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Tell me who You are and I'll Tell You what You are Worth: The Role of Societal Value in the Structuration of Six Facets of the Big Two

LAURENT CAMBON

RESEARCH ARTICLE

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ABSTRACT

This paper aims to show that six facets of the big two can be prioritized according to their societal value (that is, the value related to the society's perceived main requirements), and that knowledge of this value differential could serve as a basis for trait inferences. The first two studies revealed the hierarchical organization of facets by asking participants to judge a) the societal value of these traits (study 1); and b) the targets known by indices of their societal value on traits accounting for the six facets (study 2). The last two studies examined how people's inferences between traits were affected by this evaluative hierarchy. Study 3 tested the correlations between all pairs of facets by asking participants to describe an acquaintance using a set of traits accounting for two facets. Study 4 asked participants to rate the similarity between 66 pairs of traits crossing all the facets. The results showed that, as predicted, trait inferences were structured by the societal value of the facets and were organized in a circumplex-like structure. The discussion focused on how societal values emanate from the economic prioritization of traits in society and how they permeate people's representations.

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Saying that someone is *charismatic*, more than other positive traits such as *painstaking* or *sensitive*, undeniably communicates an idea of her rank, or of the *value* she has in society. Knowledge of this trait infers that she is a person of worth, such as the manager of a high-tech business. This inference of worth has nothing to do with personal taste, as whether or not someone likes charismatic people, most are aware that these people are generally held in high regard in society. Similarly, knowing a person's *charisma* seems to more easily call up a trait of similar value, *brilliant*, than a trait of lesser value like *painstaking*. These examples illustrate the basic idea of this paper, which is that a) facets of the big two can be prioritized according to their societal value; and b) knowledge of this value differential could serve as a basis for trait inferences. It is important to emphasize that the conception of traits developed in this paper stress the ideological character of trait inferences and thus directly opposes the naive conception of personality in which trait inferences are assumed to reflect intrinsic properties, a conception likely to lead to the essentialization of people's behaviors. In the discussion that follows, I will introduce the literature on facets before discussing their societal value and the impact on people's perceptions of personality.

FACETS OF THE BIG TWO

Abele et al. (2016) were the first to validate a decomposition of the big two in facets of assertiveness (A, leader, self-confident) and competence (C, competent, efficient) for agency, and of morality (M, moral, trustworthy) and warmth (W, warm, nice) for communion. However, other facets have also appeared in the research effort on the decomposition of the big two. Concerning the agency dimension, building on the classical distinction between ability and effort made by Heider (1958) and Weiner (1986),¹ Louvet et al. (2019), following Cohen-Laloum et al. (2017) and Rohmer and Louvet (2013), proposed and showed that an effort (E, industrious, conscientious) facet could be fruitfully added to agency. As for communion, several papers (Kim & Rosenberg, 1980; Rosenberg, 1977) showed, based on content analyses of free-response data, that communion content could be broken down into morality, warmth, but also solicitude (S, sensitive, charitable). These research efforts are worth mentioning because, contrary to most studies on person perception, they do not impose the researcher's ideas onto the participant's responses, and thus provide more comprehensive results to span the domain of content in person perception. Solicitude is particularly important because it aggregates the most stereotypically feminine traits referring to sensitivity and care, which were either absent in previous work on the big two or merged with W traits, even though S traits have

been shown to be independent from them (Hentschel et al., 2019). In this manuscript, I thus propose to add the two facets of E and S to the four-facets model of Abele et al. (2016) because doing so allows a) a wider range of the possible meanings taken by agency and communion to be covered and, as will be further developed in the next section, b) to examine the hypothesis of a linear trend in societal value.

I derived a definition of these facets from Abele et al.'s (2016) definition of agency and communion as qualities relevant in a) goal attainment, and b) the establishment and maintenance of social relationships, respectively. As for agency, relying on considerations drawn from goal theories (Kruglanski, 1996) that goal attainment involves the three stages of goal setting, execution, and commitment, I define A as the motivation and ability to set goals, C as the ability to achieve tasks needed to attain the goals, and E as the commitment to the attainment of goals. As for communion facets, following Abele et al. (2016), I define them as the ability and motivation to a) secure reliable and principled relations with; b) foster and build fluid relations with; and c) understand and take care of others, respectively for M, W, and S. The pilot studies presented in this paper aimed to gather preliminary evidence of the validity of the six-facets model of the big two.

VALUE OF FACETS

In the psychological literature, the evaluation of people, and of their psychological traits, is generally considered to be an individual, affect-based process by which the value of a trait is mainly derived from the individual's own interests and goals (Higgins, 2007). This position is well summarized in Peeters' (1986) concepts of other-profitability (reflecting the perceived adaptive value of a trait for others who are dealing with the possessor of the trait) and self-profitability (reflecting the perceived adaptive value of a trait for the possessor of the trait). When judging traits through this individual lens, that is, when adopting what Nicolas et al. (2021) recently called a relational goal, communion traits are considered more valuable and important than agency traits, a phenomenon known as the primacy of communion (Abele & Wojciszke, 2014).

However, a trait's value could also be independent of personal feelings or interests and be the result purely of knowledge of the value that society attributes to it, that is, its societal value. Societal value can be considered as an instance of what Heider called an 'ought' judgment, that is a 'requirement of a suprapersonal objective order which has invariant reality, and whose validity therefore transcends the point of view of any one person' (Heider, 1958: 222). Thus, the societal value of a trait refers to its perceived benefit for society and is based on how well

that trait meets the perceived requirements of society (its ideology). To identify the kind of traits which is valorized from this societal point of view, it is thus necessary to determine the principal requirements of most Western, liberal, capitalist societies. In this paper, I argue that one of the main requirements of these societies is the economic imperative to produce added value by encouraging people to work hard, to pursue economic growth and financial profit, to be competitive and focused on self-interest; imperatives that has been already suggested by several scholars (Adams et al. 2019; Kasser et al., 2007). Such a focus on economic imperatives implies that the societal value of traits must be understood in the quasi-economic sense of market value (Dubois & Beauvois, 2012).² Two important points need some clarification before proceeding any further. First, saying that the economic imperative ("be productive") is a major requirement of today's capitalist societies does not mean that it is the sole one. Of course, there are other imperatives, such as moral ones, that can serve as a basis for judging people's societal value. It is likely that the type of imperative activated at any given time is highly dependent on the situation. For example, judging the societal value of a person in an informal intimate relationship (formal job relationship) would probably be based more on a moral (economic) imperative than on an economic (moral) one. What I am arguing here is that when asked to report the societal value of people in general (not in a particular situation), what comes most readily to people's minds in most capitalist societies is the requirement that is most socially reinforced (in the media, in formal education, and perhaps also through evaluative practices), that is, the economic one. Secondly, in contrast to social functionalism wherein societal requirements are conceived as the result of adaptative principles, the present conception of societal value is historically situated, that is, societal value is conceived as dependent on the requirements put forward by a society at a given time and how they are perceived by people.³

At first sight, the requirements of the capitalist functioning (working hard, pursuing economic growth and financial profit, being competitive and focused on self-interest) seems to correspond quite well with the content of agency traits. Thus, judging traits through the lens of societal value should reveal agency traits to be more valorized than communion traits. A first indication of this hypothesis comes from studies adopting a more structural orientation, that is, getting an overview of society (Nicolas et al., 2021), for example by asking participants to describe targets associated with different positions in the social hierarchy. And indeed, a set of studies asking participants to adopt such a structural orientation showed that the higher the social status of

the target, the higher (lower) her agency (communion) (Carrier et al., 2014; Cejka & Eagly, 1999; Johannesen-Schmidt & Eagly, 2002; Louvet et al., 2019; Milhabet et al., 2020; Mollaret & Miraucourt, 2016). However, the societal value of agency traits can only be *inferred* from these studies. In the present paper, study 1 tests the societal valorization of agency traits by *explicitly* asking participants to estimate the trait's societal value. For the sake of comparison, study 2 will use the same structural orientation paradigm as used in the studies cited above.

But what about the hierarchization of facets? In relation to agency, several studies have suggested that the facets of A, C, and E, were prioritized regarding their societal value, A being more valorized than C, and C more than E (Carrier et al., 2014, Mollaret & Miraucourt, 2016; Cohen-Laloum et al., 2017; Louvet et al., 2019; Milhabet et al. 2020). One explanation for this prioritization was that these facets were differentially associated with the main requirements of liberal, capitalist societies. Indeed, A traits (ambitious, self-confident, competitive, leader) are typically the most associated with self-interest, and competition, and they are also associated with the highest positions in the production system, such as leadership ones. C and E traits are less saturated with references to self-interest and competition and correspond more closely to abilities associated with lower positions, C being more akin to positions in charge of conception and supervision such as engineers and managers (competent, intelligent, efficient, organized) whereas E corresponds more to positions whose value lie in the commitment to the realization of tasks (conscientious, serious, industrious). The societal valorization of communion facets has seldom been tested. However, their valorization may be inferred from the femininity associated with the facets, as societal value is often inversely related to femininity (Cejka & Eagly, 1999). Thus, M appears to be less feminine than W and S. Indeed, M is close in meaning to conscientiousness (Abele et al., 2016), which is obviously masculine (Zheng & Zheng, 2011). Confirming this indirect evidence, Milhabet et al. (2020) showed that the more wealth was associated to a target, the more it was described with M traits rather than with W traits. Concerning W and S, Hentschel et al. (2019) showed that women were perceived as having more S (concern for others in their terms) than W (sociability in their terms), thus attesting to the greater femininity associated with S compared to W. In summarizing this evidence, I hypothesized that facets would be prioritized in the following order: A, C, E, M, W, S. This hierarchization was expected for positive traits (tested in study 1 & 2, hypothesis 1a), whereas the reverse was hypothesized for negative traits (tested in study 1, hypothesis 1b).

HOW CAN SOCIETAL VALUE IMPACT PEOPLE'S PERCEPTION OF TRAIT ASSOCIATIONS?

If a person is known to be high in the, for example, A facet, what other facet will be more likely to be inferred from (correlated to) this first information? An interesting aspect of the societal value prioritization hypothesis is that it can give an answer to this question by predicting inferences from the proximity of traits' societal value. Indeed, it can lead to hypothesize that traits belonging to facets of close ranks in societal value (e.g., A & C) will be more easily associated in a person's description than traits from facets of more distant ranks (e.g., A & M). This hypothesis derives directly from the recurrent results obtained in the Implicit Personality Theory tradition showing that traits associations were mainly determined by their proximity in evaluative meaning (Kim & Rosenberg, 1980; Rosenberg & Olshan, 1970; Vonk, 1993). Thus, in this paper, I hypothesize that the closer in societal value facets are, the more they correlate in psychological inferences (hypothesis 2a). Moreover, as A, C, E and M, W, S belong to different dimensions, the possibility is that correlations between facets of the same dimension, adjacent in societal value (e.g., C & E, as two facets of agency), will be more closely correlated than adjacent facets belonging to different dimensions (e.g., E & M, belonging to agency and communion respectively, hypothesis 2b). Consideration of the positive and negative poles of the

facets should lead to a pattern of correlations which can be represented in a circular way, such as in Figure 1. Indeed, in such a representation, proximity in space is a function of the correlation between facets, thus, the more correlated two facets are, the closer they will be. It is important to note that in order to give a full account of hypothesis 2b, adjacent facets belonging to different dimensions are farther apart than adjacent facets belonging to the same dimension. I tested these hypotheses in two studies. The first (study 3) dealt only with positive traits and tested the correlations between all pairs of facets by asking participants to describe an acquaintance based on traits accounting for two facets. In the second study (study 4), participants were asked to estimate the similarity between 66 pairs of traits across all the facets, thus integrating positive and negative traits. Moreover, a second aim of study 4 was also to disentangle two possible interpretations of the origin of these inferences. Indeed, one is more likely to infer a C trait than an E trait from a first A trait because, as hypothesized in this paper, A and C are closer in their societal value than A and E are, but this inference may also be privileged because A and C have more similar meanings than A and E. Of course, these two interpretations are reminiscent of the old debate between the evaluative (Rosenberg & Olshan, 1970) and the meaning (Peabody, 1967) hypotheses and they will be tested in study 4 by regressing the perceived similarities into estimates of a) the societal value similarities of facets, b) their semantic relatedness, but

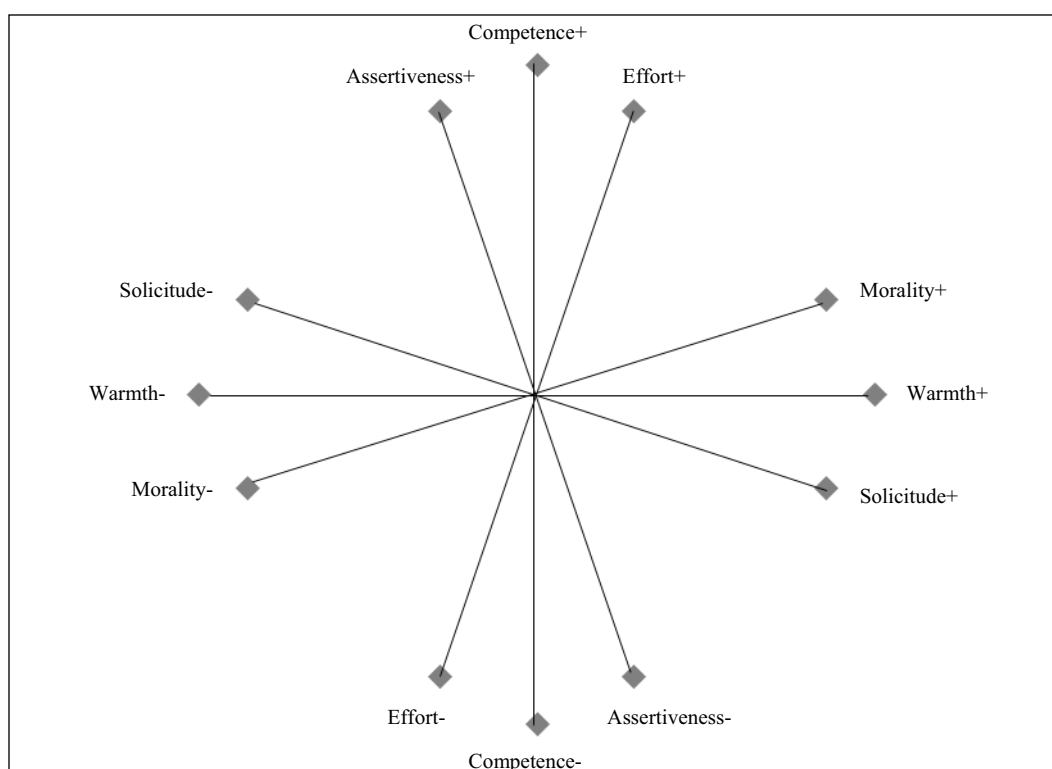


Figure 1 Theoretical 2D representation of the six facets, with the three facets of agency on the vertical axis and the three facets of communion on the horizontal axis.

also c) other potential predictors (likeability and self-profitability). All the data, materials and supplementary analysis relating to the studies are provided in the following online repository: (https://osf.io/k6tqv/?view_only=495225a149de44da8a88f4189f8eaab1).

PILOT STUDIES⁴

Two pilot studies were conducted to select items for each facet. They were drawn from an initial pool of 120 traits extracted from previous research.⁵ The first pilot study exposed participants to the definition of each facet (see the ‘material’ folder in the online repository for details) and asked them to place each trait, presented randomly in a table, into the corresponding category in a paper and pencil questionnaire. A first group of participants was exposed to 60 positive traits and the second group received 60 negative traits. Both groups were composed of 50 students participating for course requirements. The traits were selected if they had been assigned to a facet by more than 70% of participants. Thirty negative traits⁶ and 40 positive traits were thus selected (see the ‘results’ folder in the online repository for details). This first study obliged participants to make a choice, and thus did not capture people’s spontaneous categorization of traits. Thus, a second pilot study, which was preregistered, was set up online on a university website dedicated to internal surveys, to examine people’s spontaneous use of traits by asking 448 volunteer students to describe themselves using a set of 40 positive⁷ traits on a six-point scale ranging from 1 ‘does not describe me at all’ to 6 ‘describes me perfectly.’ These traits were presented in a random manner. I first conducted an exploratory factor analysis using principal axis analysis and an oblimin rotation with the 40 positive items to discover whether these traits resulted in factors corresponding to the six facets. Six factors were extracted, explaining 53.30% of the variance. All items loaded on their expected factor without any cross-loadings >0.30 (see the ‘supplemental material’ in the online repository for details). Next, the five items per facet selected *a priori* (see note 4) were submitted to a confirmatory factor analysis. The results revealed that the theoretically assumed six-factor model (i.e., A, C, E, M, W, S) provided an adequate fit ($\chi^2 = 751$, $df = 390$, $p < 0.001$; CFI = 0.94, TLI = 0.933, RMSEA = 0.045, SRMR = 0.049). This model was also compared to 4- and 2-factor models and proved preferable (see the ‘supplemental material’ in the online repository for details). The items used in the following studies were thus the 30 negative items from pilot study 1 and the 30 positive items from pilot study 2.

STUDY 1

For this initial test of the societal value of facets, I directly asked the participants for the societal value associated with a list of traits. To control for potential confounds, participants were asked to estimate the likeability and self-profitability of each trait.

METHOD

Participants

I inferred the effect size from a prior study (Louvet et al., 2019, study 3) asking participants to estimate the social status of targets known by their scores on the facets of A, C, E, and communion, revealing a two-way interaction of low to medium size ($d = 0.38$). With this effect size, the Pangea Webapp (<https://jakewestfall.shinyapps.io/pangea/>) suggested that a total of 47 participants per cell would be needed to achieve 90% power. To prevent data loss and to take into account an overestimation of the effect size, I planned to contact 300 participants. This study was conducted online on a university website dedicated to internal surveys, and participation was voluntary. This procedure was the same for all studies, and thus is not mentioned again. I stopped collecting data once the expected initial sample was obtained ($N = 300$, 214 females, $M = 20.52$, $SD = 4.40$).

Procedure and design

The participants were shown a list of twelve traits, positive and negative, one trait for each facet, and were first asked to determine their societal value followed by their likeability and self-profitability, the order of these last two tasks being random. The traits were randomly presented, and five different lists were used (see Table 1). Then, the participants completed socio-demographic questions, before the last screen debriefed and thanked them; these two screens were presented in all studies and are thus not mentioned again. The experiment adopted a 5 (list of traits: List 1 vs. List 2 vs. List 3 vs. List 4 vs. List 5) \times 6 (Facet of traits: A vs. C vs. E vs. M vs. W vs. S) \times 2 (Valence of traits: positive vs. negative) design, the first variable being between-participants, and the other traits being within-participants.

Measures

The operationalization of societal value emphasized the trait’s market value. Participants were asked: ‘to what extent is a person possessing this trait societally valorized, how much he/she could earn on a scale going from –50 “very little money” to +50 “a great deal of money”.’ One might argue that this instruction did not really refer to societal value; however, another operationalization, used

LIST	FACET	RANK	TRAIT (FRENCH)	TRAIT (ENGLISH)	SOCIETAL VALUE	LIKEABILITY	SELF-PROFITABILITY
1	A-	1	effacé	self-effacing	-21,52	-17,35	-13,67
1	A+	12	ambitieux	ambitious	36,40	19,18	31,17
1	C-	2	maladroit	clumsy	-20,00	-19,25	-21,83
1	C+	11	compétent	competent	32,62	24,33	31,00
1	E-	3	fainéant	lazy	-19,70	-18,50	-21,00
1	E+	10	travailleur	industrious	30,75	23,47	28,83
1	M-	4	hypocrite	hypocritical	7,47	-28,30	-14,67
1	M+	9	honnête	honest	16,40	25,00	17,00
1	W-	5	vantard	boastful	8,67	-16,70	-1,00
1	W+	8	sympathique	sympathetic	14,88	32,43	25,17
1	S-	6	égoïste	selfish	11,55	-21,45	2,12
1	S+	7	sensible	sensitive	-2,37	18,67	7,00
2	A-	1	soumis	submissive	-27,98	-14,82	-24,57
2	A+	12	compétitif	competitive	36,42	15,98	25,50
2	C-	2	médiocre	mediocre	-26,87	-13,48	-20,98
2	C+	11	intelligent	intelligent	29,75	22,33	24,50
2	E-	3	léthargique	lethargic	-25,45	-15,97	-13,00
2	E+	10	courageux	courageous	17,57	29,17	29,83
2	M-	4	menteur	liar	6,53	-25,72	-7,00
2	M+	9	digne de confiance	trustworthy	16,45	38,83	22,83
2	W-	5	fermé	closed-minded	6,78	-21,85	-14,33
2	W+	8	sociable	sociable	16,13	31,83	23,83
2	S-	6	narcissique	narcissistic	10,95	-18,15	-1,17
2	S+	7	attentionné	considerate	3,33	20,38	17,33
3	A-	1	indécis	undecided	-30,52	-8,68	-9,83
3	A+	12	exigeant	demanding	31,32	16,25	25,50
3	C-	2	incompétent	incompetent	-29,08	-14,85	-23,48
3	C+	11	talentueux	gifted	28,30	9,67	17,62
3	E-	3	apathique	apathetic	-4,85	-14,28	-12,93
3	E+	10	conscientieux	conscientious	21,87	19,50	24,18
3	M-	4	immoral	immoral	2,45	-22,67	-18,58
3	M+	9	juste	fair	7,50	24,32	18,17
3	W-	5	froid	cold	2,67	-19,62	-0,33
3	W+	8	amical	friendly	4,95	30,17	24,33
3	S-	6	blessant	offensive	3,50	-28,17	-10,58
3	S+	7	compréhensif	understanding	1,93	31,17	18,67
4	A-	1	mou	slack	-37,05	-16,00	-20,65
4	A+	12	leader	leader	36,37	15,03	22,68
4	C-	2	irréfléchi	thoughtless	-31,43	-11,33	-11,15
4	C+	11	efficace	efficient	34,07	18,82	21,33
4	E-	3	déconcentré	distracted	-30,30	-7,50	-8,50

(Contd.)

LIST	FACET	RANK	TRAIT (FRENCH)	TRAIT (ENGLISH)	SOCIETAL VALUE	LIKEABILITY	SELF-PROFITABILITY
4	E+	10	persévérant	persevering	31,53	14,02	12,00
4	M-	4	irrespectueux	disrespectful	-23,87	-13,33	-6,17
4	M+	9	franc	frank	14,55	26,35	20,00
4	W-	5	distant	aloof	-7,88	-1,00	1,72
4	W+	8	aimable	kind	14,13	29,57	31,10
4	S-	6	indifférent	indifferent	-0,83	-19,38	-3,67
4	S+	7	dévoué	dedicated	13,97	28,18	14,78
5	A	1	timide	shy	-33,70	-5,97	-5,83
5	A+	12	sûr de soi	self-confident	37,55	12,38	22,92
5	C-	2	inefficace	inefficient	-31,57	-3,23	-14,50
5	C+	11	performant	performing	36,57	16,50	26,50
5	E-	3	désordonné	messy	-26,32	-6,98	-10,22
5	E+	10	motivé	motivated	32,45	20,35	22,00
5	M-	4	impoli	rude	-23,35	-23,35	-17,67
5	M+	9	respectueux	respectful	14,38	27,78	21,67
5	W-	5	désagréable	unpleasant	-17,05	-20,83	1,15
5	W+	8	chaleureux	warm	11,18	33,83	21,50
5	S-	6	insensible	insensitive	17,05	-21,17	-10,83
5	S+	7	charitable	charitable	-3,38	27,65	13,83

Table 1 Traits in French and English with their list number, corresponding facet, theoretical rank in societal value, and their mean societal value, likeability, and self-profitability scores (study 1).

Note: A, C, E, M, W, and S are, respectively, for assertiveness, competence, effort, morality, warmth, and solicitude; + are for positive valence, - are for negative valence. Traits in bold were used in study 2. Scales from -50 to +50.

in a paper in preparation, did not refer to market value⁸ but purely to societal value, and the two instructions correlated highly, $r(33) = 0.92$, $p < 0.001$ (see the 'results' folder in the online repository for details). Likeability and self-profitability were assessed respectively by asking to what extent a person having a given trait was a) likeable (from -50 'very unlikeable' to +50 'very likeable'), and b) beneficial or harmful for the participant (from -50 'very harmful for me' to +50 'very beneficial for me'). The level of agreement of the participants' ratings of traits were high, $ICC(3, k) \geq 0.79$.

RESULTS

I regressed the societal value of the traits onto the valence of traits, facets of traits, and estimations of traits' likeability and self-profitability as covariates, all interactions, with random effects for participants and list of traits using the GAMLj package of Jamovi. The variable *facet* was coded with a set of polynomial contrasts (linear, quadratic, cubic, quartic, and quintic), valence was coded with a simple code (-0.5, +0.5), and covariates were centered. Only the main effect of the valence of traits, and the interaction between facets and valence were significant (see the 'supplemental material'

in the online repository for details). For the sake of brevity, only the expected interaction between the linear contrast for facets and valence will be elaborated, $b = -54.01$, $t(3444.02) = -15.39$, $p < 0.001$. Further probing this interaction, the simple effects of facets of traits was significant for positive, $b = -23.82$, $t(3475) = -8.23$, $p < 0.001$; as for negative traits, $b = 30.18$, $t(3420) = 15.14$, $p < 0.001$. Interactions between other polynomial contrasts for facets and valence were also significant, but their magnitude was half that of the linear contrast (Table 2a). Importantly, none of the covariates had an effect, either in isolation or in interaction.

The hierarchical organization of traits was also tested at the trait level. Mean societal value, likeability and self-profitability scores were thus computed for each trait. Then, they were correlated with the theoretical rank of facets to which each trait belonged (1 to 12 for A-, C-, E-, M-, W-, S-, S+, W+, M+, E+, C+, A+, respectively). Correlations and partial correlations are presented in Table 2b. Globally correlations between all variables were significant and positive. However, when partializing out the other components, only societal value, and to a lesser extent self-profitability were correlated with the theoretical ranking of facets.

	FACETS						SIMPLE EFFECTS OF FACETS
	A	C	E	M	W	S	
Positive valence	36.13a (2.29)	34.22a (2.47)	30.75a (2.78)	15.55b (2.81)	16.72b (4.18)	5.20c (2.53)	Linear: $b = -23.82$, $t = -8.23$, $p < 0.001$; quadratic: $b = 4.32$, $t = 1.50$, $p = .13$; cubic: $b = 12.44$, $t = 4.94$, $p < 0.001$; quartic: $b = 5.14$, $t = 2.20$, $p = .02$; quintic: $b = -1.66$, $t = -0.68$, $p = 0.49$
Negative valence	-30.06a (2.49)	-26.94a (2.57)	-19.37b (2.37)	-8.02c (2.70)	-3.31c (2.10)	8.97d (2.37)	Linear: $b = 30.18$, $t = 15.14$, $p < 0.001$; quadratic: $b = -4.28$, $t = -2.10$, $p = .03$; cubic: $b = -12.10$, $t = -5.81$, $p < 0.001$; quartic: $b = -6.41$, $t = -3.01$, $p = 0.003$; quintic: $b = -2.45$, $t = -1.12$, $p = 0.26$

Table 2a Means (standard errors) and simple effects of facets for the interaction between facets of traits × valence of traits (study 1).

Note: A, C, E, M, W, and S are, respectively, for assertiveness, competence, effort, morality, warmth, and solicitude. For each line, means with different subscripts are significantly different at $p < 0.05$ after applying Bonferroni corrections. Scales from -50 to +50.

	PARTIAL CORRELATION WITH FACETS' RANKING	FACETS' RANKING	SOCIETAL VALUE	LIKEABILITY
Societal value	0.77***	0.93***		
Likeability	0.04	0.73***	0.58***	
Self-profitability	0.42***	0.90***	0.81***	0.88***

Table 2b Partial correlations and correlations between theoretical ranking of facets, societal value, likeability, and self-profitability attributed to traits (study 1).

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. The second (third to fifth) row(s) presents partial correlations (Pearson correlations) between the societal value theoretical ranking of facets and the societal value, likeability, and self-profitability attributed to traits.

DISCUSSION

This study provided initial evidence that the facets of the big two could be prioritized regarding their societal value. More particularly, in the positive domain, A emerged as the most valorized facet, followed by C, E, M, W, and finally, S. In the negative domain, the pattern mirrored that obtained in the positive domain A being the most devalued facet followed by C, E, M, W and S. Although all the pairwise comparisons did not reach statistical significance, the important result is that the expected linear trend was obtained for positive as for negative traits. This result dovetails with and extends those obtained by Louvet et al. (2019) and by Milhabet et al. (2020). Moreover, the present results also showed that societal value was independent from more individual level constructs such as likeability and self-profitability.

STUDY 2

Study 2 aimed to conceptually replicate study 1 in order to test the hierarchization hypothesis in a more indirect way using the social status of a target as an operationalization of societal valorization. A secondary aim was to reproduce the results obtained in initial studies testing the prioritization hypothesis (Carrier et al., 2014; Louvet et al., 2019; Milhabet et al., 2020), extending them to the six facets. Participants were asked to imagine, and describe, the kind of people living in houses illustrating low, medium, or high social

status. Importantly, as descriptions are often fraught with positivity bias, only positive traits were used. Given the societal prioritization of traits, people associated with high (low) social status should be all the more associated with a facet that has a high (low) societal value, thus giving rise to a linear pattern of attribution. In consequence, facet attributions to high- and low-status targets should give rise to two linear relations of opposite directions. A target associated with a medium level of social value was included for exploratory purposes, but it was anticipated that results would lie between high- and low-status targets.

METHOD

Participants

Relying on a previous experiment using a similar design (Louvet et al., 2019, study 2) and with a d of 0.72 for the two-way interaction, the Pangea Webapp suggested that a total of 67 participants would be needed to achieve 90% power for a repeated measure ANOVA. Data collection was stopped once the expected sample was obtained ($N = 70$, 35 females, $M = 22$, $SD = 6.01$).

Procedure and design

Participants were asked to imagine the kind of people living in houses of low, medium, and high social status. They were to describe them on a list of 24 positive traits (see Table 1) illustrating the six facets and to evaluate their social status, and liking. The three pictures and the

traits were randomly presented. The experiment adopted a repeated-measures 3 (social status: low vs. medium vs. high) \times 6 (facets of traits: A vs. C vs. E vs. M vs. W vs. S) design.

Materials

The houses used to operationalize the status of the targets were selected from a pretest⁹ involving 40 participants asked to judge the social status evoked by each house. Two equivalent sets of three houses were selected from this pretest so that, in each set, each house differed from the others on a series of Student *t* tests for paired samples ($M_{list1\ low} = 2.31$, $M_{list1\ medium} = 4.22$, $M_{list1\ high} = 6.16$; $M_{list2\ low} = 2.14$, $M_{list2\ medium} = 4.07$, $M_{list2\ high} = 6.01$).

Measures

For each house, participants were asked to describe the people living in it using four traits for each facet on 7-point scales from 1 (does not describe at all) to 7 (describes perfectly). Then, they had to specify to what extent they liked the person and what his/her social status was on a 7-point scale from 1 (not the kind of person I could like/kind of person with a very low social status) to 7 (definitely the kind of person I could like/kind of person with a very high social status). Consistency of facets, computed for each level of social status, were acceptable ($\alpha_{assertiveness} > 0.85$, $\alpha_{competence} > 0.86$, $\alpha_{effort} > 0.88$, $\alpha_{morality} > 0.82$, $\alpha_{warmth} > 0.88$, $\alpha_{solicitude} > 0.89$).

RESULTS

Preliminary analyses

A first test was conducted to check whether the targets a) were perceived according to their presumed social status, and b) did not differ as to their likeability. Thus, I

submitted mean trait scores to a 3 (social status: low vs. medium vs. high) \times 2 (dimension of evaluation: liking vs. social status) repeated measures ANOVA. The interaction was significant, $F(2,138) = 91.9$, $p < 0.001$, $\eta^2_G = 0.26$, and showed, as expected, that each level of status was perceived as significantly different from every other level in evaluations of status ($M_{low} = 2.91$; $M_{medium} = 4.93$; $M_{high} = 6.64$; $t(69)_{low-medium} = -12.52$, $p < .001$; $t(69)_{low-high} = -18.51$, $p < 0.001$; $t(69)_{medium-high} = -10.36$, $p < 0.001$). For likeability, no differences emerged between the levels ($M_{low} = 4.31$, $M_{medium} = 4.24$, $M_{high} = 4.44$; $t_s < 1.34$, $p_s \geq 0.76$).

Main analysis

I submitted traits scores to a 3 (social status: low vs. medium vs. high) \times 6 (facets: A vs. C vs. E vs. M vs. W vs. S) repeated measures ANOVA. The status, $F(2,138) = 3.52$, $p = 0.032$, $\eta^2_G = 0.008$, facet, $F(5,345) = 88.71$, $p < 0.001$, $\eta^2_G = .12$; and the interaction, $F(10,690) = 89.25$, $p < 0.001$, $\eta^2_G = 0.29$ were all significant. I further probed the interaction with a set of five polynomial contrasts to see whether, as expected, high- and low-status targets were linearly (but in the opposite direction) associated with facets' societal value. Confirming the hypothesis, the linear contrasts for high- and low-status targets were significant and in opposite directions (see Table 3); they were also stronger than any other polynomial contrasts. The analysis for the medium-status target also revealed a linear positive trend, but of lower intensity.

DISCUSSION

Study 2 hypothesized that the attribution of societal value should be proportional to the target's social status. The results confirmed this hypothesis by showing that attributions of traits to targets followed linear trends, such as the more (less) a facet was imbued with societal

	FACETS						CONTRASTS
	ASSERT- IVENESS	COMPETENCE	EFFORT	MORAL- ITY	WARMTH	SOLI- CITUDE	
Low status	3.20ab (0.15)	3.47cd (0.13)	3.93e (0.14)	4.31f (0.11)	4.58fg (0.12)	4.73fhi (0.14)	Linear: $F(1,69) = 51.74$, $p < 0.001$; quadratic: $F(1,69) = 5.19$, $p = 0.02$; cubic: $F(1,69) = 4.33$, $p = 0.04$; quartic: $F(1,69) = 0.99$, $p = 0.32$; quintic: $F(1,69) = 0.04$, $p = 0.83$
Medium status	4.99ghi (0.14)	4.68fh (0.13)	4.55f (0.10)	3.91e (0.11)	3.77de (0.12)	3.25bc (0.12)	Linear: $F(1,69) = 128.33$, $p < 0.001$; quadratic: $F(1,69) = 2.66$, $p = .10$; cubic: $F(1,69) = 0.04$, $p = 0.82$; quartic: $F(1,69) = 0.39$, $p = 0.53$; quintic: $F(1,69) = 14.01$, $p < 0.001$
High status	5.85j (0.13)	5.25i (0.12)	5.02ghi (0.14)	3.52bcd (0.11)	3.27bc (0.13)	2.75a (0.13)	Linear: $F(1,69) = 266.70$, $p < 0.001$; quadratic: $F(1,69) = 0.21$, $p = .64$; cubic: $F(1,69) = 18.71$, $p < 0.001$; quartic: $F(1,69) = 0.14$, $p < 0.70$; quintic: $F(1,69) = 31.28$, $p < 0.001$

Table 3 Means (standard error) and statistics for polynomial contrasts for the interaction between social status and facets (study 2).

Note: Means with different subscripts are significantly different at $p < .05$ after applying Tukey corrections. Scales from 1 to 7.

value, the more (less) it was attributed to a societally valued target. Moreover, the results strengthened the idea that societal value is independent from likeability by showing that targets were equivalent in likeability. Although an alternative interpretation of these results in terms of social-class stereotypes cannot be excluded, I think it is unlikely for at least two reasons. First, research on social-class stereotypes hardly ever reach a consensus on the content of these stereotypes beyond the fact that rich and poor differ as to their competence (Durante & Fiske, 2017). Second, Louvet et al. (2019) and Milhabet et al. (2020) obtained a similar pattern of results as the present one using manipulations of the position in the social hierarchy that cannot be easily equated with social-class stereotypes (i.e., targets a) associated with pictures of offices varying in their prestige, b) endorsing attitudes varying in their social value, respectively).

STUDY 3

The aim of study 3 was to show that knowledge of the societal value differential between traits could serve as a basis for trait inferences. Thus, participants were asked to describe people they knew well with traits extracted from two facets, the evaluative proximity of which was manipulated. I hypothesized that the closer (further) the societal value of facets was, the more positively (negatively) correlated people's descriptions would be (H2a); but that pairs of facets belonging to *different* dimensions (adjacent E–M or one rank apart C–M, E–W) would be less correlated than equivalent pairs of facets belonging to the *same* dimension (adjacent A–C, C–E, M–W, W–S or one rank apart A–E, M–S; H2b). Only positive traits were used, for two reasons. First, people tend to be reluctant to describe others in negative terms, so using

positive and negative traits would have run the risk of leading participants to underplay their evaluations on negative traits, which in turn could have artefactually inflated the correlations between facets. The second reason was that using both traits would have led to the creation of too many conditions (66 instead of 15).

METHOD

Participants

Without previous information on effect size, I computed power analysis using a small d of 0.25. For a two-way interaction and a between-factor design (see the Results section), the Pangea Webapp suggested that a total of 900 participants would be needed to achieve 90% power. To prevent data loss and to take into account overestimation of the effect size, I therefore planned to contact 1000 participants. Data collection was stopped once the expected sample and an equivalent number of participants per conditions were obtained ($N = 1046$, 723 females, $M = 21.42$, $SD = 5.12$).

Procedure

Participants were asked to imagine a person they knew well and to describe her/him based on a set of ten traits exemplifying two facets each. All pairwise comparisons between the six facets were created and a participant was only assigned to one pair. The traits' order of presentation was randomized for each participant.

Measures

Participants made their descriptions on 7-point scales from 1 (does not describe at all) to 7 (describes perfectly). The traits were presented at random. The consistency of each facet for each comparison was computed leading to five tests by facet. Globally, alphas were acceptable (see Table 4).

	COMPETENCE	EFFORT	MORALITY	WARMTH	SOLICITUDE
Assertiveness	0.64a*** $\alpha_A = 0.75$; $\alpha_C = 0.84$ $N = 72$	0.36bc** $\alpha_A = 0.76$; $\alpha_E = 0.82$ $N = 69$	0.06de $\alpha_A = 0.72$; $\alpha_M = 0.91$ $N = 70$	–0.27fgh* $\alpha_A = 0.80$; $\alpha_W = 0.88$ $N = 69$	–0.50h*** $\alpha_A = 0.90$; $\alpha_S = 0.87$ $N = 69$
Competence		0.65a*** $\alpha_C = 0.85$; $\alpha_E = 0.80$ $N = 69$	0.22cde $\alpha_C = 0.87$; $\alpha_M = 0.88$ $N = 69$	–0.11efg $\alpha_C = 0.83$; $\alpha_W = 0.88$ $N = 71$	–0.46h*** $\alpha_C = 0.96$; $\alpha_S = 0.94$ $N = 71$
Effort			0.25cd* $\alpha_E = 0.74$; $\alpha_M = 0.73$ $N = 69$	–0.05ef $\alpha_E = 0.89$; $\alpha_W = 0.85$ $N = 69$	–0.33gh** $\alpha_E = 0.94$; $\alpha_S = 0.89$ $N = 69$
Morality				0.55ab*** $\alpha_M = 0.74$; $\alpha_W = 0.72$ $N = 72$.48ab*** $\alpha_M = .78$; $\alpha_S = .68$ $N = 69$
Warmth					.51ab*** $\alpha_W = .75$; $\alpha_S = .62$ $N = 69$

Table 4 Correlations between facets ratings on assertiveness, competence, effort, morality, warmth, and solicitude (study 3).

Note: Correlations with different subscripts are significantly different at $p < 0.05$ with Fisher's Z. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Cells in light grey are within-dimension adjacent pairs, whereas the cell in dark grey is a between-dimension adjacent pair. Cells in light blue are within-dimension one rank apart pairs whereas cells in dark blue are between-dimension one rank apart pairs.

RESULTS

First, the correlations for each condition were computed. However, with a minimum of 69 participants by condition, this strategy was suboptimal as the necessary sample size to achieve stable estimates for correlations is at least 250 (Schönbrodt & Perugini, 2013). So, I conducted a second analysis in which I grouped the fifteen comparison groups into four conditions as a function of their evaluative proximity (see below).

Correlational analyses

The correlations between all pairs of facets are presented in Table 4. Consistent with hypothesis 2a, the correlations between the facets decreased as a function of their distance in societal value (from left to right and from bottom to top). As a test of hypothesis 2b, I compared the correlations between facets *within* a big two dimension (adjacent A–C, C–E, M–W, W–C, one rank apart A–E, M–S) to the correlations *between* the dimensions of the big two (adjacent E–M, one rank apart E–W, C–M). Confirming the hypothesis, Table 4 shows that out of eight possible comparisons, all the *within-between* dimensions comparisons except one (difference between A–E and C–M) were significant. Moreover, *within* comparisons were always higher than *between* comparisons.

Moderated regression

To further test hypothesis 2a, I restructured the data in order to obtain more observations per condition. I aggregated the pairs as a function of their theoretical proximity of societal value (e.g., A and C are theoretically close in societal value whereas A and S are theoretically considered distant) to obtain a new variable (*distance*) with four conditions: in the first condition, which I called rank 1, I aggregated pairs of facets adjacent to one another in the societal value hierarchy (A–C, C–E, E–M, M–W, W–S); rank 2 aggregated pairs separated by one rank (A–E, C–M, E–W, M–S); rank 3 aggregated

pairs separated by two ranks (A–M, C–W, E–S); and rank 4 aggregated pairs separated by four and five ranks in order to obtain conditions of approximately the same size (A–W, C–S, A–S). Then, I ran a moderated regression regressing the second facet of each pair on the first facet (centered), *distance*, and their interaction. *Distance* was contrast-coded with a set of polynomial contrasts. The hypothesis involved the interaction to establish whether the relation between facets changed from positive to negative as a function of distance. Below, I focus on this interaction, with statistics for all other regression coefficients presented in Table 5. As was predicted, the interaction involving the linear contrast for distance was significant (Figure 2). Simple slopes analysis revealed that the relations between the facets changed from strongly positive for minimal distance (rank 1), $b = 0.51$, 95% CI [0.40, 0.62], $SE = 0.05$, $t = 9.26$, $p < 0.001$, to mildly positive for slightly distant facets (rank 2), $b = 0.18$, 95% CI [0.08, 0.29], $SE = 0.05$, $t = 3.56$, $p < 0.001$, to mildly negative for more distant facets (rank3), $b = -0.11$, 95% CI [-0.21, -0.009], $SE = 0.05$, $t = -2.15$, $p = 0.03$, and to strongly negative for highly distant facets (rank4), $b = -0.34$, 95% CI [-0.43, -0.25], $SE = 0.04$, $t = -7.62$, $p < 0.001$. This pattern shows that people's descriptions of others were affected by the proximity in societal value of the facets.

DISCUSSION

Study 3 represents the first step towards showing that a hierarchical organization of traits' societal value can impact the way people think about others. Indeed, as the structure of the traits given to participants varied in their proximity in terms of societal value, their psychological description of a well-known other changed from a halo-based, undifferentiated description, to a more nuanced, and even contrasting portrayal. The pattern of correlations also showed that participants were influenced by the communion-agency distinction

PREDICTORS	ESTIMATES	SE	95% CI	STATISTIC	p VALUE
Intercept	5.44	0.03	5.38, 5.51	154.40	<0.001
Facet 1	0.06	0.02	0.01, 0.11	2.39	0.017
Distance 1 (linear)	-0.009	0.07	-0.15, 0.13	-0.12	0.89
Distance 2 (quadratic)	-0.12	0.07	-0.26, 0.01	-1.79	0.07
Distance 3 (cubic)	-0.04	0.06	-0.17, 0.09	-0.59	0.55
Facet 1 × distance 1	-0.64	0.05	-0.74, -0.54	-12.65	<0.001
Facet 1 × distance 2	0.04	0.05	-0.05, 0.14	0.91	0.36
Facet 1 × distance 3	0.007	0.05	-0.09, 0.10	0.14	0.88

Table 5 Regression coefficients for the model in study 3.

Note: In this regression, the second member of each pair of facets was regressed on the first member (facet 1) as a function of four conditions of theoretical distances between the facets (rank1 = A–C, C–E, E–M, M–W, W–S; rank2 = A–E, C–M, E–W, M–S; rank3 = A–M, C–W, E–S; rank4 = A–W, C–S, A–S). Distance 1 = linear contrast code for the four rank (-0.67, -0.22, 0.22, 0.67), Distance 2 = quadratic contrast code (0.5, -0.5, -0.5, 0.5), Distance 3 = cubic contrast code (-0.22, 0.67, -0.67, 0.22).

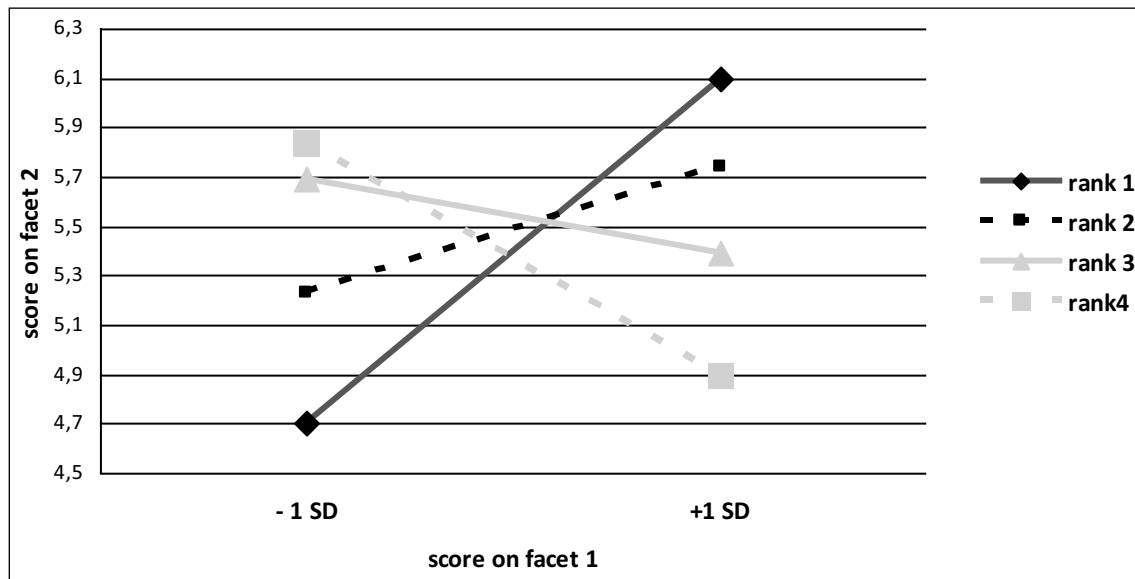


Figure 2 Relation between facets as a function of distance in societal value (study 3)

as their descriptions were more independent when the facets belonged to different dimensions. However, the possibility remains that the range of traits given in study 3 was so narrow (only 10 traits were made available with which to form a description of a well-known other) that it artifactually constrained people's descriptions. So, this experiment was replicated with a wider range of traits.

STUDY 4

Study 4 carried on study 3's goals, using a) positive and negative traits, and b) a different paradigm, leaving more room for people's spontaneous representation of traits' relations. Moreover, this study aimed to examine the circumplex-like structure of the six facets. I expected the circumplex organization to take the form presented in Figure 1, structured by the two dimensions of agency and communion. Finally, study 4 examined which variables, if any, predicted trait associations: societal value, semantic relatedness, likeability, and self-profitability were the major candidates.

METHOD

Participants

As there are no clear guidelines concerning the determination of sample size for multidimensional scaling (Hout et al., 2013), I decided to collect as many participants as possible. The final sample was composed of 198 participants (118 females, $M = 20.96$, $SD = 4.51$).

Procedure

I used a trait-inference paradigm asking participants to estimate the probability of association between 66 pairs of traits crossing all the facets. The pairs were presented at random from the five lists. A participant was only assigned to one list.

Measures

For each of the 66 pairs of traits, participants were asked to answer the following question: 'If a person is ____, what is the probability that he/she is also ____?' where the spaces were replaced by the traits of each pair. They gave their responses on a 7-point scale from -3 (not likely at all) to +3 (extremely likely).

RESULTS

First, the matrix was subjected to multidimensional scaling to establish whether the predicted circumplex organization structured by communion and agency appeared. Second, I regressed the dissimilarities between facets onto societal value, likeability, self-profitability dissimilarities between facets computed from study 1, and semantic relatedness between facets measured by an additional group of 200 participants.

Multidimensional scaling

I calculated the mean associations between each pair of traits across the five lists. In MDS, higher scores are interpreted as dissimilarities; as the scale used in this study equated positive scores to high similarities, the means were reversed by subtracting them to 3, thus obtaining scores of between 0 and 6. A score close to zero (six) meant that traits were strongly associated (dissociated). I subjected this matrix of dissimilarities to multidimensional scaling using the ALSCAL procedure (Young et al., 1978) and assuming an interval scale. The coordinates for the five MDS solutions were estimated, and the first line of Table 6a (in bold) shows the stress (S) and the proportion of original dissimilarity variance accounted for by scaling solution (R^2) for the five solutions. Balancing goodness of fit and ease of interpretation, the 2-dimension solution was the most parsimonious. Table 6b (first column, in bold) and Figure 3 show that the two dimensions could easily be

	SCALING SOLUTIONS				
	5 D	4 D	3 D	2 D	1 D
Perceived similarities					
Stress	0.03	0.06	0.09	0.13	0.52
R²	0.97	0.95	0.92	0.91	0.39
Societal values					
Stress	0.01	0.01	0.01	0.01	0.03
R ²	0.99	0.99	0.99	0.99	0.99
Likeability					
Stress	0.01	0.01	0.02	0.02	0.04
R ²	0.99	0.99	0.99	0.99	0.99
Self-profitability					
Stress	0.009	0.01	0.02	0.04	0.07
R ²	0.99	0.99	0.99	0.99	0.98
Semantic relatedness					
Stress	0.07	0.09	0.14	0.23	0.46
R ²	0.86	0.83	0.76	0.63	0.49

Table 6a Stress and proportion of original dissimilarity variance accounted for by the scaling solution (R²) for different scaling solutions from 1 to 5 dimensions for perceived similarities, societal values, likeability, self-profitability, and semantic relatedness.

Note: According to Kruskal and Wish (1978), stress ≤ 0.20 , ≤ 0.15 , ≤ 0.10 , ≤ 0.05 , ≤ 0.025 may be interpreted as poor, sufficient, satisfactory, good, and excellent, respectively. In bold, are the main results of study 4.

interpreted as communion for dimension 1 and agency for dimension 2. Indeed, the most extreme coordinates for the first dimension correspond to the positive and negative poles of M, W, and S facets, with A, C, and E positive and negative facets lying in between. The reverse is obtained for the second dimension, with A, C, and E positive and negative facets at both ends of the dimension and positive and negative M, W, and S in between. Moreover, at a descriptive level, the facets fell in a roughly circular order, where facets theorized as close in societal value were displayed adjacent to one another (e.g., positive A and positive C) and those hypothesized to be opposite in their societal value (e.g., positive and negative A) were displayed at opposite points on the circumplex. Finally, as predicted by hypothesis 2b, distances between facets belonging to the same dimension (e.g., C & E) fell closer in the space than facets belonging to different dimensions (e.g., E & M).

Determinants of similarities

To determine which, if any, variable predicted the dissimilarities between traits, I regressed the mean dissimilarity scores between traits obtained in study 4 on likeability, self-profitability, and societal value dissimilarities obtained from study 1. For each potential candidate variable, I calculated a dissimilarity score between facets by subtracting the mean score of one facet from the mean score of another facet in absolute

FACETS	PERCEIVED SIMILARITIES		SOCIETAL VALUE	LIKEABILITY	SELF-PROFITABILITY	SEMANTIC RELATEDNESS		
	D1	D2	D1	D1	D1	D1	D2	D3
A+	-0.29	-1.43	1.49	-0.59	1.16	0.60	-1.50	0.11
C+	-0.02	-1.33	1.33	-0.71	1.08	0.55	1.28	-1.04
E+	0.48	-1.16	1.08	-0.86	1.03	1.28	-1.13	0.30
M+	1.40	-0.27	0.47	-1.21	0.82	1.63	0.33	-0.44
W+	1.42	0.03	0.39	-1.37	1.14	1.55	-0.08	-0.44
S+	1.37	0.32	-0.04	-1.05	0.49	1.38	0.88	0.47
A-	0.40	1.27	-1.59	0.78	-1.18	-0.42	1.17	1.39
C-	-0.02	1.47	-1.48	0.77	-1.39	-1.65	0.71	-0.32
E-	-0.54	1.38	-1.17	0.78	-1.07	-1.36	0.06	1.39
M-	-1.43	0.30	-0.46	1.28	-1.06	-1.05	-0.44	-1.28
W-	-1.44	-0.10	-0.24	0.95	-0.45	-1.01	-1.18	0.39
S-	-1.33	-0.48	0.22	1.23	-0.58	-1.50	-0.08	-0.53

Table 6b Coordinates of facets for the best scaling solutions for perceived similarities, societal values, likeability, self-profitability, and semantic relatedness.

Note: A, C, E, M, W, and S are for assertiveness, competence, effort, morality, warmth, and solicitude, respectively; + are for positive valence, - are for negative valence. In bold are the main results of study 4.

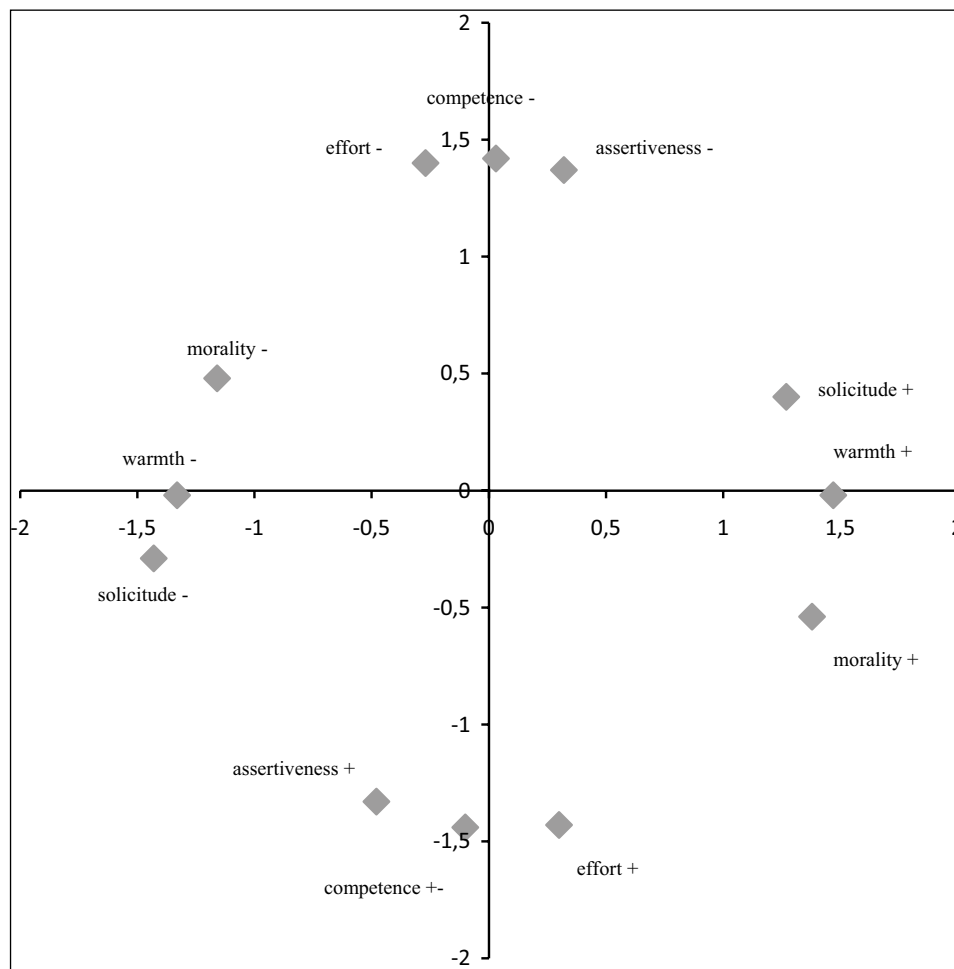


Figure 3 2D space of the six facets (study 4).

value. As the mean trait scores in study 1 ranged from -50 to +50, the dissimilarity scores potentially ranged from 0 to 100 with 0 meaning maximum similarity and 100 maximum dissimilarity. In addition, I asked 200 participants (115 females, $M = 21.44$, $SD = 3.13$) to estimate the semantic relatedness of all pairs of traits. The participants were divided into five groups, each group judging only one list. They were asked to estimate the semantic relatedness of each trait pair on a slider scale from -50 'very dissimilar in meaning, they are antonyms' to +50 'very similar in meaning, they are synonyms'. I transformed these scores into dissimilarity scores by subtracting them from 50, producing scores ranging from 0 to 100 with 0 meaning maximum similarity and 100 maximum dissimilarity (see Table 7 in the supplementary material for descriptive statistics). All these dissimilarity scores were empirically distinct, given that they were obtained from different population and with different procedures. To ensure that a sufficient degree of agreement between them has been attained to render their comparison meaningful, I computed the intraclass correlation coefficient between each pair of dissimilarity scores after having them standardized (ICC; based on absolute value using a two-way mixed effects model where trait pairs were a random selection from

a larger population and differences between ratings under the various instructions were fixed). The ICCs ranged from 0.35 up to 0.85, which suggest poor to good agreement (see Table 7) but most important, they were all significant, which indicated a fair degree of match between each instruction.

The regression model was significant, $R = 0.68$, adjusted $R^2 = 0.45$, $F(4, 325) = 70.60$, $p < 0.001$, and only likeability, $\beta = 0.55$, $t = 8.28$, $p < 0.001$, and societal value of trait pairs, $\beta = 0.41$, $t = 8.12$, $p < 0.001$, revealed significant predictors of dissimilarities between traits ($\beta_{\text{semantic-relatedness}} = 0.07$, $t = 1.63$, $p = 0.10$; $\beta_{\text{self-profitability}} = -0.14$, $t = -1.91$, $p = 0.057$). To further explore these relations, multidimensional scaling applied to the four dissimilarity matrices showed that the best solutions for likeability and societal value scores were closer to the perceived dissimilarities between traits than semantic relatedness scores were (see supplemental material, see also Table 6a and 6b).

DISCUSSION

Study 4's aim was to extend the analysis sketched in study 3 by using positive and negative traits to test the full circumplex organization of facets. The results showed that, as was hypothesized, the facets could be

	MEAN	SD	1	2	3	4	5
Societal value (1)	26.8	19.1	(0.94)	0.35***	0.69***	0.35***	0.63***
Likeability (2)	25.4	17.8	0.21***	(0.97)	0.85***	0.63***	0.72***
Self-profitability (3)	21.8	15.01	0.53***	0.75***	(0.95)	0.60***	0.69***
Semantic relatedness (4)	67.1	12.9	0.21***	0.46***	0.43***	(0.81)	0.53***
Dissimilarity between traits (5)	2.87	1.25	0.47***	0.57***	0.52***	0.36***	(0.97)

Table 7 Means, standard deviations, reliabilities, intraclass correlations, and correlations among dissimilarity scores.

Note: ***p < 0.001. N = 330. Values in parentheses indicate the reliability scores (Cronbach alphas) computed between the five lists for each dissimilarity score. Pearson correlations (intraclass correlations) between the dissimilarity scores appeared under (above) the diagonal.

organized in a circumplex-like structure underlying the two dimensions of communion and agency. Moreover, a regression analysis revealed that the ways in which people considered trait associations were partially determined by the societal value of traits. It is interesting to note that when it comes to the prediction of associations between traits, likeability affects perceived similarities to the same extent as societal value. This result is reminiscent of that reported by Kim and Rosenberg (1980) in showing that the evaluative dimension structuring people's inferences can be broken down into two evaluative content, one referring to sociability and the second referring to success, which could be respectively akin to likeability and societal value. Interestingly, the semantic relatedness of the traits did not predict trait associations. This pattern seems to suggest that when inferring a trait from another trait, people base their inference more on the similarity of value, societal or individual, than on the similarity of meaning. This conclusion is in line with the idea of a primacy of evaluative over denotative meanings in the structure of people's descriptions (Rosenberg & Olshan, 1970). However, this conclusion should be taken with caution as participants' judgments of semantic relatedness appeared to be very dependent on the trait pairs judged. Indeed, even if the reliability between lists was good, interrelations between all lists varied from 0.19 (*n.s.*) to 0.79 for the semantic relatedness instruction whereas it varied from 0.67 to 0.95 for the other instructions.

GENERAL DISCUSSION

This paper aimed at showing that facets of the big two could be prioritized as a function of their societal value, here operationalized in the quasi-economic sense of market value, and that this hierarchization could impact the way in which people describe others. Globally, the results confirmed these two main hypotheses. Through two experiments using different operationalizations, the results consistently showed that facets' societal value could be rank-ordered as follows: A–C–E–M–W–S. These results confirm and extend, by adding an S facet,

the previous research efforts showing the same pattern of hierarchization (Louvet et al., 2019; Milhabet et al., 2020). Moreover, the present paper has shown that the societal value of traits is independent from other, more individually based, forms of value such as likeability and self-profitability. Indeed, the prioritization of facets was not affected by likeability or self-profitability, either in isolation or in interaction. This first set of studies dealt with people's *knowledge* of traits valorization, and the results are largely compatible with a structural goal interpretation (Nicolas et al., 2021), which focuses on the general arrangements of people's environment and which places more importance on agency than communion. However, these studies were silent about people's *endorsement* of this valorization. This is where the second set of studies plays a role. Their aim was to explore whether societal valorization could drive people's descriptions. The results consistently showed that the closer facets' societal value was, the more they were associated in people's descriptions. In addition, they showed that the theoretical structuration of facets in two dimensions also had an impact, as adjacent, or one-rank-apart facets within a dimension were more associated in people's descriptions than equivalent facets between dimensions. Another important result was that trait associations were predicted more by the societal value and likeability of traits than by their semantic relatedness or self-profitability. This result is in line with the main finding arising from the old debate between the 'evaluative' (Rosenberg & Olshan, 1970) and the 'meaning' hypothesis (Peabody, 1967) that trait inferences are massively structured by an evaluative factor (Vonk, 1993). More important for research on facets, this result underscores that although facets refer to different meanings, it is their evaluative connotation which drives people's descriptions. However, this result should be taken with caution as participants' judgements of semantic relatedness were dependent on the specific trait pairs judged.

The paradigms used in studies 3 and 4 typically refer to a relational goal, which should lead to a greater focus on more affective-based forms of value (likeability, self-profitability). However, by showing the massive influence

of societal value in the structure of people's descriptions, the results of study 3 and 4 do not suggest such a relational goal, but rather the activation of a structural goal. Still, it should be noted that the resurgence of likeability as a predictor of trait association could possibly be interpreted as an indication of the activation of a relational goal. Future research should further investigate whether the two goals, or one more than another, affect trait description.

As the aim of this paper was to highlight the societal prioritization of facets and to show how it permeates people's perceptions, a further step would be to investigate the root of the facets' content and valorization. In accordance with Social Role Theory (Koenig & Eagly, 2014), one possible way by which people acknowledge the content and prioritization of facets originates from the association of these facets with occupations and social roles. Therefore, the importance given to the production of added-value in capitalist societies lead to valorize occupations and roles enabling this goal (production roles and mostly male occupations) and devalue those considered as value-consuming (maintenance roles and mostly feminine occupations). Then, it is by the knowledge of these occupations and roles, that people learn to infer, at the same time, the set of behaviors and traits compatible with these (agency and communion traits, respectively), and the value that goes with them.

The current studies, nonetheless, have some limitations. The first issue concerns the representativeness of the facets. Indeed, participants were always constrained to use these facets. Thus, one could question whether these facets would have been spontaneously employed by participants had they been able to use their own traits. One element of response is that although participants' responses were clearly constrained in the present studies, the facets are nevertheless relatively representative because they revolve around recurrent dimensions obtained in various studies using free-response data (Kim & Rosenberg, 1980).

In the same vein, it should be stressed that the validity of the six facets model is only tentative. If the present paper offers some preliminary proof of the structural validity, and of the utility, of the six facets, there is still a long way to go for the model to be properly established. Among other things, future studies should compare in a more systematic way the well-established four-facet structure (Abele et al., 2016) with the present six-facet organization.

Another limitation of the present paper lies in the sample population used (comprising psychology students), which constrains the generalizability of results. Although this is clearly an issue, I argue that using this population makes the results even stronger as the population is probably the least likely to accept the greater societal value associated to agency traits. Indeed,

research has shown that psychology students a) are not responsive to the impact of structural variables, and b) generally favor self-transcendence values and reject self-affirmation ones (Sagiv & Schwartz, 2000), values that correlates with communion and agency respectively.

Finally, it is important to recognize that societal value has been operationalized rather narrowly, that is, as the economic added-value of a trait. Although, I contend this operationalization match with the main requirement of most capitalist societies, a less leading operationalization would have been more appropriate to explore people's genuine perception of the ideology of the society. Even, if this restrictive operationalization seemed to correlate with a more neutral instruction (see note 9), future research efforts should dig deeper into the various meanings people can assign to societal value.

To conclude, the originality of the present results rests on the role played by societal value in the perception of others and of ourselves. It pinpoints the fact that a trait's value is not only the consequence of an affective, individual process, but also of structural determinants such as the value it can have at a given moment in a society. It also stresses the role played by societal value in trait inferences, particularly the fact that societal value can help trait inference by giving clues as to what kind of trait would be acceptable to use in combination with another trait. Thus, characterizing someone as *enterprising* not only implies that the person is liked, but also that that she has worth in our society. Moreover, knowing that *enterprising* is associated with a top position helps to complete her portrayal by preferentially selecting other traits associated with a top position, such as *brilliant*, rather than a trait of similar meaning but of lesser societal value, *industrious*. Such a conception of traits highlights the socially determined root of self- and others-perception and thus can thwart the tendency, in naive psychology, to perceive personality traits as underlying dispositions contributing to the essentialization of social hierarchies (Dubois & Beauvois, 2012).

NOTES

- 1 In his original model of the naïve analyses of action, Heider (1958) posited that *ability* and *trying* are the two personal factors determining intentional action, the latter being split into an intention aspect (what a person is trying to do) and an exertion (effort) aspect (how hard the person is trying). In the same vein, Weiner (1986) pointed out the importance of considering other distinctions beyond the locus of causality (internal versus external) to improve our understanding of causal explanations of success and failure, namely the distinction between two different internal factors: ability and effort.
- 2 The definition of societal value is directly borrowed from Dubois and Beauvois' (2012) definition of social utility. However, I do not use this denomination as it is often confusing due to leading to understanding the concept in its functional sense ('something useful'), which is not its main sense: if a tycoon has undeniably societal value, in the sense of his/her market value, one can question its usefulness.

- 3 For example, in the present conception, the perceived requirements in a communist system would be slightly different from those put forward in the capitalist system: although communist societies also made the need to be productive central, the demands for conformity were probably more important. However, in the 21st century, in a globalized world, there are few alternatives than the capitalist system. So, it is highly likely that the perceived requirements be the same in any society (country).
- 4 Initially, the traits used in this paper were selected from an old, non-published paper which contained what is now pilot study 1 and exploratory and confirmatory factor analyses which were underpowered (210 participants). Following comments by reviewers urging me to bring more recent and reliable data, pilot study 2 was pre-registered (<https://osf.io/yp69e>). An implication of this is that the selection of items for the confirmatory factor analysis was made *a priori* using the traits already used in the four studies, and not, as is usually the case, using the best items resulting from the exploratory factor analysis.
- 5 These articles were: Abele and Wojciszke (2007); Le Barbenchon, Cambon, and Lavigne (2005), and Peeters (1992).
- 6 In fact, 33 negative traits were selected but to keep the same number of traits for each valence, 3 negative items were randomly deleted.
- 7 Only positive traits were utilized because mixing negative and positive traits makes valence salient, thus making the emergence of facets in a factor analysis more difficult. Moreover, participants were asked to describe themselves instead of describing others because self-descriptions were expected to be more elaborated than other-descriptions thus maximizing the chance of appearance of the six facets.
- 8 The instruction was: ‘...to what extent is a person possessing this trait societally valorized. You will report your judgment on a 5-point scale from 1 “is moderately valorized in today’s society” to 5 “greatly valorized in today’s society”.’
- 9 Two sets of photos were used, but as this variable had no effects, I dropped it from further analyses.

COMPETING INTERESTS

[[COMPETING INTEREST STATEMENT TO BE PROVIDED]]

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