



## *University Students' Value Priorities and Emotional Empathy*

**LIISA MYYRY & KLAUS HELKAMA**, *University of Helsinki, Finland*

**ABSTRACT** *A comparison of Schwartz's typology of values and the Spranger–Allport–Vernon typology suggested that business students would give higher priorities to power and achievement values, social science students to universalism values and technology students to security values. It was also hypothesised that social science students would score higher on empathy than business students who would be more empathic than technology students. Universalism and benevolence values were expected to be associated with high empathy and based on the social role theory of gender differences, it was predicted that value priorities would be more strongly associated with value priorities in men than in women. These predictions were supported from the data collected from 138 students of business, social sciences and technology using the Schwartz Value Survey, and the Mehrabian–Epstein measure of empathy.*

Values and occupational choice are obviously related. The classical Spranger (1928) typology of values was, essentially, a typology of social institutions, and the classical Allport & Vernon (1931) Study of Values derived from Spranger was often criticised for being primarily or even solely a test of occupational interest (Duffy, 1940). In current typologies of values, most notably in Schwartz's (1992, 1994) model of the universal content and structure of values, the starting-point are three types of basic human needs (biological needs, requirements of interpersonal coordination and survival of groups), which are thought to be expressed in the form of conscious goals, i.e. values. The link of values to institutions and occupations is no more apparent. However, it is sensible to ask whether persons representing different occupational or educational orientations differ systematically in terms of their value priorities, measured in terms of the Schwartz Value Survey. This is, indeed, the first issue addressed in the present paper. We also investigate the differences between students in different fields of study in emotional empathy, and the relationships of value priorities and emotional empathy in different fields.

## Value Priorities

Schwartz (1992) defines values as goals and motivations which serve as guiding principles in people's lives. The Value Survey designed by Schwartz (1992) contains 56 single values that can be divided into 11 distinct motivational types that serve different interests or motivational goals.

Value types and their contents are as follows (single values included in each value type are in parentheses):

- Power:** societal prestige and controlling others (social power, wealth, authority).
- Achievement:** personal success and competence according to social norms (successful, capable, ambitious, influential).
- Hedonism:** pleasure and satisfaction of sensual needs (pleasure, enjoying life).
- Stimulation:** excitement, novelty and challenge in life (daring, a varied life, an exciting life).
- Self-direction:** independent action and thought, making one's own choices (creative, freedom, curious, independent, choosing one's own goals).
- Universalism:** understanding, tolerance and protection for the welfare of all people and for nature (social justice, broadminded, world at peace, wisdom, a world of beauty, unity with nature, protecting the environment, equality).
- Benevolence:** protecting the welfare of close others in everyday interaction (helpful, forgiving, honest, loyal, responsible).
- Tradition:** respect, commitment, and acceptance of the customs and ideas that one's culture or religion impose on the individual (accepting my portion of life, devout, respect of tradition, humble, moderate).
- Conformity:** restraint of actions, inclinations and impulses likely to upset or harm others, or violate social expectations or norms (obedient, self-discipline, politeness, honouring parents and elders).
- Security:** safety, harmony, and stability of society, of relationships and of self (family security, national security, social order, clean, reciprocation of favours).
- Spirituality:** searching for purpose of life and for inner harmony (inner harmony, a spiritual life, meaning in life).

Value types form a special structure on two levels. firstly, value types can be divided into two categories according to whether they serve individual or collective interests. Power, achievement, hedonism, stimulation and self-direction are value types that serve individual interests; and benevolence, tradition, and conformity serve collective interests. Universalism and security are value types which serve both of these interests and are situated in the boundaries between these two (Schwartz, 1992).

Secondly, goals and interests that value types serve can be either compatible or conflicting to each other. The value types form a two-dimensional continuum, in which the first dimension is Openness to Change versus Conservation. People can either show the motivation to follow their own intellectual and emotional interests (value types self-direction, stimulation and hedonism), or they can prefer the status quo and the certainty provided by relationships with close others, institutions and traditions (value types tradition, conformity and security). The second dimension is called Self-Transcendence versus Self-Enhancement. The former shows the extent to which

people are motivated to transcend selfish concerns and promote the welfare of others (including value types benevolence and universalism). To the other end belong values which motivate people to enhance their own personal interests even at the expense of others (value types power and achievement; Schwartz, 1992). The value types are thought to represent a two-dimensional circle from power to security. The eleventh value type, spirituality, is not included in Schwartz's original list of universal value types because it is not universal in character. However, it can be used in unicultural studies. Verkasalo *et al.* (1994) have used it in studying Finnish, Swedish and Estonian students. In Finnish students samples it has been located between the value types universalism and benevolence (Verkasalo, 1996).

Based on the compatibilities and conflicts among value types, correlations between value types and other variables should form a sinusoid curve (Schwartz, 1992). If, for example, variable  $x$  correlates positively with achievement it should correlate negatively with benevolence and correlation should decrease monotonically as one moves around the circular structure of value types in both directions from achievement to benevolence.

If compared with other typologies of values (see Helkama *et al.*, 1992), the Schwartz model appears fairly comprehensive in the sense that the other topologies seem to correspond, conceptually and/or empirically to certain types of values in the model. However, as pointed out by Helkama (1999), the Schwartz model lacks work-related values, such as orderly, systematic, punctual etc, which would correspond to the uncertainty avoidance dimension in the Hofstede (1980, 1991) value typology. We therefore added a number of work values to the value instrument.

Conceptually, those work-related values seem close to the conformity/tradition value type in that they refer to self-restraint and self-discipline. They also seem related to security value type, as they deal with order. Thus, we expect that (1) work-related values form a psychometrically homogeneous value type, which (2) is located between the value types of tradition/conformity and security, i.e. shows the highest correlations with these two value types. It would also be possible to see them as part of the conformity value domain. According to the sinusoid curve hypothesis, we expect that work values show the highest negative correlations with stimulation, hedonism and self-direction, located at the opposite side of the circle.

If work values form part of the system of values in the same sense as the other value types, then they should conform to the sinusoid curve hypothesis also with regard to their correlations with other variables, e.g. emotional empathy. However, it is possible that work values could be better seen as representing an entirely new dimensions, and could not fit the two-dimensional model at all.

Could we identify value types in the Schwartz model that would correspond to the Spranger–Allport–Vernon types, defined in terms of their functions in society? Let us look at three fields of study, business, technology and social sciences. They were the target groups of the study by Verkasalo *et al.* (1994) in Estonia, Finland and Sweden. We chose our respondents from the same three fields, which allows us to scrutinize the stability of the findings.

Which of the Schwartz value types would correspond to the economic type, characterised by Spranger as being competitive and success-motivated, and moreover, as being a subtype of the power value motive, because wanting to control others by controlling property? The closest equivalent are obviously the value types of achievement and power. This equivalence is empirically corroborated by Verkasalo *et al.* (1994) who found that business school students in Estonia, Finland and Sweden scored

significantly higher on precisely achievement and power value types than did students of technology or students of humanities and social sciences.

The Spranger social type takes care of other people, and values life and love. The obvious counterpart in the Schwartz model would be the value type of benevolence. However, this hypothesis is not supported by the Verkasalo *et al.* (1994) findings, which showed no significant differences between the social science/humanities students and other groups for benevolence. Instead, social science/humanities students had higher priority for universalism and spirituality values, and lower for conformity values than did the other groups.

Locating the value types associated with technology is more problematic than in the case of other fields. Spranger does not single out engineers as a special type and some philosophers dealing with professional ethics (e.g. Airaksinen, 1998) claim that engineers as a profession lack a service ideal or value base comparable to the classical professions. This is consistent with the Verkasalo *et al.* (1994) finding that students of technology did not stand out on any of the Schwartz value types. However, the technology students had higher priority for security value type than the other groups, even though they did not differ statistically significantly from the business students. This observation fits in with the emphasis given to safety and health in the engineers' code of ethics (Airaksinen, 1998, p. 678).

To summarise our hypotheses derived from the comparisons of the Spranger types with the Schwartz types and on the findings by Verkasalo *et al.* (1994), we expect that:

- (1) business students will value power and achievement more than do the other groups;
- (2) that social science students will stand out on universalism, benevolence, and spirituality and have lower regard than the other groups for conformity;
- (3) if students of technology score higher than other groups on a value type, it will be security.

As far as gender differences are concerned, Smith & Schwartz (1997) report that in all 47 national samples of the Schwartz value project, men have had higher priority for power and achievement values than females and females have valued benevolence more than males have. The data from Finland and other countries around the Baltic sea are largely consistent with this pattern. Virtually all studies have found gender differences in power and benevolence (Feather, 1987; Verkasalo *et al.*, 1994; Pohjanheimo, 1997; Verkasalo *et al.*, 1996). Men were found to value hedonism more than women did in the three-country study by Verkasalo *et al.* (1994), in a Finnish high school student and teacher study by Verkasalo *et al.* (1996), as well as in a study of representative Finnish adults by Pohjanheimo (1997; hedonism was combined with stimulation). While achievement has in most samples shown a gender difference favouring male preference, the data from Finland and around the Baltic sea are mixed. Verkasalo *et al.* (1996) found a clear difference favouring male preference, but only in their high school student sample, not in the teacher sample. Verkasalo *et al.* (1994) found a gender difference only in the business school samples in Estonia, Finland and Sweden, not among students of technology or social sciences. Pohjanheimo found a weak ( $P < 0.10$ ) trend in favour of male preference. Australian, Estonian, Finnish and Swedish female university students have shown higher priority than males also to universalism and spiritualism (Feather, 1987; Verkasalo *et al.*, 1994). A notable exception to the pattern of fairly consistent gender differences is a representative sample of Israeli adults, in which Prince-Gibson & Schwartz (1998) found no gender differences at all.

A socialisation perspective on gender differences (e.g. Chodorow, 1978) suggests that values are acquired early in the socialization process and remain stable thereafter. A social role theory of gender differences (e.g. Eagly, 1987) proposes that men and women behave according to the stereotypes associated with the social roles they occupy. The results of recent studies that have examined such moderator variables as field of study or status in the context of gender differences show support for both views. Females in Estonia, Finland and Sweden have valued universalism and benevolence more than males have, irrespective of field of study, or whether they are pupils or teachers (Verkasalo *et al.*, 1994, 1996), which is consistent with stable gender differences. However, the data on achievement cited above are line with the social role theory prediction that organisational roles override gender roles and that non-students would show smaller gender differences than students. As the Finnish teacher role involves low regard for achievement values, male teachers follow this role requirement in the same way as their female colleagues, but male and female students show the gender-stereotyped difference in value priority. The findings of gender  $\times$  field of major study interaction in the Verkasalo & al. (1994) three-country study could also be interpreted in terms of Eagly's (1987) social role theory. They found gender difference in achievement only for business students, which is in line with the stereotypes associated with gender roles in business (the male executive and female secretary). Since there is no corresponding division of labour according to gender in technology or humanities/social sciences, female students of technology were found to display the engineers' stereotypical high regard for achievement and male students of humanities a corresponding low regard typical of humanists.

Based on the above considerations, we expect gender differences (main effects) for the following value types: power, hedonism (male preference), benevolence, universalism, and spirituality (female preference). In addition, we expect to find gender  $\times$  field of study interaction for achievement (gender difference for business students only). These hypotheses are based on the results of recent studies in Finland and other countries around the Baltic Sea, and differ to some extent from the generalisations derived from all available studies [viz. no gender difference for achievement (main effect) and females' higher priority for universalism]. With regard to the new value type, work-related values, we hypothesize a gender difference favouring the female preference (based on the gender stereotype of orderly, conscientious female) and/or an interaction effect in the sense of larger gender difference among business students (based on the stereotype of male executive and female secretary).

### **Emotional Empathy**

The term empathy have been defined in several ways. One definition highlights the cognitive component of empathy and views empathy as the willingness and ability to put oneself in another's place (role-taking; e.g. Hogan, 1969). Other researchers have used a definition of empathy stressing its emotional aspects (e.g. Stotland, 1969; Mehrabian & Epstein, 1972; Hoffman, 1977). They define empathy as a vicarious emotional response to the perceived emotional experiences of others.

According to Hoffman (1977, 1981) empathy involves both a cognitive and an affective component. Empathy is the combination of vicariously aroused affect and a mental representation of the other, at whatever level the observer is capable. There are differences in the level that people cognize others, and development of ability to feel empathy is at least partly dependent of the development of a cognitive sense

of the other. Hoffman has described four hypothetical levels of empathy, and individuals who progress through the four stages become capable of a high level of empathic distress (Hoffman, 1981, pp. 50–51).

Later, for example Eisenberg *et al.* (1998), have also pointed out that it is likely that empathy often is a result of cognitive perspective taking, but it also involves an emotional reaction. Empathic concern, which refers to the emotional aspect of empathy (e.g. Davis, 1983), consists of experiencing feelings of sympathy, compassion and warmth, while observing a distressed target. Thus empathy requires role-taking, the person imagines how he or she would feel in the situation (Hoffman, 1977, 1981). Sheldon (1996) found out that both emotional and cognitive empathy were related to awareness to other's experiences/seen from other's perspective as well as to self-experience/from the self-perspective. Empathic persons seem to pay attention to subjective experience, as viewed from the perspective of the experienter.

Emotional empathy can be measured by Mehrabian & Epstein's (1972) Questionnaire Measure of Emotional Empathy (QMEE). The scale consists of a number of intercorrelated subscales: 'Susceptibility of emotional contagion'; 'Appreciation of the feelings of unfamiliar and distant others', 'Extreme emotional responsiveness'; 'Tendency to be moved by others' negative emotional experiences'; 'Sympathetic tendency' and 'willingness to be in contact with others who have problems'. The total empathy score (computed through all the items) is usually significantly higher for females than for males (Mehrabian & Epstein, 1972; Bohlmeier *et al.*, 1985; Van Ornum *et al.*, 1981; Riggio *et al.*, 1989).

Empathy and emotional empathy especially has been shown to motivate helping behaviour, because the observer might feel compassion and concern for the victim (Hoffman, 1981). In several studies emotional empathy measured by QMEE has been positively related to helping and prosocial behaviour (Mehrabian & Epstein, 1972; Eisenberg-Berg & Mussen, 1978; Barnett *et al.*, 1981; Van Ornum *et al.* 1981). Emotional empathy has also been found to correlate significantly with moral judgment at least in adolescence (Eisenberg-Berg & Mussen, 1978; Palevaara, 1997). Emotional empathy or sympathy measured by Davis' IRI (The Interpersonal Reactivity Index, 1983) has related positively to adolescents' moral judgment, too (Eisenberg *et al.*, 1991).

On the basis of previous studies (Bohlmeier *et al.*, 1985) showing that students in education score higher in emotional empathy and *a priori* considerations, we expect that students of social sciences obtain higher scores on emotional empathy than students of business or technology. Since students of business are often trained for tasks which essentially require contact with other people (selling, marketing, etc.), while training in technology prepares essentially for tasks dealing with things, we expect that students of business score higher on empathy than students of technology.

While previous studies reviewed above lead us to predict that females score higher than males in empathy, we do not have any reasons to expect that the main effect of gender should be modified by field of study.

### **Values and Emotional Empathy**

Because emotional empathy is related to helping behaviour (e.g. Mehrabian & Epstein, 1972), it is natural to expect that it would be also related to Schwartz's value type benevolence, which refers to concern for the welfare of close others in everyday interaction. Benevolence includes, for example, such values as helpfulness, honesty and

loyalty. However, if emotional empathy involves also the ability to be empathically aroused by the plight of entire group or class of people (Hoffman, 1977), it could be expected to be positively related to universalism, which involves the concern for the welfare of all people and nature.

Sheldon & Johnson (1993) showed that people high in intimacy motivation and nurturance need made more frequent use of other's perspectives in viewing other's experiences, whereas persons high in power motivation and dominance needs tended to retain their own perspective on other's experiences. This suggests that power values may be negatively related to emotional empathy.

If emotional empathy correlates positively with universalism and benevolence, and negatively with power, it should correlate at least somewhat negatively with work values, if they are located in the vicinity of the value types adjacent to power, viz. security and conformity. Additionally, if work values are conceptually related to uncertainty avoidance, as we argued above, and uncertainty avoidance implies the intolerance of different people and ideas (Hofstede, 1980, 1991), while empathy, in part, is an ability or a desire to understand other people and their ideas (e.g. Hoffman, 1977), then we may also expect a negative correlation of empathy and work values. Moreover, if work values are a genuine part of the system of values defined by Schwartz's model, then their correlations with emotional empathy should be in line with the sinusoid curve hypothesis.

We may ask whether values explain the variation in emotional empathy equally well in all groups. In terms of social role theory of gender differences (Eagly, 1987), we may argue that empathy is part of the stereotypical female role. Thus, we expect that values have a stronger explanatory role for males, for whom empathy is non-normative and, accordingly, individual differences in value priorities might be linked to differences in self-attributed empathy.

## Methods

### *Respondents*

The sample consisted of 138 university students from three universities: social science students from University of Helsinki ( $n = 41$ ), students from Helsinki School of Economics ( $n = 46$ ) and students from Helsinki University of Technology ( $n = 51$ ). In the whole sample there were 74 females (53%), mean age was 25 (SD = 5.6). The respondents were on the average in their third year in the university (SD = 2.1).

### *Procedure*

For business and technology students the survey was delivered in class. They were asked to fill it out at home and return it for the next class. For social science students part of the surveys were mailed, part were collected in the same way as in other groups. The questionnaire consisted also of other measures, not dealt with in this article and it took about an hour to fill it. Participation in the study was voluntary and no compensation was provided. The response rate was about 40%.

Value priorities were measured using Schwartz's value survey (Schwartz, 1992). The survey contains 56 single values measured on a nine-point scale ( $-1 =$  opposed to my values;  $0 =$  not at all important;  $7 =$  of supreme importance). Five work-related values

(hard-working, conscientious, orderly, punctual and long-term planning) were added to the standard version.

To control for differential use of the scale, centralised sum variables were used in the analysis: a personal mean of all 61 values was calculated for each subject separately, and the items of the sum variable were summed together and divided by the personal mean multiplied by the number of items included in the sum variable. Reliabilities (Cronbach's alphas) of the value types were as follows: power 0.76, achievement 0.74, hedonism 0.64, stimulation 0.67, self-direction 0.59, universalism 0.76, benevolence 0.70, tradition 0.45, conformity 0.54, security 0.59, spirituality 0.61 and work 0.79.

Emotional empathy was measured by Mehrabian & Epstein's Questionnaire Measure of Emotional Empathy (QMEE, 1972). This measure contains 33 items assessed on an eight-point scale ( $-4 =$  strongly disagree;  $4 =$  strongly agree). The total empathy score was calculated through all the items ( $\alpha = 0.87$ ).

## Results

### *Value Structure and Work Values*

One of our questions concerned the location of work values in Schwartz's value model and whether their relations with other value types form a sinusoid curve. The location of work values within the structure of values was examined using the matrix of the intercorrelations among the value types. Since  $n < 200$ , it was not possible to carry out a multidimensional scaling analysis to determine the structure. Table I indicates that work values had the strongest positive, and significant relationships with achievement and power, followed by security. The next highest positive correlation was with conformity. However, it was not significant nor was the correlation with tradition, which was near zero. Thus, the data do not support the hypothesis that work is located between tradition/conformity and security, but suggest that their location is between achievement and power.

If we place work values between achievement and power, the data in Table I form a pattern that very closely conforms to the sinusoid curve hypothesis. The correlations of spirituality with other value types are also consistent with the sinusoid curve, if we locate spirituality between universalism and benevolence.

### *Differences in Value Priorities*

To examine the differences in value priorities among the three fields of study, a 2 (gender: female, male)  $\times$  3 (field of study: social science, business, technology) analysis of variance was calculated with the 12 value types as dependent variables. These results and univariate tests for the value types are reported in Tables II and III.

There were significant interactions between gender and field of study for value types power, stimulation, self-direction, universalism, benevolence, tradition, spirituality and work. For power, the interaction was mostly due to the social science females who had lower scores than other subgroups, especially compared to business and technology males. Social science females had also lowest scores in work, which was valued highest by business females and technology males. In stimulation, the order was nearly opposite: business females valued it least, and business and technology males most. In self-direction, again business females had the lowest scores accompanied by social science males. Other subgroups were approximately at the same level. Tradition was

TABLE I. Intercorrelations among 12 value types

	Power	Work	Achie	Hed	Sti	Self-di	Uni	Spirit	Benev	Trad	Conf
Po	0.22*										
Work	0.56**	-0.23**									
Achie	0.12	-0.15	-0.06								
Hed	0.14	-0.20*	0.19*	0.18*							
Sti	0.04	-0.19*	0.16	0.12	0.49**						
Self-di	-0.59**	-0.42**	-0.39**	-0.08	0.01	0.11					
Uni	-0.47**	-0.33**	-0.29**	-0.15	-0.15	-0.19*	0.25**				
Spirit	-0.39**	-0.05	-0.35**	-0.06	-0.35**	-0.39**	0.15	0.16			
Benev	-0.12	0.07	-0.34**	-0.21*	-0.23**	-0.18*	-0.08	-0.08	0.07		
Trad	0.05	0.17	-0.15	-0.06	-0.33**	-0.37**	-0.25**	-0.14	0.07	0.24**	
Conf	0.22*	0.20*	0.01	0.06	-0.22*	-0.22*	-0.33**	-0.37**	-0.21*	0.05	0.22**

\* $p < 0.05$ ; \*\* $p < 0.01$ .

TABLE II. Means and standard deviations of value types (standard deviations are in the parentheses)

n: Value type	Field of study								
	Social science			Business			Technology		
	F	M	T	F	M	T	F	M	T
	38	3	41	25	19	46	11	40	51
Power	0.46 (0.29)	0.46 (0.40)	0.46 (0.29)	0.54 (0.32)	0.69 (0.36)	0.61 (0.35)	0.45 (0.31)	0.67 (0.39)	0.62 (0.38)
Work	0.96 (0.25)	1.11 (0.46)	0.97 (0.26)	1.18 (0.20)	1.05 (0.32)	1.12 (0.26)	1.02 (0.21)	1.12 (0.19)	1.10 (0.20)
Achievement	1.01 (0.25)	0.84 (0.19)	1.00 (0.25)	1.11 (0.18)	1.16 (0.26)	1.14 (0.22)	0.98 (0.32)	1.02 (0.31)	1.01 (0.31)
Hedonism	1.12 (0.28)	0.99 (0.41)	1.11 (0.29)	1.07 (0.24)	1.28 (0.42)	1.16 (0.35)	1.22 (0.18)	1.25 (0.36)	1.24 (0.33)
Stimulation	0.92 (0.35)	0.85 (0.47)	0.91 (0.35)	0.82 (0.31)	1.12 (0.31)	0.95 (0.34)	0.91 (0.35)	1.06 (0.35)	1.02 (0.35)
Self-direction	1.22 (0.24)	1.03 (0.45)	1.20 (0.26)	1.07 (0.25)	1.27 (0.28)	1.16 (0.28)	1.20 (0.23)	1.26 (0.24)	1.25 (0.24)
Universalism	1.22 (0.24)	1.06 (0.35)	1.21 (0.25)	1.01 (0.18)	1.05 (0.19)	1.03 (0.18)	1.23 (0.24)	0.99 (0.26)	1.04 (0.27)
Spirituality	1.38 (0.22)	1.36 (0.34)	1.38 (0.22)	1.27 (0.28)	1.14 (0.42)	1.21 (0.35)	1.19 (0.41)	1.07 (0.32)	1.09 (0.34)
Benevolence	1.31 (0.20)	1.39 (0.15)	1.32 (0.20)	1.27 (0.15)	1.27 (0.26)	1.27 (0.20)	1.34 (0.22)	1.15 (0.23)	1.19 (0.24)
Tradition	0.27 (0.20)	0.65 (0.24)	0.30 (0.22)	0.29 (0.21)	0.33 (0.22)	0.31 (0.21)	0.29 (0.19)	0.46 (0.24)	0.43 (0.24)
Conformity	0.73 (0.22)	0.83 (0.24)	0.74 (0.22)	0.84 (0.19)	0.79 (0.24)	0.82 (0.21)	0.78 (0.13)	0.86 (0.24)	0.85 (0.22)
Security	0.98 (0.20)	0.95 (0.31)	0.98 (0.20)	1.08 (0.18)	1.03 (0.22)	1.06 (0.20)	1.05 (0.17)	1.09 (0.18)	1.08 (0.17)

most valued by social science and technology males, while the other subgroups were at much lower level and did not differ from each other. Social science and technology females valued benevolence and universalism most and technology males valued them both least. Spirituality was valued most by social science students, but in every field of study females had somewhat higher scores than males.

Field of study had a main effect for value types achievement, universalism, benevolence, tradition, conformity, security, spirituality and work. The effect was strongest for spirituality, but also universalism and work showed a rather strong field of study effect. Spirituality was valued quite highly in every group and for social scientists it was the most important value type. They valued it clearly more than the other groups, as they did universalism. Business and technology students valued universalism to the same extent. Spirituality was valued intermediate level by business students and obviously less by technology students even if the difference between these two did not reach significance. Business students had slightly higher scores in work than technology students, while social scientists were at somewhat lower level. Benevolence was the most important value type for business students. Still the order of the means was the same as in spirituality (social science, business, technology), but differences between groups were not as evident. They were not very apparent in achievement, tradition,

TABLE III. Summary of analysis of variance of value types and emotional empathy score

	Gender X Field of study <i>F</i> (5,131)	Gender <i>F</i> (1,134)	Field of study <i>F</i> (2,133)
Power	2.33*	9.88**	2.93
Work	3.17*	1.70	4.95**
Achievement	1.71	.07	3.44*
Hedonism	1.79	5.20*	1.91
Stimulation	2.57*	10.08**	1.29
Self-direction	2.41*	4.23*	1.50
Universalism	5.34***	11.30**	7.66**
Spirituality	4.37**	14.89***	9.36***
Benevolence	2.94*	7.19**	3.93*
Tradition	4.65**	14.95***	4.48*
Conformity	1.72	3.07	3.09*
Security	1.59	1.64	3.62*
Empathy score	21.42***	90.63***	20.05***

\* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ .

conformity and security either, although the impact of field of study was significant. Business students had higher scores in achievement than others, and conformity and security were valued higher by business and technology students than by social scientists. Tradition had low priority in every group, but technology students had highest scores in it, as they had in conformity and security, too, even if the scores of business students were very close.

Furthermore, Table III indicates that significant gender differences were found in eight value types: power, hedonism, stimulation, self-direction, universalism, benevolence, tradition and spirituality. Females valued benevolence, universalism and spirituality more, and power, hedonism, stimulation, self-direction and tradition less than males did. The gender effect was strongest for tradition and spirituality.

*Differences in Emotional Empathy*

As predicted from earlier studies (e.g. Van Ornum *et al.*, 1981) females had significantly higher empathy scores than males [ $F(1,134) = 90.63$ ,  $p < 0.001$ ; Tables III and IV]. Field of study had also an effect on emotional empathy scores [ $F(2,133) = 20.05$ ,  $p < 0.001$ ], with social science students scoring highest and business students scoring higher than technology students [ $t(93) = 2.99$ ,  $p < 0.01$ ]. The gender X field of study interaction was statistically significant, as well [ $F(5,131) = 21.42$ ,  $p < 0.001$ ]. For males, the scores were in the predicted order, but contrary to our expectations, female students of technology had the highest empathy scores, followed by social science students and business students.

*Emotional Empathy and Value Types*

The relationships of emotional empathy and value types are presented in Table V, which shows correlations both according to gender and field of study. Females had only

TABLE IV. Means and standard deviations of emotional empathy score

	Field of study											
	Social science			Business			Technology			Total		
	N	M	Sd	N	M	Sd	N	M	Sd	N	M	Sd
Females	36	54.5	18.6	24	48.8	22.4	11	56.3	16.6	74	52.6	20.1
Males	3	39.0	16.1	19	25.2	29.8	40	11.7	18.7	62	16.9	23.6
Total	41	53.9	18.4	44	37.7	28.3	51	21.0	25.9	136	36.3	28.0

one significant—and negative—correlation with value type achievement. By contrast, males' empathy scores were significantly associated with seven value types, in accordance with the hypothesis derived from social role theory of gender differences (Eagly, 1987). Negative correlations were with power achievement, work and security. The highest positive correlation was with universalism, followed by spirituality and benevolence.

Table V also indicates that the number of significant correlations was different in the three fields of study. For social science students emotional empathy scores correlated significantly only with tradition. Business students showed three significant negative correlations with value types achievement, self-direction and stimulation, and one positive (spirituality). The technology students showed as many as seven significant correlations, negative ones with power, work, achievement and security, and positive with universalism, benevolence and spirituality. The number of significant associations seems to be a function of the proportion of males in the respective groups of students.

The scrutiny of Table V indicates further that the correlations between emotional empathy and value types followed the same sinusoid curve pattern remarkably closely. For instance, in the whole sample, only self-direction and tradition deviated slightly

TABLE V. Correlations between emotional empathy score and value types according to gender and field of study

	Gender		Field of study			
	Females	Males	Social sc.	Business	Technology	Total
	73	62	41	46	51	135
Power	-0.14	-0.40**	-0.24	-0.13	-0.56**	-0.38**
Work	-0.20	-0.40**	-0.15	-0.15	-0.44**	-0.30**
Achievement	-0.26*	-0.33**	-0.19	-0.40**	-0.27*	-0.24**
Hedonism	0.18	-0.12	0.18	-0.09	-0.13	-0.12
Stimulation	0.08	0.03	0.23	-0.31*	-0.02	-0.12
Self-direction	0.03	-0.21	0.15	-0.33*	-0.17	-0.18*
Universalism	0.20	0.40**	0.24	0.25	0.46**	0.40**
Spirituality	0.04	0.37**	-0.14	0.27*	0.36**	0.37**
Benevolence	0.18	0.31*	0.24	0.11	0.39**	0.33**
Tradition	-0.18	0.05	-0.36*	-0.21	-0.00	-0.24**
Conformity	-0.12	-0.02	-0.25	0.20	-0.18	-0.14
Security	-0.05	-0.27*	0.10	-0.08	-0.27*	-0.19*

\* $p < 0.05$ ; \*\* $p < 0.01$ .

from that pattern. Empathy correlated positively with self-transcendence values and negatively with especially self-enhancement values, as expected.

## Discussion

### *Value Structure*

We expected that the new value type introduced in our study, work values, would be (1) part of the system of values of the Schwartz model, and (2) located between the value types of conformity/tradition and security. However, while the first hypothesis is clearly supported by the pattern of correlations observed in the data, the evidence for the second is more ambiguous and is more consistent with the hypothesis that work values are located between power and achievement value types. Both the correlations of work values with other value types and the comparison of its correlations with emotional empathy to the overall pattern of correlations of all other value types point to the same direction. To be sure, the differences in the magnitudes of those correlations are not large, and would be compatible with the location between security and power values almost as well. In any case, the data seem incompatible with our initial expectation.

The reason why work is more strongly associated with power and achievement than we expected might be its conceptual link with economy—work may be seen as a prerequisite to wealth (power value) and success (achievement value), rather than a means of getting security or exercising self-discipline (conformity value). The finding that business students and technology students showed the highest priority for work is also consistent with its being associated with economic values.

### *Value Priorities*

As hypothesised, business students stood out on achievement values and social science students on universalism, benevolence and spirituality. Security was valued most by the technology students (but business students valued it virtually to the same extent). Contrary to our hypothesis and previous findings, power did not show a main effect of field of study, but a gender  $\times$  field interaction. As expected, business students, both male and female, had high regard for power, as did male technology students, but both technology and social science females, as well as social science males scored low on this value type. For conformity, the finding that business and technology students value it more than do the social science students, replicates the findings by Verkasalo *et al.* (1994). The finding that males in general and male students of technology in particular placed a higher value on tradition than females did, is hard to interpret and goes against the prevailing Western stereotype which sees women as the guardians of existing institutions (Feltey & Poloma, 1991). Perhaps it could be considered as a symptom of the changing relations between genders in Finland or just attributable to chance.

With regard to the other gender differences, we expected and found main effects for five value types: power, hedonism (male preference), benevolence, universalism and spirituality (female preference). The hypothesised female preference for work was not supported. The unexpected findings of higher male preference for stimulation and self-direction are in line with the stereotypical views in Western societies (see, e.g. Prince-Gibson & Schwartz, 1998), although they do not accord with previous Finnish studies (Verkasalo *et al.*, 1994, 1996).

We hypothesised that business students would show higher gender differences than the other groups for two value types, achievement and work. The data were supportive of the latter expectation only. By contrast, we found as many as seven unexpected gender  $\times$  field of study interactions. They seem to be rather hard to interpret. The three rather weak effects ( $P < 0.05$ ) for power, stimulation and self-direction, as well as the one for spirituality ( $P < 0.01$ ) are probably due to the tiny sample ( $n = 3$ ) of male social science students. The interaction effect for tradition (no gender difference in the business student group but males higher in the other two) is particularly puzzling in the light of previous non-significant findings for either gender or field of study (Verkasalo *et al.*, 1994). The strongest interaction effect is for universalism, on which a gender difference favouring the female preference was found in the social science and technology group, but not in the business student group. As to benevolence, male students of technology had a particularly low priority for it whereas female students of technology were at the same level as the social science students.

To summarise, we found support to our hypothesis that power and achievement value types in the Schwartz model correspond to the economic value type in the Spranger–Allport–Vernon topology, as business students had higher priority for these value types than the other groups. To the economic values we may add the new value type introduced by us, work, which was also appreciated most by the business students. On the other hand, the Spranger social value type could be seen as the counterpart of universalism and spirituality in the Schwartz typology, because social science students had higher regard for these value types than did the other groups. Contrary to our expectation but in line with the previous findings by Verkasalo *et al.* (1994), benevolence was not exclusively typical of social scientists. Our hypothesis that security would be the value type to differentiate students of technology from the other groups got weak support from the data.

As far as gender differences are concerned, the results are largely consistent with previous findings with regard to the communal (benevolence, universalism, spirituality as feminine values)–agentic (power, stimulation, self-direction) contrast. An exception is the finding of no gender differences on achievement, which replicates the previous findings from Finland, Sweden and Estonia (Verkasalo *et al.*, 1994). Given the small sample sizes, it is not appropriate to draw any firm conclusions from the results. We may note, however, that the pattern of gender  $\times$  field of study interactions is different from the Verkasalo *et al.* (1994) study which found no interactions for the value types of universalism and benevolence, but did find interactions for achievement and hedonism—exactly the reverse of our findings. We may also note that the female business school students resemble their male counterparts in their relatively low regard for universalism and differ in this respect from female students in engineering.

### *Emotional Empathy*

The differences between fields of study in emotional empathy were in line with our expectations in that social science students had the highest and engineering students the lowest scores. Also the massive gender difference in favour of females was consistent with the hypothesis. However, the data for female students did not accord with the hypotheses since students of technology had the highest scores and business students scored clearly lower than the others. The latter finding is consistent with their low regard for universalism values.

Value priorities were associated with emotional empathy in the way predicted, except

that universalism, rather than benevolence showed the highest correlation with it and benevolence only the third highest after spirituality. The lowest correlation with empathy was exhibited by power. The pattern of correlations of value types with empathy was more or less consistent with the sinusoid curve hypothesis, and furthermore, provided further support for locating our new value type, work, between power and achievement, and the spirituality values between universalism and benevolence.

As expected on the basis of the social role theory of gender differences, emotional empathy in males was better explainable by values than female empathy. This does not seem to be due to a larger variance of the scores of males or to a ceiling effect in the scores of females.

In all, the results are consistent with the notion that emotional empathy motivates prosocial behaviour and actions directed toward the welfare of other people, which are expressed in the value types of universalism and benevolence. Emotional empathy is motivationally not compatible with striving for power and achievement, which is consistent with our finding of its negative correlations with these value types. The differences in the empathy scores of students in different fields of study largely mirror their value priorities.

### Acknowledgements

This study has been financially supported by the Academy of Finland.

*Correspondence:* L. Myrsky, Department of Social Psychology, Box 4,00014 University of Helsinki, Finland. E-mail: liisa.myrsky@helsinki.fi

### REFERENCES

- AIRAKSINEN, T. (1998). Professional ethics, in: R. Chadwick (Ed.) *Encyclopedia of Applied Ethics*, Vol. 3 (pp. 671–682). San Diego: Academic Press.
- ALLPORT, G.W. & VERNON, P.E. (1931). *A Study of Values*. Boston: Houghton Mifflin.
- BARNETT, M.A., HOWARD, J.A., KING, L.M. & DINO, G.A. (1981). Helping behavior and the transfer of empathy. *Journal of Social Psychology*, 115, pp. 125–132.
- BOHLMAYER, E.M., BURKE, J.P. & HELMSTADTER, G.C. (1985). Differences between education and business students in cooperative and competitive attitudes, emotional empathy, and self-esteem. *Psychological Reports*, 56, pp. 247–253.
- CHODOROW, N. (1978). *The Reproduction of Mothering*. Berkeley, University of California Press.
- DAVIS, M.H. (1983). Measuring individual differences in empathy: evidence for a multidimensional approach. *Journal of Personality and Social Psychology*, 1, pp. 113–126.
- DUFFY, E. (1940). A critical review of investigations employing the Allport-Vernon study of values and other tests of evaluative attitude. *Psychological Bulletin*, 37, pp. 597–612.
- EAGLY, A.H. (1987). *Sex differences in social behavior: a social-role interpretation*. Hillsdale: Erlbaum.
- EISENBERG-BERG, N. & MUSSEN, P. (1978). Empathy and moral development in adolescence. *Developmental Psychology*, 2, pp. 185–186.
- EISENBERG, N., MILLER, P.A., SHELL, R., MCNALLEY, S. & SHEA, C. (1991). Prosocial development in adolescence: a longitudinal study. *Developmental Psychology*, 5, pp. 849–857.
- EISENBERG, N., WENTZEL, N.M. & HARRIS, J.D. (1998). The role of emotionality and regulation in empathy-related responding. *School Psychology Review*, 4, pp. 506–522.
- FEATHER, N.T. (1987). Gender differences in values: implications of the expectancy-value model, in: F. Halisch & J. Kuhl (Eds) *Motivation, intention and volition* (pp. 31–45). Berlin: Springer-Verlag.
- FELTEY, K.M. & POLOMA, M.M. (1991). From sex differences to gender role beliefs, *Sex Roles*, 25, pp. 181–193.

- HELKAMA, K. (1999). Recherches récentes sur les valeurs, in: W. Doise, N. Dubois & J-L. Beauvois (Eds) *La Construction Sociale de la Personne* (pp. 61–73). Grenoble: Presses universitaires de Grenoble.
- HELKAMA, K., UUTELA, A. & SCHWARTZ, S. (1992). Value systems and political cognition, in G. Breakwell (Ed.) *Social Psychology of Political and Economic Cognition* (pp. 7–32). London: Surrey University Press.
- HOFFMAN, M.L. (1977). Empathy, its development and prosocial implications, in: C.B. KEASY (Ed.) *Nebraska Symposium on Motivation*, vol. 25 (pp. 169–217) Lincoln: Nebraska University Press.
- HOFFMAN, M.L. (1981). The development of empathy, in: J.P. RUSHTON & R.M. SORRENTINO (Eds) *Altruism and helping behavior*, (pp. 41–63) Hillsdale: Lawrence Erlbaum Associates.
- HOFSTEDE, G. (1980). *Culture's consequences*. Beverly Hills: Sage.
- HOFSTEDE, G. (1991). *Cultures and organizations. Software of the mind*. London: McGraw-Hill.
- HOGAN, R. (1969). Development of an empathy scale. *Journal of Consulting and Clinical Psychology*, 33, pp. 307–316.
- MEHRABIAN, A. & EPSTEIN, N. (1972). A measurement of emotional empathy. *Journal of Personality*, 4, pp. 525–543.
- PALEVAARA, M. (1997). Järki vai tunteet. Kuudesluokkalaisten tyttöjen moraaliarvioiden ja empatian kehitys tavallisella ja musiikkiluokalla, (Sense or sensibility. The development of sixth grade females' moral reasoning and empathy in ordinary and music class), *Master's thesis*, University of Helsinki.
- POHJANHEIMO, E. (1997). *Arvojen Muutos, Työ ja Sosiaalinen tausta. Tutkimus työikäisistä pyhtääläisistä 1982–1993, (Value Change, Work and Social Stratification. Working-age population in Pyhtää 1982–1993)*, University of Helsinki, Department of Social Psychology, Research Reports 1/1997.
- PRINCE-GIBSON, E. & SCHWARTZ, S. (1998). Value priorities and gender. *Social Psychology Quarterly*, 61, pp. 49–67.
- RIGGIO, R.E., TUCKER, J. & COFFARO, D. (1989). Social skills and empathy. *Personality and Individual Differences*, 1, pp. 93–99.
- SCHWARTZ, S. (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 social psychology*, vol 25 (pp. 1–65). San Diego: Academic Press.
- SCHWARTZ, S. (1994). Are there universal aspects in the structure and contents of human values? *Journal of Social Issues*, 4, pp. 19–45.
- SHELDON, K.M. (1996). The social awareness inventory: development and applications. *Personality and Social Psychological Bulletin*, 6, pp. 620–634.
- SHELDON, K.M. & JOHNSON, J.T. (1993). Forms of social awareness: their frequency and correlates. *Personality and Social Psychology Bulletin*, 3, pp. 320–330.
- SMITH, P.B. & SCHWARTZ, S.H. (1997). Values, in: J.W. BERRY, M.H. SEGALL & C. KAGITCIBASI (Eds) *Handbook of cross-cultural psychology*, vol. 3, 2nd edn (pp. 75–118). Boston Allyn & Bacon.
- SPRANGER, E. (1928). *Types of men. The psychology and ethics of personality*. New York: Johnson Reprint Corporation.
- STOTLAND, E. (1969). Exploratory investigations of empathy, in: L. BERKOWITZ (Ed.) *Advances in experimental social psychology*, vol. 4 (pp. 271–314). London: Academic Press.
- VAN ORNUM, W., FOLEY, J.M., BURNS, P.R., DEWOLFE, A.S. & KENNEDY, E.C. (1981). Empathy, altruism, and self-interest in college students. *Adolescence*, 64, pp. 799–808.
- VERKASALO, M. (1996). *Values—desired or desirable?* University of Helsinki, Department of Psychology, Research Reports, No 17.
- VERKASALO, M., DAUN, Å. & NIIT, T. (1994). Universal values in Estonia, Finland and Sweden. *Ethnologia Europaea*, 24, pp. 101–117.
- VERKASALO, M., TUOMIVAARA, P. & LINDEMAN, M. (1996). 15-year-old pupils' and their teachers' values, and their beliefs about the values of an ideal pupil. *Educational Psychology*, 1, pp. 35–47.

Copyright of Educational Psychology is the property of Carfax Publishing Company and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.