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Valence and Efficacy: The Affective Meanings of Human Values and their Relationship to Moral Decisions

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ABSTRACT

Human values and value based judgments are not only based on rationality but are highly emotional by their nature. Like other emotional concepts, human values can not only be rated by their desirability or subjective evaluation, but also by their perceived power, effectiveness, or activity. This aspect has been omitted in previous research. We therefore employed the Semantic Differential to examine the factorial structure of the affective meanings of 15 German-language value terms. The demographically heterogeneous sample comprised N = 274 (N = 136 female; mean age 39.14 years, s = 18.35, range 16...88 years) Austrian and German respondents. In line with our expectations we found two affective dimensions, Valence and Efficacy, which predicted central aspects of value related moral or ethical judgments. We conclude that the previously neglected dimension of Efficacy should be considered in future research on human values. Possible implications for studying consumer decisions or political voting as well as ethical aspects are discussed.

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1.0 INTRODUCTION

During his South America tour Pope Francis I, when speaking in Quito, Ecuador warned against continued exploitation of the rain forest and its inhabitants. "The tapping of natural resources, which are so abundant in Ecuador, must not be concerned with short-term benefits," the New York Times quoted the Pope (Yardley, 2015). According to the same source, in Asunción, Paraguay, Francis called "greed for money" a "subtle dictatorship", which "condemns and enslaves men and women" (Yardley & Appelbaum, 2015) and at Santa Cruz, Bolivia, the Pope expressed his apologies for the offenses of the Roman Catholic Church against South America's indigenous population in past centuries: "I humbly ask

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forgiveness, not only for the offense of the church herself, but also for crimes committed against the native peoples during the so-called conquest of America." (Yardley & Neuman, 2015).

Quite clearly, the Pope judges an unscrupulous pursuit of materialistic and economic goals not only as undesirable, but also as extremely "powerful", and therefore dangerous for the survival of humankind. At the same time, nobody will doubt that the Pope evaluates religious belief and practice in a highly positive way; he is known, however, for the fact that his understanding of Christian faith is rather shaped by humility and charity than by ideas of crusade and conquest, as it was the case with some of his predecessors. Still, the latter were convinced to act in the name of God and probably valued religious belief no less than Pope Francis I.

Both examples illustrate two important aspects of human values and moral or ethical judgment based on these values: (1) Such judgment is not made solely on rational grounds but also is highly emotional by its nature: in many cases, value related judgment can rather be *felt* than argued by "hard facts"; (2) Such judgment does not only comprise a positive or negative evaluation of a concept, but also the attribution of power, strength, activity, efficiency, or potency to it. In the first example, Pope Francis attributes a negative evaluation but high "power" to an unlimited pursuit of personal gain; from the second example it can be seen that, apart from his positive evaluation of Christianity, the Pope's type of religiosity is rather a "modest" than a "powerful" one.

1.01 JUDGMENT CAN RATHER BE FELT THAN ARGUED: EMOTIONAL ASPECTS OF HUMAN VALUES

Human values are abstract guiding motives, reaching beyond specific challenges, aims, and goals, which influence our "selection or evaluation of behavior and events" (Schwartz, 1992, p. 2), especially when it comes to moral decisions. Whereas Kohlberg (1964) had assumed that such decisions were based almost exclusively on intellectual considerations, the *Social Intuitionst Model* (Haidt, 2001) challenged this view by proposing that moral judgment primarily is "caused by quick moral intuitions and is followed (...) by slow, ex post facto moral reasoning" (p. 817) and thus, in part at least is based on emotional or affective motives. Developing this idea further, Haidt and Joseph (2004) and Haidt and Kesebir (2010) established *Moral Foundations Theory (MFT)*, postulating five foundations of morality of different affective content:

1. Harm/care: Concerns for the suffering of others, including virtues of caring and compassion.
2. Fairness/reciprocity: Concerns about unfair treatment, cheating, and more abstract notions of justice and rights.
3. Ingroup/loyalty: Concerns related to obligations of group membership, such as loyalty, self-sacrifice, and vigilance against betrayal.
4. Authority/respect: Concerns related to social order and the obligations of hierarchical relationships, such as obedience, respect, and the fulfillment of role-based duties.
5. Purity/sanctity: Concerns about physical and spiritual contagion, including virtues of chastity, wholesomeness, and control of desires." (Haidt and Kesebir 2010, p. 822).

Moral Foundations Theory emphasizes the importance of the emotional aspects of moral decisions, suggesting that the first two foundations would be related to emotions elicited by an "Ethic of Autonomy" as proposed by Cultural Psychology (Shweder, Haidt, Horton, & Joseph, 2008) and to political liberalism. Conversely, the foundations of Ingroup/loyalty, Authority/respect, and Purity/sanctity put their emphasis on the Ethics of "Community" and "Divinity" in the sense of cultural psychology and on political conservatism (cf., Graham, Haidt & Nosek, 2009).

1.02 THERE IS MORE TO IT THAN EVALUATION: DIMENSIONS OF AFFECTIVE MEANINGS

As values and value related judgment have been shown to be based largely on emotional or affective intuitions, their meaning should be examined from an affective point of view. The "Semantic Differential" (Osgood, Suci, & Tannenbaum, 1957) provides a thoroughly tested theoretical framework

for the study of emotional aspects of verbal concepts. It has been developed from the idea that concepts can not only be described by their "denotative", but also by their "connotative", i.e., affective meanings. For example, a city's "denotative" meaning is its size, population, location etc., whereas its "connotative" meaning may be described by adjectives like (1) "good" vs. "bad" ("Evaluation"), but also by (2) "strong" vs. "weak" ("Potency") and (3) "quick" vs. "slow" ("Activity"). *Affect Control Theory* (Heise, 1979; Rogers, Schröder & Scholl, 2013) proposed and confirmed empirically that adjectives describing objects of any kind tended to group statistically along the three dimensions just mentioned.

Alternatively, according to the *Stereotype Content Model* (Fiske, Cuddy, Glick & Xu, 2002; Cuddy et al., 2009, and previous sources summarized by Fiske, Cuddy & Glick, 2007), interpersonal stereotypes can be grouped along two dimensions, namely "Competence" (C) and "Warmth" (W), which have also been replicated across cultures (Cuddy et al., 2009). The "Warmth" dimension has been shown to correspond to "Evaluation" or "E", and "Competence" to resemble the "Potency" (P) and "Activity" (A) dimensions of Affect Control Theory as measured by the Semantic Differential (Rogers, Schröder & Scholl, 2013).

With respect to the evaluative aspect of human values, Renner (2003a) has shown that the value dimensions found on a lexical basis were largely independent of the Big Five dimensions of personality traits and therefore added information to traditional models of individual differences.

1.03 THE RESEARCH GAP: RATIONALE OF THE PRESENT STUDY

According to Schwartz (1992), values "are ordered by relative importance" (p. 2) when judgments are made. Up to now, research on human values (e.g., Cieciuch, Davidov, Vecchione, & Schwartz, 2014; Inglehart, 2015; Schwartz et al., 2012) and value based judgments (e.g., Haidt, 2013; Haidt & Kesebir, 2010; Suhler & Churchland, 2011) exclusively followed this suggestion of a uni-dimensional appraisal of value related concepts. This may partly be due to the fact that traditionally, moral and ethical judgment has been thought to be based on rational considerations alone. When choosing an emotional or affective approach to morality, however, as outlined in Section 1.2, a two- or three-dimensional model of affective meaning should be considered.

We hypothesize that the subjective affective meaning of value terms will be two- or three-dimensional and that human values, following these dimensions will predict moral or ethical judgment. In other words, we expect that values will be appraised separately with respect to each concept's "Evaluation" (E) (e.g., as "good"), its "Potency" (P) (e.g., "strong"), and "Activity" (A) (e.g. as "excited") (adjectives cited from Rogers et al., 2013, p. 4). Pope Francis I, in his speeches quoted initially, rates destruction of the rain forest in the interest of short-sighted financial gain as negative (E-) and dangerous (P+, A+). He views religious belief as desirable (E+), as long as the Catholic Church does not exert its power against the weak and poor (P-) and remains modest (A-). In another example, a politically liberal person may evaluate "nationalism" negatively (E-), while attributing high Potency (P+) and Activity (A+) to it, i.e., judging "nationalism" as dangerous. In contrast, another politically liberal person may evaluate "nationalism" equally negative (E-), but at the same time judge it as meaningless, outdated and unimportant (P-) as well as passive, inactive, and boring (A-).

Alternatively, a two-dimensional solution, representing the Stereotype Content Model's W and C components is considered, with the C component comprising the A and P dimensions from the Stereotype Content Model.

Therefore, the present study tests the following assumptions: The affective dimensions of human values

(1) are represented by a two- or a three-dimensional model,
(2) predict individual differences in moral decisions,
(3) predict individual differences in political orientations along a continuum of conservatism vs. liberalism (cf., Graham et al., 2009; Haidt & Graham, 2007),

(4) differ by age, gender, and educational level for the evaluative aspect of human values (as it was found for the evaluative aspect of human values by Renner and Salem, 2004), and
(5) are largely independent of personality traits and thus to yield incremental information to conventional models of personality (cf., Renner, 2003a)

We examine these assumptions in a heterogeneous sample of the Austrian population in order to account for a large variety of value related and ideological as well as political orientations. We analyze human value data by Exploratory Factor Analysis (EFA) with respect to their dimensionality and assessed their relationship to moral judgment by correlational a cluster analyses. Results confirm our hypotheses. The two-dimensional factor structure is in line with the Stereotype Content Model and confirms our suggestion to examine values and value related judgment not only by their "importance", but along the affective dimensions of *Valence* and *Efficay*. This finding may be expected to have important policy implications for research on human values, for example in economic and political psychology.

2.0 METHOD

2.01 PARTICIPANTS

First year students of psychology used a snowball technique to acquire a sample heterogeneous with respect to age, gender, and educational level. N = 274 Austrian and German respondents participated, 136 or 49.6% of them were female. Their mean age was 39.14 years (s = 18.35, range 16 to 88 years). Twenty-three or 8.4% of the participants had completed primary school without further education; 77 others (28.1%) had completed vocational school; 100 (36.5%) had completed the equivalent of high school, and 71 or 25.9% had university or comparable degrees. Three participants (1.1%) did not report their educational levels.

2.02 MEASURES[3]

2.2.1 SEMANTIC DIFFERENTIAL

For the Semantic Differential, we used the pairs of adjectives suggested by Schröder (2011) on the basis of Heise's (2001) Internet based collection of affective meanings. Dimension E was represented by pleasant-unpleasant, good-bad, beautiful-ugly, and friendly-unfriendly, Dimension P by large-small, heavy-light, strong-weak, and powerful-gentle; we expected Dimension A to be measured by quick-slow, noisy-quiet, eventful-calm, and by lively-inert. The adjectives were rated on a bipolar nine-point scale ranging from "extremely" over "very", "quite" and "slightly" on the left and the right side, with a neutral point in the center. The instruction read as follows: "On the following pages, please give your ratings of concepts which are related to ideals and personal guiding motives, by which people orient themselves to varying degrees".

As the stimuli whose affective meanings had to be rated, we used fifteen nouns from the Austrian Value Questionnaire (AVQ), which was developed on the basis of a lexical study of German-language values (Renner, 2003a) by Renner (2003b). This questionnaire measures a broad variety of value concepts along five uncorrelated dimensions, which are summarized in Table 1.

Table 1: The factor markers of the five value domains used as the stimuli for the semantic differential. Factor loadings are given in parentheses[a].

Value domains	Factor markers
I. Religiosity	Blessing of God (.90), Firmness of faith (.89), Faith in God (.88)
II. Conservatism	Patriotism (.78), National consciousness (.78), National identity (.76)
III. Materialism	Prosperity (.77), Being well off (.75), Wealth (.68)

[3] All the material was presented in German and can be obtained in its original form from the first author.

IV. Intellectualism	Cultural heritage (.76), Cultural assets (.74), Understanding among nations (.73)
V. Harmony	Community (.71), Desire for peace (.68), Sense of family (.67)

[a] Factor loadings computed by Renner and Salem (2004) from data obtained from a near-representative nation-wide sample (N = 421). The value dimensions are ordered by the amount of variance explained.

In the present study we employed the three highest loading nouns, i.e., the factor markers for each dimension. The five dimensions have only low correlations with personality traits, with the exception of Intellectualism, which correlates positively (r = .39**) and Conservatism (r = - .42**), which correlates negatively and significantly with Openness to Experience (Renner, 2003a).

2.2.2 MORAL FOUNDATIONS QUESTIONNAIRE (MFQ)

The MFQ (Graham et al., 2009) assesses endorsement of the five moral foundations both with regard to personal judgment and to perceived relevance of the foundations by 16 items respectively. The MFQ uses six-point response scales (average α = .73; Graham et al., 2009).

2.2.3 POLITICAL ORIENTATION

We asked participants to report their political orientation on a seven-point scale ranging from 1 = "very liberal" to 7 = "very conservative".

2.2.4 PERSONALITY TRAITS

These were measured by the German version of the Big Five Mini-Markers (α = .73 to .82; Weller & Matiakse, 2008) by rating forty adjectives on seven-point response scales.

3.0 RESULTS

3.01 DIMENSIONALITY

First, from the three respective factor markers of the five domains from the AVQ (cf., Table 1), scales were formed for the five value domains by computing the means of their adjective ratings. These mean ratings of the twelve adjectives pairs were factor analyzed by Principal Components Analysis with Varimax rotation.

The number of factors to be extracted for each of the five value domains was determined by EFA by Cattell's (1966) scree test on the basis of the observed differences of the eigenvalues. For Religiosity the first ten eigenvalues were 6.4, 1.1, 0.7, 0.5, 0.4, 0.3, 0.3, 0.2, and 0.2 and for Conservatism they were 6.2, 2.0, 1.0, 0.7, 0.5, 0.4, 0.3, 0.3, 0.2, 0.2. For the third factor, Materialism, the highest ten eigenvalues read 4.6, 1.9, 1.2, 0.8, 0.7, 0.6, 0.6, 0.5, 0.3, 0.3 and for Intellectualism they were 5.3, 1.9, 1.1, 0.8, 0.6, 0.5, 0.4, 0.4, 0.3, 0.3. Finally, for Factor V, Harmony, the ten highest eigenvalues were as follows: 5.4, 1.8, 1.1, 0.8, 0.6, 0.5, 0.4, 0.4, 0.3, 0.3. In all the five cases, two-factor solutions seemed most appropriate. In addition, parallel analysis (Horn, 1965; O'Connor, 2000) was used to determine the number of factors to be extracted and for all of the five scales a two-factor solution was confirmed.

The rotated component matrices of the two-factor solutions are shown in Table 2.

Table 2: Rotated component matrix for the five values scales and percentage of variance explained by the components[a].

Adjective	Religiosity		Conservatism		Materialism		Intellectualism		Harmony	
	Valence (W)	*Efficacy (C)*	*Valence (W)*	*Efficacy (C)*	*Valence (W)*	*Efficacy (C)*	*Valence (W)*	*Efficacy (C)*	*Valence (W)*	*Efficacy (C)*
pleasant	.857		.933		.861		.836		.815	
large	.827		.810	.304	.422	.477	.740	.315	.667	
quick	.338	.698	.491	.453		.628		.624		.538

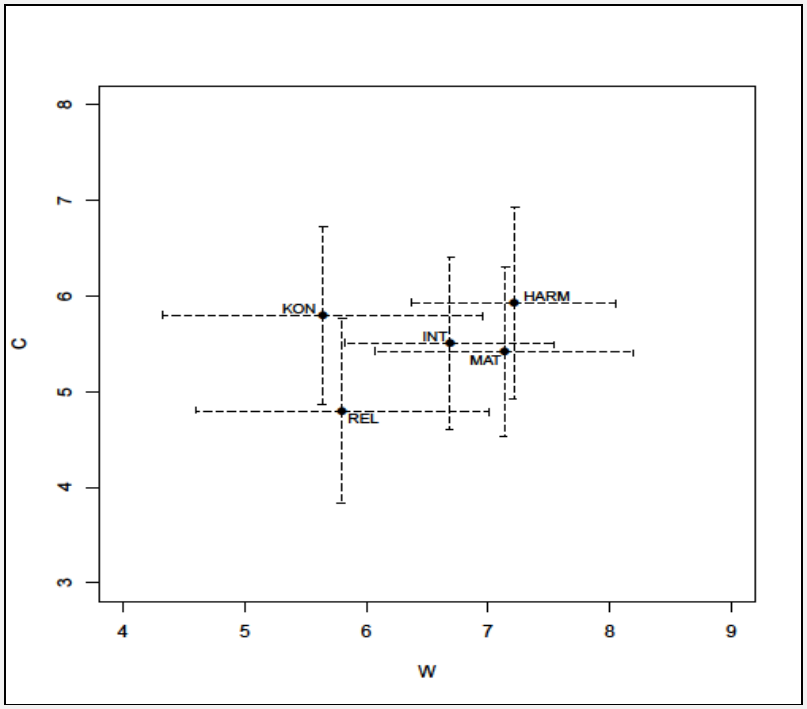
good	.894		.923		.891		.861		.855	
heavy									-.334	.488
noisy	-.362	.816		.806		.693		.753		.734
beautiful	.883		.917		.885		.860		.831	
strong	.832		.689	.470	.581	.559	.716	.461	.776	.362
eventful	.406	.742	.368	.757		.791	.363	.709	.446	.697
friendly	.849		.857		.478		.685		.790	
powerful	.656		.407	.749	.492	.566	.594	.597	.653	.463
lively	.606	.556	.576	.615	.354	.689	.465	.699	.606	.556
% variance explained	53.3	13.3	51.4	16.6	38.2	16.0	44,0	15,7	45.2	14.9

[a] *Factor loadings < .30 are not shown.* The adjectives are ordered as they appeared on the questionnaires. W = Warmth and C = Competence in the sense of the Stereotype Content Model

For each of the five value domains, the first factor obtained from the Semantic Differentials could be identified as representing Evaluation (E), and the second one (P) and (A) in the sense of Osgood et al. (1957). Alternatively Factor I referred to Warmth (W) and Factor II Competence (C) in the sense of the Stereotype Content Model. Applied to value terms, in the present context, we have re-labeled "Warmth" (W) as "*Valence*" and "Competence" (C) as "*Efficacy*".

In order to obtain descriptive statistics for the degree of *Valence* (W) vs. *Efficacy* (C) attributed to each of the five value domains, we formed scales from the items with principal loadings > .60 on the five factors. Their means and standard deviations are shown in Figure 1.

Figure 1: Means and standard deviations of valence (warmth) and efficacy (competence) attributed to the five value domains [a]



[a]W = *Warmth* or the degree of *Valence* attributed to the value concepts
C = *Competence* or the degree of *Efficacy* attributed to the value concepts
REL = Religiosity; KON = Conservatism; MAT = Materialism; INT = Intellectualism; HARM = Harmony
The neutral mean point for both scales was 5.0.

3.02 RELATIONSHIP TO MORAL FOUNDATIONS

On the MFQ, neither for its "Judgment", nor for its "Relevance" part the expected five moral foundations were replicated. When all of the "Judgment" and "Relevance" items were factor analyzed

simultaneously, according to the eigenvalue criterion, a two-factor solution explaining 31.7% of the variance was the optimal one and the extraction of additional factors did not lead to interpretable solutions. The first ten eigenvalues were 5.5, 3.8, 1.8, 1.4, 1.3, 1.1, 1.1, 1.0, 0.9, and 0.9, with the first two of them clearly explaining the largest amount of variance. Again, parallel analysis (Horn, 1965; O'Connor, 2000) was used in addition, confirming the two-factor solution. The first factor, explaining 18.8% of the variance, comprised Judgment and Relevance items from the Moral Foundations of Ingroup/loyalty (e.g., Judgment: "I am proud of my country's history"), Authority/respect (e.g., Relevance: "Whether or not someone conformed to the traditions of society", and Purity/sanctity (e.g., Relevance: "Whether or not someone violated standards of purity and decency". Factor II represented the items loading on Harm/care (e.g., Judgment: "Compassion for those who are suffering is the most crucial value") and Fairness/reciprocity (e.g. Relevance: "Whether or not someone acted unfairly") and explained 12.9% of the variance. Thus, Factor I is characteristic of conservatives and of the Ethics of Community and Divinity in the sense of Cultural Psychology, whereas Factor II represents the Ethic of Autonomy, typical of U.S. and Central European liberals.

In order to test the assumption that affective aspects of human values would predict the endorsement of moral foundations, linear regression (stepwise method) was used, employing the factor scores of *Valence* and *Efficacy* obtained from the five value domains as the independent variables. Factor I from the MFQ (representing the moral foundations of Ingroup/loyalty, Authority/respect and Purity/sanctity) was predicted by the Warmth (or *Valence*) components of Conservatism and Religiosity, whereas the remaining variables did not contribute significantly to the prediction. For the final model an $R^2 = .353$ was computed. Factor II obtained from the Moral Foundations Questionnaire (representing the moral foundations Harm/care and Fairness/reciprocity), was predicted by the Warmth *(Valence)* and Competence *(Efficacy)* component of Harmony, whereas the other predictors were excluded. The final model yielded an $R^2 = .143$. The regression models confirmed our expectations and are presented in Tables 3 and 4.

Table 3: Regression coefficients predicting factor scores of MFQ-Factor I (Ingroup/loyalty, Authority/respect and Purity/sanctity) from the affective aspects of human values

Model		Unstandardized coeffcients		Standardized Coefficients	T	Sig.
		Regression coefficient b	Standard error	Beta		
1	(Konstante)	1.221E-016	.049		.000	1.000
	Conservatism (W) [a]	.584	.049	.584	11.862	.000
2	(Konstante)	4.517E-017	.049		.000	1.000
	Conservatism (W)	.542	.051	.542	10.568	.000
	Religiosity (W)	.135	.051	.135	2.624	.009

[a] W indicates the Warmth or *Valence* component of the value domains.

Table 4: Regression coefficients predicting factor scores of MFQ-Factor II (Harm/care and Fairness/reciprocity) from the affective aspects of human values

Model		Unstandardized coeffcients		Standardized Coefficients	T	Sig.
		Regression coefficient b	Standard error	Beta		
1	(Constant)	-1.117E-016	.057		.000	1.000
	Harmony (W) [a]	.340	.057	.340	5.960	.000
2	(Constant)	-1.300E-016	.056		.000	1.000
	Harmony (W)	.340	.056	.340	6.066	.000
	Harmony (C)	-.184	.056	-.184	-3.278	.001

[a] W indicates the Warmth or *Valence* component, C indicates the Competence or *Efficacy* component of the value domain.

3.03 RELATIONSHIP TO POLITICAL ORIENTATION, PERSONALITY TRAITS AND SOCIO-DEMOGRAPHIC VARIABLES

On the seven-point scale, ranging from 1 = very liberal to 7 = very conservative, the mean political orientation was M = 3.41 (s = 1.56). On this scale 117 participants (42.7%) described themselves as liberal, 68 (24.8%) as neither liberal nor conservative, and 56 (20.4%) as conservative, whereas 33 participants (12.0%) checked the "other" box with respect to their political orientation or did not reply to the question.

A conservative point of view as opposed to a liberal one was predicted positively by the Warmth *(Valence)* component of Conservatism and the Competence *(Efficacy)* component of Materialism and negatively by the Warmth *(Valence)* component of Intellectualism. For the model, which is presented in Table 5, a corrected R^2 = .093 was computed. In spite of the very small amount of variance explained, this result supports our expectation that affective aspects of human values would be meaningful and statistically significant predictors of political orientation.

Table 5: Regression coefficients predicting political orientation[a] from the affective aspects of human values

Model		Unstandardized coeffcients		Standardized Coefficients	T	Sig.
		Regression coefficient b	Standard error	Beta		
1	(Constant)	3.374	.099		34.237	.000
	Conservatism (W)	.366	.106	.217	3.435	.001
2	(Constant)	3.375	.097		34.744	.000
	Conservatism (W)	.412	.106	.245	3.883	.000
	Intellectualism (W)	-.283	.100	-.179	-2.835	.005
3	(Constant)	3.381	.096		35.230	.000
	Conservatism (W)	.351	.107	.208	3.266	.001
	Intellectualism (W)	-.273	.099	-.172	-2.769	.006
	Materialism (C)	.252	.095	.167	2.646	.009

[a] Political orientation was measured on a 7-point scale ranging from 1 = extremely liberal, 7 = extremely conservative.
W indicates the Warmth or *Valence* component, C indicates the Competence or *Efficacy* component of the value domain.

From the Big Five mini markers, the means were computed and correlated with the factor scores obtained for the *Valence* (W) and the *Efficacy* (C) components of the five value domains. The correlations are shown in Table 6. Only low correlations were found between the value domains and the personality traits, confirming our expectation that the affective aspects of values would add substantial information to conventional concepts of individual differences.

Table 6: Pearson correlations of the Big Five factors of personality with the affective aspects of human values [a]

Value Domain		N	E	O	A	C
Religiosity	W	-.076	-.178**	-.076	.199**	.230**
	C	-.031	-.016	-.202**	-.094	.106
Conservatism	W	-.146*	-.035	-.250**	.035	.284**
	C	.122*	.007	.015	.006	.010
Materialism	W	-.047	.000	-.006	.214**	.169**
	C	.120*	.104	-.075	-.111	-.016
Intellectualism	W	-.062	-.186**	.092	.172**	.080
	C	.003	.101	-.065	-.049	.014
Harmony	W	-.088	-.013	.082	.316**	.184**
	C	.084	.091	-.035	-.134*	-.055

[a] W indicates the Warmth or *Valence* and C indicates the Competence of *Efficacy* component of the value domains. N = Neuroticism, E = Extraversion, O = Openness to Experience, A = Agreeableness, C = Conscientiousness.
* p < .05
** p < .01

We also examined differences with respect to gender, age, and educational level. The scale means for the Warmth *(Valence)* and the Competence *(Efficacy)* dimensions of the five value domains did not differ significantly with respect to gender, with the exception of the Warmth *(Valence)* scale for Religiosity, on which women scored significantly higher than men (M_{female} = 6.03, s_{female} = 1.14, M_{male} =

5.57, s_{male} = 1.23, p < .01, U = 7362.5). Age was correlated positively and significantly with the Warmth *(Valence)* aspect (r = + .249, p < .01) but negatively and significantly with the Competence *(Efficacy)* aspect (r = - .158, p < .01) of Conservatism, whereas the remaining scales did not correlate significantly with age. Educational level was correlated negatively and significantly with the Warmth *(Valence)* scale for Conservatism (r = - .391, p < .01) and the Competence *(Efficacy)* scales for Religiosity (r = -.169, p < .01), Conservatism (r = - .141, p < .05), and Harmony (r = .132, p < .05), whereas the remaining scales were not correlated significantly with educational level.

3.04 THREE CLUSTERS

In order to establish a clear pattern of the relationships described above, cluster analysis was employed. First, on the basis of hierarchical cluster analysis, we determined that three clusters would yield optimal results. A subsequent cluster center analysis yielded the results presented in Table 7. Age, political orientation, MFQ factor scores, and the factor scores from the Warmth *(Valence)* and the Competence *(Efficacy)* dimensions for the five value domains were included as variables to be clustered. As this type of analysis is limited to interval scaling, neither gender nor educational level were included.

Table 7: Cluster center analysis: Cluster centers of the final solution and results of ANOVA. Only significant results are shown; for MFQ, religiosity, and conservatism factor scores are presented.

	Cluster centers			ANOVA	
	1	**2**	**3**	**F**	**Sig.**
Age (years)	50	23	73	1307.286	.000
Political orientation [a]	3.41	3.20	4.23	5.507	.005
MFQ Dimension I [b]	.20658	-.20404	.86572	16.921	.000
Religiosity (W)	.11367	-.12958	.39019	3.728	.025
Religiosity (C)	.00053	-.07556	.45252	3.253	.040
Conservatism (W)	.13112	-.07313	.67477	8.429	.000
Conservatism (C)	-.17792	.15649	-.08254	3.377	.036
Number of cases	94	117	30		

[a] 1 = extremely liberal, 7 = extremely conservative

[b] MFQ Dimension I = Ingroup/loyalty, Authority/respect, Purity/Sanctity

Of the total sample, N = 241 participants could be classified by the three clusters, whereas N = 33 could not be classified. Most obviously, the three clusters can be distinguished by their mean age. The youngest age group, with a mean age of 23 years, is the politically most liberal one and scores below the mean on MFQ "Ingroup/loyalty, Authority/respect, and Purity/sanctity", on the W and C dimension of Religiosity and the W dimension of Conservatism. The group of medium age, with a mean age of 50 years, is politically more conservative and scores higher on the dimensions just mentioned. The third cluster, comprising the oldest age group (mean age 73 years) is the politically most conservative one and scores highest on the above mentioned dimensions. The C-component of Conservatism, however, shows a different pattern, with the youngest group scoring highest, the medium age group lowest, and the highest age group lying in between.

4.0 CONCLUSION

In line with Hypothesis 1, our findings confirmed the expectation that the affective meanings of human values would reach beyond a single evaluative dimension. Our results do not agree, however, with Osgood et al's (1957) expectation of three independent affective dimensions, but rather confirm the assumptions of the Stereotype Content Model with its "Warmth" (or *Valence*) and "Competence" (or *Efficacy*) dimensions.

Our assumptions of meaningful relationships between the *Efficacy* (C) and the *Valence* (W) components of the value domains and moral decisions (Hypothesis 2) were also confirmed. Higher scores on the C and W components of the value domain of "Harmony" predicted higher scores on the moral foundations of Harm/care and Fairness/reciprocity, whereas higher scores on the W (but not the C)

components of Religiosity and Conservatism predicted higher cores on the moral foundations of Ingroup/loyalty, Authority/respect and Purity/sanctity. Our results also confirmed Hypothesis 3, with respect to the relationship of value dimensions and political orientation. Also, in line with Hypothesis 4, we found meaningful relationships between the W and C components of Religiosity and Conservatism with socio-demographic variables. Finally, as predicted by Hypothesis 5, the affective dimensions of human values add substantial information to personality traits.

As *affective* dimensions of value meanings were examined, in line with Haidt's (2001) Social Intuitionist Model, the results suggest that both, the *Valence* as well as the *Efficacy* line of judgment can primarily be based on emotional or affective grounds rather than on rational calculation. Thus it may be concluded that argumentation based on alleged *Efficacy,* perceived necessity, or anticipated utility, should not be considered prematurely as more rational, intelligent, reasonable, or reliable than arguments deducted from emotionally felt intuitions along the lines of *Valence,* empathy, and compassion. In fact, this study has shown that both lines of judgment may be substantially influenced by emotional or affective motives, as opposed to rational forethought and considerate estimation.

A limitation of the present study pertains to its exploratory nature, i.e., the dimensions found as well as their marker variables need to be replicated in further samples, especially from different cultures. From the study two important policy statements and related desiderata emerge: First, the results emphasize that human values should be examined beyond their mere subjective desirability or evaluation in the sense of "good" vs. "bad". E.g., some people may morally justify certain acts (like capital punishment, killing opponents in war, constructing and/or using nuclear weapons or atomic power plants) on the grounds of their perceived necessity or alleged *Efficacy* (C+), although conceding that such acts may be cruel, inhuman, or threatening (i.e., negative *Valence, W-*). This may have important implications for the practice of political psychology: for example, the decision to vote for a certain politician or political party should be examined under a *Valence* as well as under an *Efficacy* perspective. Similar considerations might yield new insights for economic psychology, e.g., when analyzing consumer decisions.

Second, it should remembered that only the *Valence* (or *Warmth)* dimension of Religiosity and Conservatism predicted moral decisions along the lines of Loyalty, Authority, and Sanctity. This is "good news": as opposed to a fundamentalist point of view, our respondents' understanding was that personal believes, either in religious or conservative value systems, influence moral judgment by their "Warmth" or *Valence* component, not by their alleged "Power" or *Efficacy*. Thus, today we have, at least in some respects, abandoned an outdated view of ideological concepts: when it comes to ethical or moral decisions, positive feelings and friendly words towards others may indeed be "mightier than the sword" – a finding entirely in line with Pope Francis I and his philosophy.

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