

RELATIONSHIPS BETWEEN BIG FIVE PERSONALITY FACTORS AND VALUES

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An analysis of principal components showed a robust structure of three factors formed by 25 of the 30 values studied. These factors were called Social Power, Order and Benevolence values. Those factors match with some of Schwartz's (1992) types of values. Sex differences and correlations between traits and values replicate other authors' findings. Path analysis results, performed separately for females and males, yielded a better fit for the female than for the male group. However, although there were no substantial differences with regard to the prediction of Surgency, Conscientiousness, Unfriendliness and Neuroticism, Order values (order, neatness, responsibility) for males and Social Power values (power, prestige, fame) for females predicted the Intellect trait. This pattern of results is discussed in relation to changes in gender roles.

Human values have been defined as “. . . *cognitive constructs that explain individual differences in regard to aims in life and behavior principles and priorities*” (Renner, 2003). Allport and Vernon (1931) constructed a 6-category taxonomy of values: political, social, economic, theoretical, religious and aesthetic. Empirical studies have identified 10 categories of values: power, achievement, hedonism, simulation, self-direction, universalism, benevolence, tradition, conformity and security (Schwartz, 1992). Those types are seen as specific wishes related to behavior, people or events (Bilsky & Schwartz, 1994). For instance, well-being, a predictor of personal health and adjustment to environment, depends on the congruence between personal values and the prevailing value environment (Sagiv & Schwartz, 2000).

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Keywords: Values, personality traits, Big-Five, path analysis, sex differences

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The empirical research on personality and values has taken independent avenues, although with the emergence of the Big Five personality model, there seems to be a certain convergence between both constructs. According to Dollinger, Leong, and Ulicni (1996), personality traits and values are individual differences that would be cross-situationally and cross-temporally consistent, thus, it would be expected that values converge with personality traits. However, little research has been conducted to explore the relationship between the Big Five and values. Major findings were low correlations, although theoretically expected by the content manifold (Roccas, Sagiv, Schwartz, & Knafo, 2002). Thus, Conscientiousness usually correlates with the values of conformity and conservatism (Renner, 2003). The aim of the present study was to investigate the relationship between the Big Five and values in the Spanish culture.

METHOD

SUBJECTS

Participants were 636 undergraduate students at the University of Lleida, 288 male (mean age = 29.7, $SD = 11.6$), 347 female (mean age = 21.2, $SD = 3.2$). One subject did not report gender.

INSTRUMENTS

Personality Goldberg's 100 unipolar adjectives (1992) were used as a measure of five personality dimensions (Surgency, Conscientiousness, Unfriendliness, Intellect and Neuroticism). Only positive factor loadings $>.30$ on the appropriate factor, and $<.30$ on the other factors, were considered to build a 40-adjective factor matrix (Aluja & Blanch, 2002).

Values The Social Values Inventory (SVI) lists 30 nouns in the Spanish language that make reference to different types of individual and collective human values. This inventory was constructed with rational criteria expressly for this study. Each subject assessed the level of real importance of each value in his/her life on a scale from 1 to 5 (1=*not important*; 5=*very important*).

RESULTS

Table 1 shows the principal components with Varimax solution of 25 social values. This structure was obtained after selecting the items with factor loadings $>.30$ on the same factor in previous analyses. It represents the most orthogonal structure of the social values with a 3-factor structure named as: Social Power (SP) (i.e., power, prestige, fame); Order (O) (i.e., order, neatness, responsibility) and Benevolence (B) (i.e., honesty, righteousness, solidarity). These three factors are very similar in content to Schwartz's types (related factor in parentheses):

Power (SP), Conformity and Security (O), and Benevolence and Universalism (B) (Schwartz, 1992).

TABLE 1
PRINCIPAL COMPONENTS ANALYSIS OF 25 SOCIAL VALUES

Spanish	English	I	II	III	h ²
Poder	Power	.77	.05	-.12	.60
Prestigio	Prestige	.71	.15	.02	.53
Fama	Fame	.70	-.05	-.01	.49
Competividad	Competitiveness	.67	.18	-.05	.49
Dinero	Money	.63	.01	-.10	.41
Estetica	Aesthetics	.61	.06	.03	.38
Lideraje	Leadership	.59	.19	-.02	.39
Ambición	Ambition	.59	.09	-.05	.36
Orden	Order	.06	.78	.07	.62
Limpieza	Neatness	.15	.70	.15	.53
Responsabilidad	Responsibility	-.01	.66	.02	.44
Constancia	Perseverance	.10	.61	.17	.41
Perfeccionismo	Perfectionism	.28	.52	-.11	.36
Seguridad	Security	.09	.47	.23	.29
Cortesía	Deference	.05	.43	.27	.26
Cultura	Cultured	.06	.33	.28	.19
Honestidad	Honesty	-.01	.11	.70	.51
Honradez	Righteousness	-.08	.21	.65	.47
Solidaridad	Solidarity	-.19	.00	.56	.35
Humildad	Humility	-.09	.21	.52	.32
Fidelidad	Faithfulness	.03	.10	.49	.25
Justicia	Justice	-.03	.21	.48	.27
Compañerismo	Friendship	.08	.12	.44	.22
Altruismo	Altruism	-.14	-.04	.44	.21
Libertad	Freedom	.02	-.02	.41	.17
% of accounted variance		17.37	14.50	6.19	

Note: I: Social power values; II: Order values; III: Benevolence values

Table 2 presents descriptive statistics, *t*-tests between male and female subjects, alphas and correlations between personality markers and values. Significant mean differences between genders were observed for the personality variables of Unfriendliness, Intellect and Neuroticism, and for the values of SP. When the age variable is controlled, sex differences remain significant. Alpha coefficients range between .68 and .82. Correlations were significant for Surgency with SP (.17) and O (.12); Conscientiousness with O (.49); Unfriendliness with SP (.20), O (-.13) and B (-.29); and Intellect with SP (.23), and O (.18).

TABLE 2
DESCRIPTIVES, T-TESTS, ALPHAS AND CORRELATIONS BETWEEN PERSONALITY MARKERS AND VALUES

	Men		Women		<i>t</i>	α	All subjects		
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			SP	O	B
Unrestrained	6.58	1.43	6.50	1.50	.67	.78	.14***	.01	.06
Talkative	6.26	1.70	6.46	1.73	-1.49	.79	.08*	.07	.07
Extraverted	6.01	1.64	5.83	1.88	1.32	.79	.11**	.08*	.11**
Assertive	6.11	1.64	5.75	1.76	2.69**	.80	.09	.14***	.00
Daring	5.55	1.54	5.24	1.73	2.40*	.81	.06	.02	.03
Energetic	6.51	1.43	6.45	1.32	.58	.81	.12**	.15***	.07
Verbal	5.83	1.49	5.79	1.63	.35	.81	.14***	.06	.06
Vigorous	6.38	1.41	6.17	1.33	1.86	.81	.16***	.10	.12
Surgency	49.24	7.68	48.18	9.05	1.56	.82	.17***	.12**	.10
Organized	5.69	1.82	6.30	1.73	-2.32*	.72	.02	.34***	.02
Neat	5.69	2.05	5.93	2.07	-1.46	.74	.01	.35***	.03
Systematic	5.89	1.75	5.39	1.63	3.77***	.76	.16***	.33***	.03
Conscientious	7.13	1.31	7.32	1.20	-1.89	.76	.06	.37***	.16***
Steady	6.35	1.92	6.25	1.69	.68	.75	.07	.34***	.10**
Thorough	5.59	1.82	5.50	1.82	.59	.78	.05	.33***	.03
Prompt	6.58	2.26	6.41	2.30	.95	.79	-.00	.22***	.04
Efficient	6.61	1.08	6.40	1.04	2.53*	.76	.14***	.23***	.05
Conscientiousness	49.82	9.52	49.50	8.25	.45	.79	.09	.49***	.08
Imperceptive	3.05	1.72	2.32	1.38	5.76***	.72	.10**	-.05	-.22***
Uncooperative	3.20	1.59	2.39	1.27	6.98***	.72	.19***	-.08	-.32***
Uninquisitive	3.64	1.70	3.09	1.61	4.18***	.73	.09*	-.15***	-.24***
Shallow	3.24	1.65	2.79	1.52	3.53***	.74	.17***	-.07	-.21***
Cold	3.90	1.87	2.85	1.68	7.36***	.75	.18***	.00	-.10**
Unreflexive	3.67	1.91	3.12	1.59	3.98***	.75	.10**	-.13***	-.10
Unintelligent	2.60	1.48	2.58	1.48	.21	.74	.02	-.12**	-.14***
Uncharitable	2.67	1.85	2.33	1.61	2.44*	.75	.09	-.06	-.12
Unfriendliness	25.96	8.47	21.46	7.14	7.14***	.77	.20***	-.13***	-.29***
Creative	5.97	1.79	5.52	1.83	3.12**	.68	.12**	.16***	.10
Artistic	4.99	2.02	4.56	2.22	2.54*	.70	.07	.08	.13
Imaginative	6.62	1.61	6.25	1.73	2.75**	.70	.08	.07	.07
Philosophical	5.23	2.12	4.91	2.39	1.76	.73	.08	.08*	.11
Innovative	5.75	1.55	5.41	1.44	2.82**	.71	.11**	.04	.05
Intellectual	5.74	1.55	5.54	1.36	1.71	.73	.20***	.20***	.09
Bright	6.30	1.16	6.07	1.04	2.56*	.73	.23***	.14***	-.03
Complex	4.55	1.92	3.99	1.82	3.78***	.75	.30***	.15***	-.11
Intellect	45.14	8.45	42.25	8.25	4.33***	.75	.23***	.18***	.09
Irritable	4.49	1.98	4.75	1.95	-1.64	.71	.06	.00	-.02
Nervous	5.39	2.17	6.42	1.91	-6.32***	.71	-.05	.00	.03
Fearful	4.18	1.85	5.45	2.00	-8.21***	.72	-.14***	-.04	.07
Emotional	4.75	1.75	5.03	1.69	-2.06*	.72	.05	.00	-.08
Shy	4.28	1.85	5.05	1.92	-5.17***	.72	.07	.08	.03

Table 2 continued

	Men		Women		<i>t</i>	α	All subjects		
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			SP	O	B
Temperamental	5.37	1.90	5.82	1.83	-3.02**	.72	-.10*	-.13***	-.04
High-strung	5.98	1.75	5.98	1.63	.02	.72	.13	.06	.02
Moody	5.00	1.82	5.28	1.85	-1.88	.72	.01	-.12**	-.07
Neuroticism	39.44	9.21	43.78	8.51	-6.15***	.75	.00	-.03	-.01
Social power	22.85	5.18	19.14	4.78	9.39***	.82	1.00		
Order	30.86	4.57	30.36	3.72	1.46	.74	.28***	1.00	
Benevolence	37.74	4.09	38.12	3.39	-1.24	.70	-.12**	.34***	1.00

Note: SP: Social power; O: Order; B: Benevolence

A series of path analyses was specified with social values (SP, O and B) as exogenous variables, and each of the Big Five as an endogenous variable, in 5 subsequent runs. Correlations were specified between SP and O, and O and B, thus a single degree of freedom was freed to allow estimation. In regard to model assessment, the specified relationships represent more adequately the observed data for the female, $\chi^2(347, 1) = 3.10, p > .05, RMSEA = .08$, than for the male group $\chi^2(288, 1) = 4.43, p < .05, RMSEA = .11$. Additional fit indices support this specially for the personality variables of Conscientiousness and Intellect (TLI, CFI, and RMR). Despite this, we believe that parameter estimates show an interesting difference between genders. In Table 3 it can be seen that, although with slight variations, estimates follow a similar pattern for the personality variables of Surgency, Conscientiousness, Unfriendliness and Neuroticism.

TABLE 3
PARAMETER ESTIMATES AND GOODNESS-OF-FIT INDICES FOR SOCIAL VALUES AND PERSONALITY BY GENDER

	Male			Female			Male $\chi^2(288, 1) = 4.43, p < .05$ RMSEA = .11 (.02, .22)			Female $\chi^2(347, 1) = 3.10, p > .05$ RMSEA = .08 (.00, .18)		
	SP	O	B	SP	O	B	TLI	CFI	RMR	TLI	CFI	RMR
y_1	β_{11}	β_{12}	β_{13}	β_{11}	β_{12}	β_{13}						
SUR	.13*	.11	.10	.19**	-.03	.09	.81	.97	1.04	.86	.98	.58
CON	-.08	.69***	.09	-.04	.37***	-.17**	.91	.98	1.12	.90	.98	.54
UNF	.13*	-.10	-.27***	.10	-.10	-.21***	.84	.97	1.14	.87	.98	.58
INT	.04	.20**	.04	.30***	-.01	.11*	.81	.97	1.02	.89	.98	.62
NEU	.14*	-.07	-.07	.06	-.00	.08	.79	.97	1.02	.84	.97	.54

Note: SP: Social power; O: Order values; B: Benevolence values; SUR: Surgency; CON: Conscientiousness; UNF: Unfriendliness; INT: Intellect; NEU: Neuroticism.

Nevertheless, for the variable of Intellect, O is a significant predictor of this personality variable in the male group (.20), while for the female group the same is true for the SP values (.30) and to a lesser extent for B values (.11).

DISCUSSION

This study was designed to investigate the relationships between values and the Big Five in a sample of Spanish university students. Values' names present a reliable and robust three-factor structure: Power, Order, and Benevolence. Those three factors were very similar to some of Schwartz's (1992) types, with the advantage of being more stringent.

As expected, Conscientiousness correlated strongly with the O factor that includes order, responsibility, and so forth. On the contrary, Unfriendliness was related negatively to O and B values, and positively with the SP. A more complex pattern was found for the Intellect and Surgency traits since both factors correlated positively with SP and O. It seems that clever (Brighter, Innovative, Complex, ...) and more "energetic" people appreciate power, and prestige, as well as order and responsibility. As other authors have shown, Neuroticism did not correlate with any value factor ([Bilsky & Schwartz, 1994](#); [Dollinger et al., 1996](#)).

Path analysis results yielded a better fit for the female than for the male group, which could be due to the greater heterogeneity in age for males. However, although there were no substantial differences with regard to the prediction of Surgency, Conscientiousness, Unfriendliness and Neuroticism, O (order, neatness, responsibility) for males and SP values (power, prestige, fame) for females predicted the personality variable of Intellect. This parallels the personality dimension of Intellect, a trait of curiosity or the willingness to try to learn new things. These results could be due to recent differences observed in gender roles ([Wood & Eagly, 2002](#)). For women, contributing to more open-mindedness there would be a greater adherence to values that are apparently promoted by new working situations and this could be related to the greater opportunities of access to the job market. For men, contributing to more open-mindedness there would be a greater adherence to values that could be related with the child-rearing roles that men develop in households. These hypotheses could be tested out with regard to new male and female roles in other studies of personality and values, and also in different populations and cultures.

REFERENCES

- Allport, G. W., & Vernon, P. E. (1931). *A study of values*. Boston: Houghton Mifflin.
- Aluja, A., & Blanch, A. (2002). Relaciones entre la estructura del 16PF-5 y el modelo de Cinco Grandes factores de personalidad. [Relations between the 16PF-5 structure and the Big Five personality model]. *Boletín de Psicología*, *75*, 7-18.

- Bilsky, W., & Schwartz, S. H. (1994). Values and personality. *European Journal of Personality*, **8**, 163-181.
- Dollinger, S. J., Leong, F. T., & Ulicni, S. (1996). On traits and values: With special reference to openness to experience. *Journal of Research in Personality*, **30**, 23-41.
- Goldberg, L. R. (1992). The development of markers for the Big-Five factor structure. *Psychological Assessment*, **4**(1), 26-42.
- Renner, W. (2003). Human values: A lexical perspective. *Personality and Individual Differences*, **34**, 127-141.
- Roccas, S., Sagiv, L., Schwartz, S. H., & Knafo, A. (2002). The Big Five personality factors and personal values. *Personality & Social Psychology Bulletin*, **28**, 789-801.
- Sagiv, L., & Schwartz, S. H. (2000). Value priorities and subjective well-being: Direct relations and congruity effect. *European Journal of Social Psychology*, **30**, 177-198.
- Schwartz, S. H. (1992). Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. In M.P. Zanna (Ed), *Advances in experimental psychology* (Vol 25) (pp. 1-65). New York: Academic Press.
- Wood, W., & Eagly, A. H. (2002). A cross-cultural analysis of the behavior of women and men: Implications for the origins of sex differences. *Psychological Bulletin*, **128**(5), 699-727.

