; M = Morality; * *p* < .05; ** *p* < .01; *** *p* < .001.

Valence of the 20 Horizontal and Vertical items was measured with a 7-point Likert-scale answering format (e.g., *not at all positive* 1 – 2 – 3 – 4 – 5 – 6 – 7 *very positive*).

Self-efficacy was measured by means of a general self-efficacy scale (Schwarzer & Jerusalem, 1999; see Bandura, 1997; 10 items, sample item: 'I have no difficulties in realizing my goals') with a 5-point Likert-scale answering format (e.g., *does not apply at all* 1 – 2 – 3 – 4 – 5 *applies completely*). The internal consistency was Cronbach's α = .86.

Life satisfaction was measured with of the satisfaction with life scale (Diener et al., 1985; German adaptation Janke & Glöckner-Rist, 2014). It comprises five items (sample item: 'in most ways my life is close to my ideals'), which were answered on a 5-point Likert-scale (e.g., *do not agree at all* 1 – 2 – 3 – 4 – 5 *agree very much*) with higher answers indicating higher life satisfaction. The internal consistency was Cronbach's α = .77.

Participants answered the self-evaluations, and life satisfaction in a first session, item valence in a second session, and self-efficacy in a third session, always separated by one week. The number of participants was *N* = 125 in sessions 1 and 2 and dropped to *N* = 119 in session 3.

RESULTS AND DISCUSSION

Participants rated themselves higher on the Horizontal, than the Vertical dimension, *t* (124) = 7.80, *p* < .001,

Cohen's *d* = 0.70. Within dimensions, they rated themselves higher on Ability than Assertiveness, *t* (124) = 4.79, *p* < .001, Cohen's *d* = 0.43, but similar on Morality and Friendliness, *t* (124) = 1.18, *p* = .24, Cohen's *d* = 0.11, (means see Table 2).

Valence of the Horizontal dimension was more positive than that of the Vertical dimension, *t* (124) = 14.92, *p* < .001, Cohen's *d* = 1.33. Within dimensions, Ability was rated more positive than Assertiveness, *t* (124) = 9.73, *p* < .001, Cohen's *d* = 0.87, and Morality was rated more positive than Friendliness, *t* (124) = 6.51, *p* < .001, Cohen's *d* = 0.58, (means see Table 1). All ratings were on the positive side of the response scale, all *t* (124) > 16.00, *p* < .001, Cohen's *d* > 1.43. Table 2 shows the correlations between item valence ratings and the self-ratings on the dimensions (Table 2a), and on the facets (Table 2b).

Participants who evaluated the items of the Horizontal dimension more positive also evaluated themselves more positive on this dimension, and the same applies to the Vertical dimension. Regarding the facets, the associations between valence ratings and self-ratings were also positive for Assertiveness and Friendliness, further Ability, but not for Morality.

Table 3 shows the findings on self-efficacy. Supporting our assumption, only Vertical was correlated, and for the facets, only Assertiveness was correlated with self-efficacy.

(a)			
VARIABLE	***M (SD)***	**CORRELATIONS WITH SELF-EVALUATION**	
		V	**H**
Valence items V	5.30 (0.59)	.31***	–.10
Valence items H	6.21 (0.53)	–.10	.30***
Self-rating V	5.08 (0.74)		
Self-rating H	5.81 (0.70)		

(b)					
VARIABLE	***M (SD)***	**CORRELATIONS WITH SELF-EVALUATION**			
		A	**Ab**	**F**	**M**
Valence items A	4.95 (0.65)	.40***	.06	.10	.10
Valence items Ab	5.66 (0.75)	.14	.18*	.05	.13
Valence items F	6.05 (0.61)	–.07	–.05	.41***	.20*
Valence items M	6.38 (0.59)	–.15	–.10	.15	.09
Self-rating A	4.89 (1.00)				
Self-rating Ab	5.27 (0.81)				
Self-rating F	5.75 (0.90)				
Self-rating M	5.86 (0.80)				

Table 2 Valence Ratings and Correlations with Self-Evaluation **(a)** Big Two and **(b)** Facets (Study 2).
Notes. V = Vertical; H = Horizontal; A = Assertiveness; Ab = Ability; F = Friendliness; M = Morality; * *p* < .05; ** *p* < .01; *** *p* < .001.

(a)						
VARIABLE	*M (SD)*	**CORRELATIONS**			**REGRESSION**	
		1	**2**			
Self-efficacy	3.41 (0.65)	.60***	.10		R = .60	$F(2,113)$ = 31.23, p < .001
1 V			.36***		β = .60	p < .001
2 H					β = .03	p = .70
(b)							
VARIABLE	*M (SD)*	**CORRELATIONS**				**REGRESSION**	
		1	**2**	**3**	**4**		
Self-efficacy	3.41 (0.64)	.62***	.31***	.04	.15	R = .64	$F(4,111)$ = 19.08, p = .001
1 A			.27**	.05	.05	β = .58	p < .001
2 Ab				–.04	.23**	β = .13	p = .12
3 F					.48***	β = –.03	p = .69
4 M						β = .10	p = .24

Table 3 Descriptive Statistics, Correlations, and Regressions of Self Efficacy on the Big Two **(a)** and the Facets **(b)** (Study 2).
Notes. V = Vertical; H = Horizontal; A = Assertiveness; Ab = Ability; F = Friendliness; M = Morality; * p < .05; ** p < .01; *** p < .001.

Table 4a (dimensions) and 4b (facets) shows the findings for life satisfaction. The Vertical dimension was correlated with life satisfaction, but not the Horizontal. The facets of Friendliness and Assertiveness showed significant associations. Accordingly, the regression with the dimensions was significant for the Vertical dimension, but not for the Horizontal. The regression with the facets revealed significant beta weights for Assertiveness, Friendliness, and – negative – for Morality. The significant beta weights of Assertiveness and Friendliness support and extend previous findings (Abele, 2014). However, the negative weight of Morality was unexpected. It may partly be explained as a suppressor effect (high correlation Morality – Friendliness), but the simple correlation between Morality and life satisfaction was also slightly negative.

Summarizing, Study 2 participants also rated themselves highest on Morality and Friendliness, lower on Ability and lowest on Assertiveness, but again always above the theoretical mean of the rating scale. The valence ratings of the items supported previous findings (Abele & Wojciszke, 2007; Abele et al., 2009; Suitner & Maas, 2008), since items of the Horizontal dimension were evaluated more positively than those of the Vertical dimension. As a novel finding the data revealed that valence of Morality was rated relatively highest, followed by valence of Friendliness, then Ability and then Assertiveness. All differences were significant, and all means were above the theoretical scale mean. The correlations with self-evaluations were positive, but substantial only for Assertiveness and Friendliness.

In accord with our above reasoning, self-efficacy was predicted by the Vertical dimension and here particularly

by Assertiveness. It was not related to the Horizontal dimension. Life satisfaction was only related to the Vertical dimension, particularly Assertiveness, but not to the Horizontal dimension. This last mentioned finding may be due to the fact that the facets of Friendliness and Morality showed opposite associations with life satisfaction. Particularly the negative association between Morality and life satisfaction warrants further analyses.

The reliabilities of the scales were better than in Study 1, but could still be improved. We therefore decided to include further items for assessing the dimensions/facets in order to increase reliabilities.

STUDY 3
METHOD
Power considerations and sample
Power considerations were the same as before. The sample comprised 122 German Bachelor students (102 women, 20 men; mean age of 21.24 *SD* = 3.96). The data were collected online. We distributed the links in different university lectures. The measures reported here were again part of a larger study with variables not related to the present issues and without any manipulations. Participants received course credit for participation.

Measures
The *Big Two* and their *facets* were measured with the same items as in Studies 1 and 2, but we always included one additional item to increase reliability. Additional items were 'affectionate' (Friendliness, scale: Cronbach's α = .82); 'considerate' (Morality, scale: Cronbach's α = .82); 'have leadership skills'

(a)						
VARIABLE	*M (SD)*	**CORRELATIONS**			**REGRESSION**	
		1	**2**			
Life satisfaction	3.49 (0.69)	.27**	.11		$R = .28$	$F(2,122) = 5.00, p = .008$
1 Vertical			.13		$\beta = .26$	$p = .004$
2 Horizontal					$\beta = .08$	$p = .40$
(b)						
VARIABLE		**CORRELATIONS**				**REGRESSION**
		1	**2**	**3**	**4**	
Life satisfaction		.28**	.15	.22*	−.05	$R = .41$
1 A						$\beta = .23$
2 Ab						$\beta = .14$
3 F						$\beta = .33$
4 M						$\beta = −.25$

(b)						
VARIABLE	**CORRELATIONS**				**REGRESSION**	
	1	**2**	**3**	**4**		
Life satisfaction	.28**	.15	.22*	−.05	$R = .41$	$F(4,120) = 6.01, p = .01$
1 A					$\beta = .23$	$p = .01$
2 Ab					$\beta = .14$	$p = .12$
3 F					$\beta = .33$	$p = .001$
4 M					$\beta = −.25$	$p = .01$

Table 4 Descriptive Statistics, Correlations, and Regression of Life Satisfaction on the Big Two **(a)** and on the Facets **(b)** (Study 2).
Notes. V = Vertical; H = Horizontal; A = Assertiveness; Ab = Ability; F = Friendliness; M = Morality; * $p < .05$; ** $p < .01$; *** $p < .001$.

(Assertiveness, scale: Cronbach's α = .75); and 'clever' (Ability, scale: Cronbach's α = .81). The reliabilities of Vertical and Horizontal were both, Cronbach's α = .87. Presentation format and answering format were the same as in Study 2.

Orientation towards dominance (5 Items; sample item: I make my way even in case I meet an obstacle"; Cronbach's α = .85) was assessed by items of the achievement motivation inventory (Schuler & Prochaska, 2001). The answering format was a 7-point Likert scale (e.g., *does not apply at all* 1 – 2 – 3 – 4 – 5 – 6 – 7 *applies very much*).

Social value orientation (SVO) was assessed with the SVO Slider Measure (Murphy et al., 2011). The measure contains six items that always ask the participant to divide money between the self and another anonymous person. There are nine options per item how the money can be distributed. For each of the items, participants have to write down which options they choose for self and other. The instruction highlights that they are completely free and that there are no 'right' or 'wrong' choices. Two examples:

The individual SVO scores are computed as follows: The mean allocation for self is computed, and the mean allocation for the other is computed. Then 50 is subtracted from each of these means in order to center them. Finally, the inverse tangent of the ratio between these means (centered mean for other divided by centered mean for self) is computed, resulting in a single index of a person's SVO (see Murphy et al., 2011: 773). The more negative the index, the more choices are in favor of the self, the more positive the index, the more choices are in favor of the other.

Finally, we assessed *self-consciousness* with its two subscales of public (14 items, Cronbach's α = .82; sample item: 'It is important for me how others think about me') and private self-consciousness (13 items, Cronbach's α = .80; sample item: 'I am well aware about my plans and goals'; Fenigstein et al., 1975; German: Filipp & Freudenberg, 1989). The answering format was a 5-point Likert scale (e.g., *very seldom* 1 – 2 – 3 – 4 – 5 *very often*).

RESULTS AND DISCUSSION

Participants again rated themselves higher on the Horizontal than the Vertical dimension, t (121) = 8.79,

You receive	85	85	85	85	85	85	85	85	85
Other receives	85	76	68	59	50	41	33	24	15
You:......			Other:.......						
You receive	85	87	89	91	93	94	96	98	100
Other receives	15	19	24	28	33	37	41	46	50
You:......			Other:.......						

$p < .001$, Cohen's $d = 0.80$. Within dimensions, they rated themselves higher on Ability than Assertiveness, $t (121) = 9.12$, $p < .001$, Cohen's $d = 0.83$, but almost the same on Morality and Friendliness, $t (121) = 1.58$, $p = .12$, Cohen's $d = 0.14$ (for means, see Table 5).

Table 5 shows the findings for dominance orientation. As predicted, dominance orientation was only related to the Vertical dimension, and here exclusively to Assertiveness.

Table 6 shows the results for social value orientation. Supporting our prediction, social value orientation was related to the Horizontal, but not the Vertical dimension. The facets of the Horizontal dimension, however, had no differential association with social value orientation.

Table 7 shows the means, intercorrelations and regressions of public and private self-consciousness on the dimensions (Table 7a) and facets (Table 7b). The means of public and private self-consciousness did not differ, $t (121) = 1.19$, $p = .24$, Cohen's $d = 0.11$. As has

(a)

VARIABLE	*M (SD)*	CORRELATIONS		REGRESSION	
		1	**2**		
Dominance Orientation	4.87 (1.12)	.48***	.16	$R = .47$	$F(2,119) = 17.52, p < .001$
1 V	5.05 (0.87)		.38***	$\beta = .49$	$p < .001$
2 H	5.80 (0.80)			$\beta = -.02$	$p = .79$

(b)

VARIABLE	*M (SD)*	CORRELATIONS				REGRESSION	
		1	**2**	**3**	**4**		
Dominance Orientation		.51***	.36***	.16	.13	$R = .51$	$F(4,117) = 1.33, p < .001$
1 A	4.76 (1.02)		.72***	.19*	.30***	$\beta = .52$	$p < .001$
2 Ab	5.35 (0.86)			.31***	.52***	$\beta = -.02$	$p = .90$
3 F	5.74 (0.93)				.62***	$\beta = .04$	$p = .66$
4 M	5.85 (0.85)					$\beta = -.01$	$p = .92$

Table 5 Descriptive Statistics, Correlations, and Regressions of Dominance- and Status-Orientation on the Big Two **(a)** and the Facets **(b)** (Study 3).
Notes. V = Vertical; H = Horizontal; A = Assertiveness; Ab = Ability; F = Friendliness; M = Morality; * $p < .05$; ** $p < .01$; *** $p < .001$.

(a)

VARIABLE	*M (SD)*	CORRELATIONS		REGRESSION	
		1	**2**		
Social Value Orientation	0.56 (0.21)	–.07	.20*	$R = .26$	$F(2,119) = 4.23, p < .02$
1 V			.36***	$\beta = -.18$	$p = .07$
2 H				$\beta = .27$	$p = .006$

(b)

VARIABLE		CORRELATIONS				REGRESSION	
		1	**2**	**3**	**4**		
Social Value Orientation		–.10	–.03	.19*	.17*	$R = .26$	$F(4,117) = 2.08, p = .09$
1 A						$\beta = -.11$	$p = .38$
2 Ab						$\beta = -.08$	$p = .61$
3 F						$\beta = .16$	$p = .25$
4 M						$\beta = .15$	$p = .20$

Table 6 Descriptive Statistics, Correlations, and Regressions of Social Value Orientation on the Big Two **(a)** and the Facets **(b)** (Study 3).
Notes. V = Vertical; H = Horizontal; A = Assertiveness; Ab = Ability; F = Friendliness; M = Morality; * $p < .05$; ** $p < .01$; *** $p < .001$.

(a)

VARIABLE	M (SD)	CORRELATIONS		REGRESSION	
		1	**2**		
Public Self-consciousness	3.50 (0.54)	−.12	−.05	R = .12	F < 1
1 V				β = −.12	p = .22
2 H				β = .01	p = .94
Private self-consciousness	3.57 (0.55)	.25**	.19*	R = .27	F(2, 119) = 4.63, p = .01
1 V				β = .21	p = .03
2 H				β = .11	p = .26

(b)

VARIABLE	CORRELATIONS				REGRESSION	
	1	**2**	**3**	**4**		
Public Self-consciousness	−.16	−.06	−.04	−.06	R = .20	F(4,117) = 1.09, p = .54
1 A					β = −.26	p = .055
2 Ab					β = .16	p = .28
3 F					β = .−.07	p = .60
4 M					β = .00	p = .98
Private self-consciousness	.18	.30**	−.04	−.06	R = .31	F(4,117) = 3.05, p = .02
1 A					β = −.07	p = .58
2 Ab					β = .32	p < .03
3 F					β = .05	p = .73
4 M					β = .03	p = .82

Table 7 Descriptive Statistics, Correlations, and Regressions of Self-Consciousness on the Big Two **(a)** and the Facets **(b)** (Study 3). *Notes.* V = Vertical; H = Horizontal; A = Assertiveness; Ab = Ability; F = Friendliness; M = Morality; * *p* < .05; ** *p* < .01; *** *p* < .001.

been suggested above, private self-consciousness was predicted by Vertical and specifically the Ability facet. Public self-consciousness was neither predicted by the dimensions nor the facets.[3]

Summarizing, the reliabilities of the scales with five items each were good. Participants again rated themselves highest on Morality and Friendliness, lower on Ability and lowest on Assertiveness, but again always above the theoretical mean of the rating scale. Dominance orientation was exclusively predicted by Vertical and its facet of Assertiveness. Social value orientation was exclusively predicted by Horizontal, and the facets had no differential impact. Finally, private self-consciousness was related to Vertical, particularly the Ability facet. Public self-consciousness was independent of self-evaluation on the dimensions/facets.

GENERAL DISCUSSION

Main issues of the present research were further analyzing the two-dimensions/ four-facets model with special emphasis on the explanatory power of the facets;

and further testing the nomological network of the Big Two and their facets.

THE TWO-DIMENSIONS/FOUR-FACETS MODEL

The present research revealed supporting evidence for the validity of the two-dimensions/four-facets model: Inspecting the intercorrelations between the facets, all three studies revealed that the facets belonging to one dimension (Ability and Assertiveness; Friendliness and Morality) correlated higher among each other than the facets belonging to different dimensions (see Tables 1b, 3b, and 5b). Whereas the 4-item scales applied in Studies 1 and 2 showed relatively low reliabilities particularly of the Vertical dimension and its facets, the 5-item scales used in Study 3 revealed good reliabilities. Taken together with previous evidence (Abele et al., 2016) as well as theoretical and empirical reasoning (Abele et al., 2021; Koch et al., 2021) the present research supports our conceptualization.

As has been outlined in the introduction, different conceptualizations of components of the Big Two have been suggested and empirically demonstrated (for instance, Brambilla et al., 2021; Carrier et al., 2014;

Ellemers, 2017; Koch et al., 2016). We are confident that most of these conceptualizations are compatible with the present one (Carrier et al., 2014: 'Agency' with present 'Assertiveness'; Brambilla et al., 2021, Ellemers, 2017: 'morality' with present Morality, 'sociability' with present 'Friendliness') – at least for some of the facets – and future research will have to test if the four-facet model is both parsimonious and sufficient to cover the main thread of the Big Two dimensions.

EXPLANATORY POWER OF THE DIMENSIONS/ FACETS

There is a long research tradition which has demonstrated the usefulness of the Big Two Horizontal and Vertical dimensions in social evaluation research (overviews Abele & Wojciszke, 2014, 2018; Abele et al., 2021; Fiske et al., 2007; Koch et al., 2021; Paulhus & Trappnell, 2008; Yzerbyt, 2018; Yzerbyt et al., 2005). The present findings add to this rich literature. Self-evaluations on Vertical and Horizontal are meaningfully related to, for instance, item valence (more positive evaluation of trait items belonging to one dimension is associated with more positive self-evaluation on this dimension – and vice versa), social desirable responding (correlation with both dimensions), self-efficacy beliefs and dominance orientation (people who rate themselves high on Vertical show higher self-efficacy beliefs and higher dominance orientation), and social value orientation (people who rate themselves high on the Horizontal dimension show more prosocial allocation decisions), but also to more remote constructs like life satisfaction and private self-consciousness (both related to Vertical). We conclude that the Big Two conceptualization again proved useful. In many cases assessing the Big Two may be sufficient (see, for instance, the highly influential stereotype content model, Fiske et al., 2007; see the dimensional compensation model, Yzerbyt, 2018, Yzerbyt et al., 2005; or the dual-perspective model, Abele & Wojciszke, 2007).

A further look at the present findings shows that in quite a few cases the relationship between the dimensions and certain criterion variables becomes clearer when the facets are distinguished. Social desirable responding being a motivational construct is most related to Morality and Assertiveness, also being motivational constructs. Trait valence ratings are related to three of the four facets of self-evaluation, but not to Morality.[4]

Except from social value orientation,[5] all further criterion measures analyzed here showed differential relationships to the facets: self-efficacy and dominance orientation were more related to Assertiveness than Ability; private self-consciousness was more related to Ability than Assertiveness; life satisfaction was more related to Assertiveness than Ability, and positively related to Friendliness, but slightly negative to Morality. We conclude that an analysis of the facets in addition

to the dimensions is helpful in many cases. This conclusion matches the results of experimental studies distinguishing between morality and sociability (review see Brambilla et al., 2021) or between competence and agency (Carrier et al., 2014). They show that the criterion variables are differently related to these components. However, to our knowledge no experimental study until now tested all four facets simultaneously.

THE NOMOLOGICAL NETWORK OF THE DIMENSIONS/ FACETS WITH RESPECT TO SELF-EVALUATION

The present findings are well compatible with the general characterization of the Vertical dimension as 'getting ahead', and the Horizontal dimension as 'getting along'. Vertical 'getting ahead' is associated with self-efficacy, dominance orientation, private self-consciousness, and general life satisfaction. Horizontal 'getting along' is associated with prosocial value orientation and – in part – with life satisfaction.

Assertiveness is the Vertical facet that has most to do with a positive self-view (here: association with self-efficacy; in the literature: association with self-esteem, Abele & Hauke, 2019) and with the motivation to actively pursue one's goals – irrespective of obstacles (see association with dominance orientation). Moreover, it is associated with a positive evaluation of one's life more generally, as shown in the association of Assertiveness with life satisfaction. We conclude that the present findings add to the conceptualization of Assertiveness as motivational/volitional and as a positive self- and life-view.

Ability as the second Vertical facet is less related to valence (both item valence and social desirable responding) than Assertiveness. It is positively related to self-efficacy, but again less so than Assertiveness, and it is barely related to dominance orientation. The only higher relationship of Ability with a criterion variable was private self-consciousness. Ability seems to be less an evaluation of one's motivation/volition, but more of one's cognitive and reflexive state. As such it is less related to valence (both item valence, social desirable responding, and life satisfaction; see also less association with self-esteem; Abele & Hauke, 2019) than Assertiveness. We conclude that these findings support the conceptualization of Ability as less motivational than Assertiveness and as primarily related to cognitive evaluation.

Coming to the Friendliness facet, it is a positively evaluated facet, as the substantial correlations with item valence, but also with social desirable responding show. In the same vein, it is positively related to life satisfaction. Knowing that life satisfaction is highly correlated with being integrated into good and satisfying social relationships (Abele, 2014; Diener, 2012) this positive association fits life satisfaction and happiness research.

The positive correlation with social value orientation points into the same direction. We conclude that Friendliness is at the core of the Horizontal dimension of 'getting along'.

The Morality facet shows the strongest correlation with social desirable responding. One interpretation of this finding could be that self-evaluations on Morality should be treated with caution, because they are biased by social desirable responding. However, Morality is positively related to social value orientation, and this finding contradicts a purely biased self-evaluation of Morality. Morality is not related to item valence, and it is also not related to other positive evaluations of the self (self-efficacy) or one's life (life satisfaction). Previous findings (Abele et al., 2016) had already shown that Morality is less related to agreeableness and extraversion than Friendliness. We conclude that Morality might be the facet that is most responsive for social desirable responding. However, further research with criterion variables more specifically related to Morality should replicate and extend this finding. At present, it seems that self-evaluations on Morality are still not fully understood.

FURTHER RESULTS

The present valence findings once support previous data on the higher positivity of the Horizontal than the Vertical dimension (Abele & Wojciszke, 2007; Abele et al., 2009; Suitner & Maas, 2008), and on the other hand also differentiate them: All facets were rated above the midpoint of the theoretical scale, and Morality was rated most positively, then Friendliness, then Ability and then Assertiveness. Throughout the three studies, the same also applied to self-ratings: highest on Morality, then Friendliness (however, not significantly different from Morality), then Ability, and then Assertiveness. Comparable to previous research (Abele & Hauke, 2019: self-esteem), self-rated Assertiveness was relatively lowest, but correlated highest with further positive self- and life-evaluations.

LIMITATIONS AND FURTHER RESEARCH PERSPECTIVES

Three limitations of the present research should be addressed: First, whereas previous research has already tested the two dimensions/four facets model by means of confirmatory factors analyses (Abele et al., 2016), the present paper relied on more simple methods, such as reliability analyses and analyses of scale intercorrelations. Further research might include more sophisticated methods again. Second, we here explored the dimensions/facets model for self-evaluation. There are already some findings on the usefulness of the approach with respect to the evaluation of others (Abele & Hauke, 2019), but no research yet analyzed the evaluation of groups on all four facets. It might be worth studying if the four facet differentiation of the basic dimensions adds to

our understanding of the evaluation of groups. A third limitation is focus on the German language. However, previous international research in different languages showed (Abele et al., 2016) that findings are comparable across languages, although specific items cannot be literally translated but rather have to be transformed and adapted with respect to meaning.[6]

Two research perspectives can be directly derived from the present studies: First, the two dimensions/four facets model should be studied for further targets of evaluation, particularly groups. Second, the nomological network of the facets should be further studied. Particularly the facets of the Horizontal dimension, and here specifically the Morality facet seem worth more studying.

CONCLUSION

Three studies on self-evaluation tested the Big Two approach of social evaluation as extended in the Big Two/ four facets model. We found supporting evidence for this Big Two/ four facets model, both for the construct validity of the Vertical ('getting ahead') and the Horizontal dimension ('getting along'), and for the construct validity of the facets. The vertical facets of Assertiveness and Ability are differently related to more motivational (self-efficacy, dominance orientation) versus cognitive (private self-consciousness) constructs, and the Horizontal facets of Friendliness and Morality are differently related to general evaluation (item valence, social desirable responding, life satisfaction), but not to social value orientation. Further research should test the present conceptualization with respect to different targets and should more deeply study the Horizontal facets.

NOTES

1 In the 2016 research we denominated the Big Two as agency and communion and the facet of Friendliness as warmth and the facet of Ability as competence. The present names were chosen because the facets should not be mixed up with the warmth and competence dimensions in other models and the Big Two and their facets should be labelled as suggested in Abele et al., 2021.

2 Some of the Big Two data of the present studies were included in Abele & Hauke, 2019. However, the associations with the further measures reported here were not published before.

3 The correlation between private and public self-consciousness was, $r = .27***$. All other correlations between the criterion variables in Study 3 were not significant and $r < .17$.

4 It might be argued that this is due to lower variance and extremely positive evaluations of Morality trait words. However, at least the variances of Morality ratings are barely lower than those of the other ratings (see Table 2). This finding has to be replicated and should be analyzed further.

5 It may be asked why social value orientation was not differentially predicted by the facets of the Horizontal dimension. One explanation could be that both Friendliness and Morality induce an individual to behave prosocial, e.g., to share between self and other in a fair way. Another explanation could be that the instruction of the SVO measure specifically induces participants to feel perfectly free, there is no one 'correct' allocation decision, and the 'other' to whom 'money' can be

allocated is completely anonymous. Future research should further test the differential predictive power of Friendliness versus Morality in social decision making.

6 It might also be argued that we had no negative items to assess the dimensions/facets. Even if all scale means of items' valence were above the theoretical scale value, we nevertheless asked our participants to rate themselves on bi-polar scales which had the negative end of the respective item on one side and the positive on the other side.

ETHICS AND CONSENT

All studies reported in this paper have been performed according to APA ethical standards for the treatment of human subjects. Since data collection was anonymous and involved no identifying information and no medical treatment, no ethics approval for the study was needed according to the guidelines of our university. Participants were informed that their participation was voluntary, that they could cancel their participation at any time, and that their data would be treated anonymously. The informed consent of the participants was implied through participation.

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COMPETING INTERESTS

The author has no competing interests to declare.

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