ANALYSIS OF RELATIONSHIPS BETWEEN PROSOCIAL TENDENCIES, EMPATHY, AND THE FIVE-FACTOR PERSONALITY MODEL IN STUDENTS OF HELPING PROFESSIONS[*]

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Abstract: This paper represents the most important findings of a pilot study examining relationships among prosocial tendencies, empathy, and five personality dimensions on a sample of 137 female university students of social work and pedagogy. The findings of this study validate the existence of a compelling relationship among prosocial tendencies, empathy, and personality dimensions in relation to openness to experience and sociability.

Key words: prosocial tendencies, empathy, empathic concern, perspective taking, personal distress, fantasy, neuroticism, extraversion, openness to experience, sociability, and conscientiousness

INTRODUCTION

Although a number of professionals specializing in the fields of theory and practice of helping professions agree that prosocial behavior and empathy represent two of the most basic prerequisites in the field, these concepts remain only on the fringes of empirical research and are underrepresented in terms of existing verified research findings. Many helping professionals influenced by the Czech academic literature, for instance, tend to confuse the term *empathy* with the process of 'feeling with,' rather than 'feeling into'. Also the

term *prosocial behavior* is often understood only as a synonym of assistance.

Those engaged in the sphere of social work often agree that every social worker should be equipped with sufficient levels of prosocial behavior and empathy, which are considered decisive bases of a worker's interaction with clients, and represent an essential part of its effectiveness. Although many professionals would agree that the personality of an individual engaged in a helping profession is in fact her most vital instrument, the examination of how basic personality characteristics of social workers interrelate with the above concepts remains a rather neglected sphere of study.

Data illustrating levels of prosocial behavior and empathy in social workers, and findings suggesting how these competencies could further be developed through

their post-secondary education or during their professional careers, are mostly absent from local research also. Some research results even propose that social workers reach only average values as far as the above aspects are concerned (see Mlčák et al., 2005).

The main focus of this pilot study is thus to examine mutual relationships among psychosocial tendencies, relevant components of empathy, and selected personality dimensions.

THEORETICAL RESOURCES

The present study, in its examination of relationships among prosocial behavior, empathy, and selected structural personality aspects, bases its analytical focus on the following basic theoretical resources: 1) *concept of prosocial tendencies*, 2) *multidimensional empathy concept*, and 3) *five-factor personality model.*

Prosocial Tendencies

Prosocial tendencies are interrelated with the conceptually broader notion of prosocial behavior, which in modern psychology represents a rather less strictly defined term. In general, prosocial behavior can be classified in terms of its two defining characteristics, which include the motivation to benefit another person, and the subject's freedom to make intentional decisions (for detailed discussion see Bierhof, 1990 cited in Hewstone et al., 1996). While the term prosocial behavior is related to a person's motivated and objectively registered reaction, the concept of prosocial tendency can be for the purposes of this study defined rather as an internal motivational willingness to act in that particular way. Such prosocial tendencies can be observed through introspection, even without taking

into account their externally demonstrated manifestation.

Theorists relate prosocial tendencies to different types of prosocial behavior; for instance, L.G. Wispé (1972, cit. in Zanden, 1987), distinguishes and defines five categories of prosocial behavior: sympathy, cooperation, donating, helping, and altruism. According to Wispé's classification, *sympathy* is viewed as a type of behavior through which interest can be expressed, and pain, grief, or other negative feelings can be shared; *cooperation* as a behavior based on an ability and willingness of an individual to cooperate with others, and not always for a mutually shared benefit; *donating* as giving gifts or other contributions for charitable purposes; *helping* as behavior through which one can express one's support of others in an effort to gain a certain object or achieve a particular goal; and finally, *altruism*, as behavior aimed at benefiting another person without expecting any external rewards.

According to some theorists, prosocial behavior should not be viewed as a global construct, rather, it should be defined as a set of distinct but mutually interrelated dimensions. Following this framework, G. Carlo and B.A. Randall (2002) distinguished six types of prosocial tendencies, which vary from the perspective of their motivations:

1) *Altruistic prosocial behavior* refers to voluntarily helping others, which is primarily motivated by the helping subject's interest in another person's needs and benefits, when there is little or no perceived potential for a direct, explicit reward for the self. It often originates in the subject's sympathy and other internalized moral norms or principles. Since helping subjects mainly concentrate on the other person's needs, their actions often result in incurring some expenses or losses. Al-

though a number of theoreticians challenge the mere existence of altruistic behavior, several pieces of evidence are present that may support it. Amongst the most distinct pointers, scholars have been highlighting the heredity of compassion and sympathy and their evolutionary adaptive function, the stability of human altruistic behavior in the process of ontogenesis, and a significant link that has been detected in different contexts between certain personality variables and prosocial behavior.

2) *Compliant prosocial behavior* refers to helping others when receiving a verbal or non-verbal request. This form of helping is more frequently present in a society than its more spontaneous form. It also appears that a higher level of compliance relates not only to a higher level of moral reasoning, which can be oriented at achieving some social recognition, but also to a higher level of acceptance of different perspectives and kinds of compassion.

3) *Emotional prosocial behavior* refers to acts intended to benefit others carried out under emotionally arousing situations (i.e., a painful injury). These situations can arouse sympathy in an observer, but also a high level of anxiety and personal distress. Research shows that helping in emotionally highly arousing situations is strongly motivated by sympathy, which reflects the helping subject's tendency to focus on others rather than self, and his/her high level of empathy.

4) *Public prosocial behavior* is defined as an act intended to benefit others carried out in the presence of other people. This behavior can be perhaps at least partially motivated by one's wish to receive acceptance and respect from others. Such a public display of helping can be sometimes associated with motives related to the subject's self, for instance, a desire to gain prestige and appreciation, behave in a socially acceptable manner, and present oneself in a positive way. This helping is not necessarily associated with one's feeling of compassion or acceptance of the point of view of others who are experiencing some form of need, and therefore cannot be explained by a higher level of moral reasoning.

5) *Anonymous prosocial behavior* refers to acts intended to benefit others in the absence of any evidence of who will benefit from them. It is largely motivated by positive feelings experienced in relation to the fact that one has done a good deed.

6) *Dire prosocial behavior* refers to helping others under emergency or crisis situations and those who are experiencing emotional distress (e.g., frustration or stress).

Empathy

Empathy is a psychological construct viewed as central in its functions in relation to human behavior and feelings. In its most narrow definition, empathy refers to a subject's sensitivity and understanding of the mental states of other people. It represents a fundamental condition of social communication and interactions among people and a basis for forming relevant interpersonal relationships. Empathy is often connected to prosocial behavior, even though it can also be present in anti-social behavior, where it can play the role of a key mechanism for suppressing aggression and violence.

In contemporary psychology, the term empathy is often used in connection with two interrelated human abilities: *cognitive empathy* (receiving of a mental perspective) and *emotional empathy* (mediated sharing of emotions). According to this view, cognitive and emotional empathy are considered as two separate abilities, which

act in intricate mutual interaction, although real empathy represents an integration of both of these aspects. Contemporary psychology still considers this analysis as useful, although most recent developments suggest that future research will tend to follow a multidimensional interpretation of empathy (for an overview, see Mlčák, 2004).

Cognitive empathy represents an ability to understand the world, including one's own behavior, from the perspective of others, to construct states of mind, and to understand intellectually and imaginatively how other people are and their states of mind. The role of cognitive empathy can be further demonstrated on research models developed, for instance, by G.H. Mead, R. Dymond, and R. Hogan.

In the process of human evolution, cognitive empathy has developed as a precondition of human social functioning, as it allowed people to understand and predict each other's behavior in relation to their states of mind, facilitated social communication, and ultimately made social evaluation possible.

Emotional empathy refers to an affective response generated by the situation of others rather than one's own, an emotional reply stemming from another person's emotional state, or an emotional reaction of an observer who perceives another person's emotions. This theory is best represented in the works of E. Stotland, A. Mehrabien, N. Epstein, G.T. Barret-Lennard, N. Eisenberg, J. Strayer, and M.L. Hoffman.

From the perspective of evolutionary theory, the emotional empathy that allows distinguishing between one's own and others' emotions motivated people to behave in an altruistic manner especially towards their relatives, friends, and allies. By developing a propensity for coopera-

tive behavior, emotional empathy acted in favor of an overall human competence and endowed humans with the ability to survive and reproduce. In general, emotional empathy grew stronger due to natural and sexual selection, and also thanks to helping actions aimed at other members of one's kin or the same social group, who were in turn able to reciprocate them. Emotional empathy thus represented a basis of human moral development, a bonding element in social structures between parents and children, and a phenomenon allowing the strengthening of group cohesion (see Smith, 2006).

Following the approach of most contemporary theorists, who distinguish between different empathic responses in terms of their cognitive and affective components, M.H. Davis (1980, 1983, 1996) developed a multidimensional conceptualization of empathy when describing interrelated personality constructs of empathy in four subscales: 1) *perspective taking*, which measures the cognitive ability to appreciate others' point of view on the basis of non-egocentric thinking; 2) *empathic concern*, which examines the affective ability to feel concern for others and which is reflected in altruistic behavior; 3) *fantasy*, which assesses the ability to identify with fictitious characters in books, plays, and films; and 4) *personal distress*, which assesses the extent to which a person shares negative emotions of others in intensive interpersonal situations.

According to M.H. Davis (1983), components of empathy significantly correlate with some personality aspects, although the intensity of such correlation can be rather low. Higher levels of perspective taking correspond to higher levels of an individual's interpersonal functioning, extraversion, social competency, and self-esteem. On the other hand, perspective

taking negatively correlates with arrogance and boastfulness. A higher level of empathic concern matches greater shyness and unselfish concern for others. A higher level of fantasy appears in a positive relationship with stronger verbal intelligence, ability to react emotionally, and tendency to behave sensitively towards others. Finally, higher levels of personal distress correlate with lower self-esteem, poor social functioning, and high anxiety levels.

Five-Factor Model of Personality

One of the more prominent models in contemporary psychology is what is known as the five-factor model of personality. This conceptual model for describing personality incorporates five different variables that predispose an individual to react in certain specific and constant ways in different life situations. At the same time, this theory determines that the variables system is configured in a high measure of inter-individual variability. One of the long-held goals of modern psychology has been to establish a model that would reflect the dispositional conception of personality: the five-factor theory is among the most influential models, and is thus referred to as the "Big Five".

In studying the five-factor model, two hypotheses seem to be viewed as particularly useful; they are the lexical and questionnaire traditions. The lexical hypothesis utilizes an analysis of words and aims to identify a universally valid taxonomy of personality characteristics that are encoded into the natural language. This method stems from a general lexical hypothesis that presupposes language to provide the structure with which we frame and understand the world around us and through which we observe individual differences amongst people. The traditional paradigm for research utilizing the five-factor model has been to ask subjects to rate themselves or someone else using lists of trait adjectives that can be used to describe personality. Factor analysis is then employed to uncover the "factors" or categories to which the adjectives seem to belong. After extensive research in the international field of scholarly psychology carried out in a number of different languages (for an overview see Hřebíčková, Urbánek, 2001), a general consensus has been reached as to the identity of the five universally and trans-culturally valid factors and their basic interpretations and values for personality analysis. The five factors are: 1) *extraversion,* 2) *agreeableness,* 3) *conscientiousness,* 4) *emotional stability,* and 5) *intellect.* In the Czech academic context, the factors were confirmed in M. Hřebíčková's (1995, 1997) studies. Furthermore, these factors can be associated with certain categories of human activity, such as 1) *strength* (extraversion), 2) *love* (agreeableness), 3) *work* (conscientiousness), 4) *emotion* (emotional stability), and 5) *reason* (intellect).

The questionnaire method was developed on the basis of analyzing questionnaire items with the goal of creating a universally applicable theory of personality traits. According to O. Kolaříková (1981), trait models can be differentiated into the following variants: 1) attributive, 2) conceptually categorical, and 3) conceptually dimensional. The conceptually dimensional theory views personality traits as generalized notions used for describing a personality, which employ either terms from a natural language or terms artificially created on the basis of mathematical-statistical extraction. These operationally defined personality dimensions refer to forms of behavior, so that their notional and behavioral aspects mutually corre-

spond. As they can be measured, the level of each trait can be used to evaluate the position of an individual on the trait's particular scale.

P.T. Costa and R.R. McCrae's (1996) theory of studying the five-factor model is based on factor analyses of questionnaires. It similarly aspires to creating a universally valid trait theory; unlike the lexical model, however, it is hierarchical, in that the five factors are derived from factor analyses of lower-order aspects. Costa and McCrae based their model on a mathematical cluster analysis of R.B. Cattell's 16 PF Questionnaire, which allowed them to identify a scale of neuroticism, extraversion, and openness towards experience. Inspired by L.R. Goldberg's lexical study, they extended the existing scale to include a spectrum of agreeableness and consciousness. In an attempt to make the five-factor model more operational, they developed a series of questionnaires, such as NEO Personality Inventory - NEO PI (Costa, McCrae, 1985), Revised NEO Personality Inventory - NEO-PI-R (Costa, McCrae, 1992), and NEO Five-Factor Inventory NEO-FFI (Costa, McCrae, 1989) as shortened versions of the original questionnaire NEO PI.

Theorists and proponents of the five-factor model's dispositional approach have been trying to present decisive evidence of its universal validity and applicability. Some point to genetic faculties as primary sources of all discovered traits, and contend that this should be evidence of the central role they play in a personality. The fact that personality traits retain their stability over time constitutes another reason to consider the dispositional approach as applicable. As the traits were mathematically extracted from a series of different questionnaires and further examined by applying a trans-cultural research analysis,

the proponents argue that there is enough evidence to support the validity of this approach. Furthermore, the comparability of the factors amongst different age groups and the relatively high concurrence of results achieved among different measurements, are also said to speak in support of the model's validity (for a detailed overview see Botwin, Buss, 1989; Watson, 1989; Funder, 1991; and McCrae, 1992).

However, other researchers and practitioners have criticized this approach, contesting the above data and arguing that the method lacks both universality and validity. According to these opponents, the five-factor model is static, as it is based on participants' rather superficial, simplified, and implicit statements. Although the model does provide some interesting and vital data about personalities, it does at the same time fail to supply any organic connection to other important information, such as biographical data. Furthermore, as this approach omits the complex conditionality of human experience, it cannot be seen as reliable in predicting specific forms of human behavior. In the view of opponents of this approach, the Big Five's trait model also reduces a personality to its relatively limited, and rather temperamental component, while employing descriptive personality adjectives. Moreover, the methodology used to investigate these phenomena (factor analysis) does not have a well-supported and universally recognized scientific or statistical basis for choosing among solutions with different numbers of factors (see Pervin, 1994a; 1994b).

Although much of the criticism is valid, the five-factor model can still be considered quite useful, especially because of the high levels of consistency of its theoretical and methodological levels. Its applicability is particularly strong in empirical studies

employing quantitative and nomothetic approaches that are aimed at examining the mutual relationship between different psychological constructs. Overall, the major benefit of this approach, and the reason for its use in the present study, is that it allows for a theoretical and empirically reliable description of basic personality traits.

RESEARCH OBJECTIVES, SAMPLE, AND METHODOLOGY

The aim of this pilot study is to examine mutual relationships among psychosocial tendencies and relevant aspects of empathy and personality dimensions based on the five-factor model in a research sample of selected students of helping professions. This project is a component of a larger research study - GACR (see Mlčák, Záškodná, 2005).

In early 2006 the researchers addressed a sample of 137 research subjects, comprising a subgroup of 82 female students in their first to fourth year of studies at the Ostrava University's Department of Social Work, and a subgroup of 55 female students in their first to third year of pedagogy studies at the OU's Faculty of Education. The average participants' age was 22.57 years, with a standard deviation of 2.91 years.

Both subgroups were diagnosed by applying the following methods A, B, and C:

A) In diagnosing prosocial tendencies, the research team applied the *Prosocial Tendencies Measure - PTM* developed by G. Carlo and B.A. Randall (2002). The 23-item, 6 subscale measure assesses six types of prosocial behavior, which were outlined in detail in the previous section. The participants were asked to evaluate statements on a 5-point scale from 1 (Does Not Describe Me) to 5 (Describes Me Very Well). The measure then applies the complete score without each individual sub-score and a score of each six subscales: 5-point altruistic prosocial behavior (AL), 2-point compliance prosocial behavior (CO), 4-point public prosocial behavior (PU), 4-point emotional prosocial behavior, 5-point anonymous prosocial behavior (AN), and 3-point dire prosocial behavior (EM).

B) In measuring empathy, the researchers applied a popular multidimensional scale developed by M. Davis (1980, 1983, and 1996) called *Interpersonal Index Reactivity - IRI*. The 28-point scale is subdivided into 4 subscales, each containing 7 items. Each scale measures a specific component of the empathic process or its implications in terms of its tendencies, rather than pure ability. Participants then evaluate items measuring different aspects of cognitive and emotional empathy in a 5-point Likert Scale (0 - Does Not Describe Me, 4 - Describes Me). The Interpersonal Index Reactivity appears to possess a solid psychometric character (see Brems, 2001; Pulos, Elison, Lennon, 2004) and after applying factor analysis, it can be divided into four distinct, but interrelated subscales:

1) *Perspective taking (PT)*, which measures the cognitive ability to adapt one's own psychological point of view to that of others in daily life (i.e., "When seeing someone else being criticized, I try to imagine how I would feel in his/her place.").

2) *Empathic concern (EC)*, which examines the affective ability to feel concern, amicability, and interest in others in intensive interpersonal situations (i.e., "I often feel sympathy and concern for others who are not as fortunate as myself.").

3) *Personal distress (PD)*, which assesses the extent to which a person shares the negative emotions of others (i.e., "I experi-

ence distress and discomposure in intensive situations.").

4) *Fantasy (FS)*, which assesses the ability to identify with fictitious characters (i.e., "When I read an interesting story or a novel, I imagine how I would feel if I were involved in the events described.").

C) Finally, to assess and diagnose personality dimensions, the researchers used *NEO Five Factor Inventory NEO-FFI* (Costa, McCrae, 1989), re-designed and standardized for the Czech context by M. Hřebíčková and T. Urbánek (2001). The method measures five general dimensions, each containing twelve self-assessment statements, which are then evaluated by participants for validity on a 5-point scale (0 - Invalid; 1 - Rather Valid; 2 - Neither Valid Nor Invalid; 3 - Almost Valid; 4 - Entirely Valid). NEO FFI five-factor personality measure contains personality factors that can be further defined by the following factors:

1) *The neuroticism factor* examines the levels of adaptability or emotional instability. It distinguishes individuals susceptible to mental exhaustion and unrealistic ideals from those who are emotionally balanced and resistant to mental exhaustion. It is primarily those who score high in this dimension who are inclined to experience specific negative feelings such as anxiety, anger, nervousness, unstableness, hypochondria, or depression. At the other end of the scale, individuals who score low are less easily upset and less emotionally reactive. They tend to be calm, relaxed, emotionally stable, self-confident, and satisfied.

2) *The extraversion factor* reflects the quality and quantity of interpersonal interaction and a need for stimulation and level of activation. High scoring individuals are sociable, active, talkative, optimistic, funny, and oriented towards others, while low scoring people would be reserved, serious, quiet, and task-oriented.

3) *The openness to experience factor* describes a dimension of personality that distinguishes imaginative, creative, curious, original, and progressive people, from down-to-earth and conventional people who are not very analytical or artistic. People with low scores tend to have narrow, everyday interests.

4) *The agreeableness factor* reflects individual differences in concern with cooperation or animosity in thought, feelings, and actions. Agreeable individuals value getting along with others and are therefore conservative, considerate, good-natured, friendly, generous, helpful, sincere, and trusting. Disagreeable individuals are generally cynical, rude, suspicious, unwilling to cooperate, vindictive, and unfriendly.

5) *The conscientiousness factor* measures levels of motivation, perseverance, and organization of goal-oriented behavior, while distinguishing between reliable and self-demanding individuals, and indifferent or negligent people. Conscientious individuals enjoy purposeful planning and persistence, are hard-working, disciplined, punctual, perfectionist, and are regarded by others as intelligent and reliable. Those on the low scoring side may be criticized for their unreliability, laziness, ambition deficiency, indifference, negligence, and self-indulgence.

DISCUSSION OF RESEARCH RESULT

The results of all three diagnostic methods were analyzed by means of statistical analysis in the SPSS program for Windows, which was based on the calculation process of t-test and Pearson's correlation coefficient.

The basic statistical parameters reached in all examined variables are introduced in

Table 1. Basic statistical parameters of the examined variables (n = 137)

	M	SD	Percentile
Prosocial Tendencies (PTM)	56.17	10.71	-
Anonymous (AN)	11.50	4.12	-
Public (PU)	6.20	2.14	-
Altruistic (AL)	9.58	3.37	-
Compliance (CO)	8.07	1.60	-
Emotional (EM)	12.24	3.38	-
Dire (DI)	8.58	2.66	-
Empathic Interest (EC)	27.18	3.46	-
Perspective Taking (PT)	24.86	3.88	-
Personal Distress (PD)	21.88	3.47	-
Fantasy (FS)	21.49	4.94	-
Neuroticism (N)	20.89	7.26	38
Extraversion (E)	33.73	7.70	53
Openness to Experience (O)	29.93	6.45	56
Agreeableness (P)	33.11	5.41	66
Conscientiousness (S)	31.90	6.82	69

Legend: n = number of participants; M = arithmetical average; SD = standard deviation

Table 1. The data presented in this table present an overall characterization of the entire research sample consisting of the merged subgroups of female students of social work and pedagogy.

In the PTM questionnaire, in which G. Carlo and B.A. Randall observed prosocial dimensions in a sample of 145 female psychology students, the basic values, i.e. average (M) and standard deviation (SD), were examined from the point of view of the separate items, rather than summary of all the subscales. Once the results of the Czech study (see Table 2) are converted by means of the above method, a simple juxtaposition of the two outcomes is possible.

The main differences can be observed in levels of altruistic prosocial tendencies, which appear significantly higher in the American sample; on the other hand, the Czech participants reach higher scores in compliance. However, due to a possible social desirability bias that is unavoidable in self-assessment questionnaires, the data is hard to interpret. Historical contexts of different cultural and social importance may have also played an important role, affecting the participants self-assessments through the relevant questionnaires. Also, the average age of the American research sample was two years lower than the Czech one.

Table 2. Prosocial tendencies in the Czech (n = 137) and American (n = 145) research samples

	G. Carlo, B.A. Randall		Z. Mlčák, H. Záškodná	
Prosocial Tendencies	M	SD	M	SD
Anonymous (AN)	2.94	0.96	2.30	0.82
Public (PU)	1.88	0.69	1.55	0.54
Altruistic (AL)	4.32	0.67	1.92	0.67
Compliance (CO)	3.94	0.80	4.04	0.80
Emotional (EM)	3.80	0.71	3.06	0.85
Dire (DI)	3.50	0.81	2.86	0.95

Table 3. Statistical comparison of basic parameters in both examined subgroups

	Social Work n = 82		Pedagogy n = 55		T-test
	M	SD	M	SD	
Prosocial Tendencies (PTM)	54.76	10.12	58.27	11.30	-
Anonymous (AN)	11.68	4.03	11.24	4.27	-
Public (PU)	6.00	1.96	6.51	2.37	-
Altruistic (AL)	9.26	3.35	10.05	3.37	-
Compliance (CO)	7.96	1.62	8.22	1.56	-
Emotional (EM)	11.71	3.07	13.04	3.45	0.02
Dire (DI)	8.15	2.44	9.22	2.86	-
Empathic Interest (EC)	26.82	3.47	27.71	3.39	-
Perspective Taking (PT)	25.24	3.82	24.29	3.92	-
Personal Distress (PD)	21.83	3.59	21.95	3.30	-
Fantasy (FS)	21.72	4.51	21.15	5.55	-
Neuroticism (N)	21.51	6.44	19.96	8.32	-
Extraversion (E)	32.21	7.58	36.00	7.38	0.01
Openness to Experience (O)	30.44	5.79	29.18	7.31	-
Agreeableness (P)	33.39	5.15	32.69	5.79	-
Conscientiousness (S)	32.07	7.03	31.64	6.56	-

With regard to the standardized sample (see Hřebíčková, Urbánek, 2001), extraversion (E) and openness to experience (O) values appear in the average range (percentile 53 and 56), while the values of agreeableness (P) and conscientiousness (S) are slightly below average (percentile 66 and 69). The research sample also reached slightly below average scores in the neuroticism (N) dimension (percentile 38). On the other hand, the participants scored higher than the general population in the spheres of agreeableness and conscientiousness. As far as prosocial tendencies and empathy are concerned, there are no standardized values available, as neither of the two factors has been examined psychometrically.

Table 3 presents results of statistical comparison among all examined variables. The results indicate that the two examined subgroups do not show any significant

statistical differences. Therefore, in the following analysis we may assume the two samples to be a rather homogeneous entity, and merge them into a single sample unit.

The only significant difference with regard to the data presented in Table 3 can be observed in the extraversion (E) and emotional prosocial behavior (EM) dimensions, in which higher scores were reached by participants from the field of pedagogy (see statistical significance values of the t-test).

The correlation analysis results presented in Table 4 demonstrate some statistically significant correlations among total values of prosocial tendencies (PTM), empathy aspects (EC, PT, PD, FS), and personality dimensions of the Big Five approach (N, E, O, P, S).

As Table 4 demonstrates, the ascertained correlations between aspects of empathy (EC, PT, PD, and FS) may result from the

Table 4. Correlation analysis of the examined variables results (n = 137)

	PTM	EC	PT	PD	FS	N	E	O	P	S
PTM	1	**0.352**	**0.228**	**0.251**	*0.210*	0.047	0.016	0.116	0.105	0.016
EC	**0.352**	1	**0.301**	**0.315**	**0.323**	0.134	0.005	**0.305**	**0.228**	0.076
PT	**0.228**	**0.301**	1	-0.071	0.060	-0.019	-0.138	**0.306**	**0.334**	0.081
PD	**0.251**	**0.315**	-0.071	1	**0.339**	**0.499**	**-0.273**	0.154	-0.001	*-0.194*
FS	*0.210*	**0.323**	0.060	**0.339**	1	*0.199*	-0.055	**0.451**	0.043	*-0.168*
N	0.047	0.134	-0.019	**0.499**	*0.199*	1	**-0.502**	-0.020	**-0.302**	**-0.375**
E	0.016	0.005	-0.138	**-0.273**	-0.055	**-0.502**	1	0.137	0.153	**0.278**
O	0.116	**0.305**	**0.306**	0.154	**0.451**	-0.020	0.137	1	*0.210*	-0.023
P	0.105	**0.228**	**0.334**	-0.001	0.043	**-0.302**	0.153	*0.210*	1	0.082
S	0.016	0.076	0.081	*-0.194*	*-0.168*	**-0.375**	**0.278**	-0.023	0.082	1

Legend: PTM = total prosocial tendencies; EC = empathic interest; PT = perspective taking; PD = personal distress; FS = fantasy; N = neuroticism; E = extraversion; P = agreeableness; S = conscientiousness. Correlation ratios evidential on the 0.01 level of statistical significance are highlighted in bold; correlation ratios evidential on the 0.05 level of statistical significance are highlighted in bold and italics.

theoretical multidimensional concept of empathy as developed by M.H. Davis, as well as from his methodological tool - the Index of Interpersonal Reactivity (IRI). Perspective taking correlates weakly with personal distress (PT x PD) and fantasy (PT x FS), however as PT primarily measures cognitive aspects of empathy (trying to "think" like others), this result was not unexpected at all.

M.H. Davis (1983, p. 11) found a correlation in two sample groups (N1 = 378 and N = 235) of female psychology students in the U.S., when presenting evidence that showed correlation with all IRI subscales. When comparing the achieved results with Davis's, a relatively high correspondence among certain dimensions is quite evident: empathic interest correlates with perspective taking (EC x PT) and with fantasy (EC x FS). On the other hand, some disagreements can be found as well: for instance, in the Czech sample, perspective taking correlates weakly with personal distress (PT x PD) and fantasy (PD x FS), while in the U.S. sample the correlations appear more statistically relevant. In the Czech sample, conversely, personal distress correlates strongly with fantasy (PD x FS), while the same correlation is insignificant in Davis's groups.

The results may vary due to several factors, including personal differences among participants in the two samples. For instance, the Czech social work and pedagogy students could have differed from the American students in their specific rationality - emotionality dimension levels. Furthermore, personal differences among participating students leading to their choice of professional specialization (psychology in the U.S. sample, and social work and pedagogy in the Czech one) should also be taken into account. Finally, some of the discrepancies may also be attributed to cultural differences, as the applied methodology has not been proved to be culture free.

As far as the dimensions of the Big Five model are concerned, the factors of neuroticism and extraversion (N x E), and agreeableness and conscientiousness (P x S) show some statistically significant negative correlations. Conversely, extraversion correlates positively with conscientiousness (E x S), just as openness to experience correlates positively with agreeableness (O x P). Although the above correlations are rather weak, we may consider the above results significant, as they demonstrate an existing relationship among some prosocial tendencies, and empathy and openness to experience and agreeableness (emerging already in a rather small research sample).

However, our results do not substantiate a direct relationship between prosocial tendencies and the Big Five personality dimensions. This outcome may be partially explained when one considers the fact that basic human personality traits do not necessarily have to interact with learned tendencies. Therefore, prosocial tendencies and personality dimensions could be mediated by certain aspects of empathy that incorporate both natural and learned elements.

Different aspects of empathy interrelate with some personality factors, as is evident from positive correlations of empathic interest and openness to experience (EC x O) and empathic interest and agreeableness (EX x P). Perspective taking also correlates positively with openness to experience and agreeableness (PT x O; PT x P). These two factors in particular seem to have a significant relationship with both aspects of empathy. Furthermore, fantasy's correlation with openness to experience (F x O) is also positive. Personal distress correlates with neuroticism (PD x N), al-

though this particular correlation is not unexpected, as both constructs are charged with analogical fundamental phenomena, such as anxiety and distress.

Positive correlation of perspective taking and empathic interest has also been confirmed in several theoretical studies. Estonian theoreticians, A. Realo and M. Luik (2002), for instance, verified a positive correlation of PT x P = 0.330 and EC x P = 0.620, when applying the NEO-PI-R questionnaire. The same study however did not find any correlations among perspective taking, empathic interest, and openness to experience. This result could be partially attributed to their rather heterogeneous sample with regards to the participants' sex, age, and profession.

Some evidence showing that statistically significant correlations exist among partial prosocial tendencies is presented in Table 5.

As data presented in Table 5 suggest, stronger correlations can be found especially between emotional prosocial behavior and dire behavior (EM x DI), emotional prosocial behavior and compliance (EM x CO), and public prosocial behavior and altruism (PU x AL). Other significant correlations are rather weak.

Similarly, G. Carlo and B.A. Randall (2002) achieved comparable results in finding analogical correlations in their research sample. For instance, emotional prosocial behavior and dire behavior (EM x DI) correlated at 0.500, while emotional prosocial behavior and compliance (EM x CO) correlated at 0.360. Quite a distinct difference is however evident in correlations between prosocial behavior and altruism (PU x AL), public prosocial behavior and compliance (PU x CO), and public prosocial behavior and anonymous altruistic prosocial behavior (PU x AN), which in their study reached significantly negative values.

The results of correlation analysis of partial prosocial tendencies and other examined variables reached after applying the IRI and NEO-FFI method are presented in Table 6.

As Table 6 illustrates, our results suggest that statistically significant correlation exists between empathic interest and emotional prosocial behavior (EC x EM), empathic interest and compliance (EC x CO), and empathic interest and personal distress (EX z DI). Furthermore, when examining correlations between prosocial tendencies and personality factors, we must draw

Table 5. Intercorrelations between partial prosocial tendencies (PTM)

Prosocial Tendencies (PTM)	AN	PU	AL	CO	EM	DI
Anonymous (AN)	1	*0.211*	0.130	0.056	**0.224**	**0.271**
Public (PU)	*0.211*	1	**0.473**	-0.015	*0.171*	0.151
Altruistic (AL)	0.130	**0.473**	1	0.052	**0.273**	**0.283**
Compliance (CO)	0.056	-0.015	0.052	1	**0.446**	**0.381**
Emotional (EM)	**0.224**	*0.171*	0.273	0.446	1	**0.626**
Dire (DI)	**0.271**	0.151	**0.283**	**0.381**	**0.626**	1

Legend: Correlation coefficients evidential on 0.01 statistical significance level are highlighted in bold. Correlation coefficients evidential on 0.05 level are emphasized in bold and italics.

Table 6. Correlation analysis of prosocial tendencies and other examined variables

	AN	PU	AL	CO	EM	DI
PTM	**0.612**	**0.517**	**0.621**	**0.415**	**0.735**	**0.720**
EC	0.157	-0.035	-0.004	**0.365**	**0.489**	**0.385**
PT	**0.252**	0.041	-0.045	0.125	*0.199*	**0.233**
PD	0.022	0.119	*0.172*	0.129	**0.351**	0.150
FS	0.126	0.134	-0.012	0.098	**0.253**	*0.188*
N	0.029	0.084	0.093	-0.152	0.073	-0.041
E	-0.123	-0.055	-0.047	**0.270**	0.035	0.153
O	0.115	-0.103	***-0.184***	0.268	*0.195*	*0.203*
P	0.012	-0.074	***-0.211***	**0.401**	**0.273**	0.152
S	-0.032	-0.157	-0.030	*0.209*	0.017	0.132

Legend: AN = anonymous prosocial behavior; PU = public prosocial behavior; AL = altruistic prosocial behavior; CO = compliance; EM = emotional prosocial behavior; DI = dire prosocial behavior; PTM = total prosocial tendencies; EC = empathic interest; PT = perspective taking; PD = personal distress; FS = fantasy; N = neuroticism; E = extraversion; O = openness to experience; P = agreeableness; S = conscientiousness. Correlation coefficients evidential on 0.01 level of statistical significance are highlighted in bold. Correlation coefficients evidential on the 0.05 level are highlighted in bold and italics.

particular attention to the correlation between compliance and agreeableness (CO x P), which quite logically suggests that an individual reaching higher level of agreeableness would most likely be more inclined to offer help when asked for it.

CONCLUSION

The results of this pilot study were achieved on the basis of participants' self-assessments, which reduce our ability to draw any general conclusions applicable to real-life situations. The relation between internal prosocial tendencies, empathy aspects, and personality dimensions, and real social behavior is very complex, as it reflects an intervention of a large range of situational variables that, with regards to motivations of prosocial behavior, are considered by modern research to be more significant than personality dispositions themselves. Real-life human behavior is always a result of an interaction between internal dispositions and external situational conditions.

This study demonstrates that prosocial tendencies significantly interrelate with all examined aspects of empathy, do not, however, at all relate to the observed personality factors based on the Big Five approach. In contrast, cognitive and emotional empathy appears in a considerable relation to the personality factors of agreeableness and openness to experience. Therefore, we may consider the relation-

ship between basic personality dimensions and prosocial tendencies to be mediated through different levels of cognitive and emotional empathy. In sum, basic personality traits distinguished by the Big Five approach cannot be by themselves considered as sufficient when seeking an explanation of why people demonstrate prosocial tendencies, unless we account for other psychological constructs and results of social learning processes.

Personality profiles of social work and pedagogy students based on the five-factor model do not show any major differences, as the only attested divergence has been found in the level of extraversion, which appeared higher in the cases of pedagogy students. Participants majoring in pedagogy also scored higher in emotional social behavior. When compared with the general population, both subgroups reached higher levels of agreeableness and conscientiousness, and lower levels of neuroticism.

Hypothetically, we may conclude that in terms of preparation for their future profession, empathy levels in social work students should be higher than those in students of other, non-helping professions. Suggestions for further research thus include an examination of the levels of prosocial tendencies, empathy aspects, and personality dimensions of the Big Five approach in students of other helping professions, such as education, and their statistical comparison with subgroups based on participants from technical and science majors. Finally, an evaluation of differences in variables with regard to gender of participants from helping professions, and other fields that do not require the helping element as professionally relevant, will be necessary.

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ANALÝZA VZTAHU MEZI PROSOCIÁLNÍMI TENDENCEMI, EMPATIÍ A PĚTIFAKTOROVÝM MODELEM OSOBNOSTI U STUDENTEK POMÁHAJÍCÍCH OBORŮ

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Souhrn: Příspěvek prezentuje nejdůležitější výsledky pilotní studie, která zkoumala vztahy mezi prosociálními tendencemi, empatií a pěti osobnostními dimenzemi u souboru 137 univerzitních studentek sociální práce a vychovatelství. Výsledky této studie potvrzují signifikantní vztah mezi prosociálními tendencemi, empatií a osobnostními dimenzemi otevřenosti ke zkušenosti a přívětivosti.