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The Relationship Between Emotional Intelligence and the Psychological System of Activity: Is There Any Difference Among University Students Majoring in Humanities and Engineering?

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The relationship between emotional intelligence and the psychological system of activity: Is there any difference among university students majoring in humanities and engineering?[1]

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Emotional intelligence (EI) is a personality trait and ability enabling people to comprehend and manage both their own feelings as well as those of others (Lyusin 2006). It has been related to cognitive abilities (Pardeller et al. 2017), leadership effectiveness and emergence (Brackett et al. 2011), workplace (Zeidner et al. 2004), personal well-being, and stress management (Zeidner et al. 2012). Differences in EI regarding professional groups and education have been found in some studies over the past decades, but the findings are inconsistent. This can be attributed to the complexity of psychological variables because of the psychological system of activity likely influencing these differences. The aim of the present study is to analyze the relationships between EI and parameters of the psychological system of activity among university students majoring in humanities and engineering fields.

The total sample was collected from 448 young adults (244 female ones) with a mean age of 20.92 years (SD = 3.97). There were 176 young adults (118 female ones) majoring in humanities and 223 young adults (209 female ones) majoring in engineering fields; 49 respondents did not indicate their majors.

EI was assessed by means of the Emotional Intelligence Questionnaire (EmIn-Q) by D.V. Lyusin. The psychological parameters of activity were collected by using the following questionnaires: the World Values Survey by R. Inglehart, adapted by R.K. Khabibulin; the Self-Organization of Activity Questionnaire by E.Yu. Mandrikova; the Reflexivity Type Assessment Test by D.A. Leontiev; the Satisfaction with Life Scale developed by E. Diener and adapted by E.N. Osin and D.A. Leontiev; the Self-Assessment of Personality‘s Innovative Qualities by N.M. Lebedeva and A.N. Tatarko.

The data was analyzed with independent t-test, Pearson correlation analysis and multiple linear stepwise regression analysis.

Correlation analysis revealed a number of correlations between general EI and the readiness for activity index ($r = 0.446$, $p < 0.001$), satisfaction with life ($r = 0.315$, $p < 0.001$), the innovativeness index ($r = 0.415$, $p < 0.001$), survival//self-expression values ($r = -0.101$, $p < 0.05$). The means and standard deviations in EI and parameters of the psychological system of activity among young adults majoring in humanities and engineering are shown in Table 1. Of the EmIn-Q parameters, only one (recognition of others’ emotions) had statistically significant between-group difference ($t = 2.87$, $p = 0.004$).

Table 1. The study participants’ psychological parameters.

		Total sample		Humanitarian majors		Engineering majors		T-test	
		Mean	SD	Mean	SD	M	SD	t	p
EI	Recognition of others’ emotions	23.67	4.85	24.62	4.90	23.23	4.65	2.87	0.00
	Interpersonal EI	41.79	9.49	42.18	10.16	41.54	9.27	0.65	0.52
	Intrapersonal EI	42.60	8.02	43.57	8.30	42.37	7.85	1.46	0.15
	General EI	84.39	15.2	85.74	16.00	83.91	14.9	1.17	0.24
Activity	Planning	3.40	0.97	4.02	0.71	4.06	0.70	-0.63	0.53
	Purposefulness	4.04	0.70	3.36	0.98	3.45	0.98	-0.95	0.34
	Systemic reflection	4.06	0.53	4.16	0.51	4.03	0.53	2.49	0.01
	Satisfaction with life	3,34	0.76	3.39	0.74	3.32	0.76	0.95	0.34

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	Readiness for activity index	3.71	0.49	3.73	0.48	3.71	0.49	0.34	0.73
Cultural dimensions	Traditional//secular-rational values	4.26	0.95	4.31	0.98	4.25	0.91	0.69	0.49
	Survival//self-expression values	4.37	0.79	4.22	0.79	4.43	0.76	-2.68	0.01
Innovative qualities	Creativity	3.65	0.73	3.70	0.67	3.63	0.74	1.03	0.30
	Taking risk for achievement	3.23	0.78	3.08	0.81	3.32	0.76	-3.06	0.00
	Orientation to the future	3.53	0.71	3.53	0.70	3.57	0.69	-0.51	0.61
	Innovation index	3.47	0.58	3.44	0.53	3.51	0.59	-1.18	0.24

Three parameters of the psychological system of activity, i.e. systemic reflection ($t = 2.49$, $p = 0.013$), taking risk for achievement ($t = -3.06$, $p = 0.002$) and survival//self-expression values ($t = -2.68$, $p = 0.008$) had statistically significant between-group differences.

Four stepwise multiple regression analyses were performed with intrapersonal EI and interpersonal EI factors as dependent variables and the following 10 independent variables: four activity parameters, three innovative qualities, two cultural dimensions and sex for young adults majoring in humanities and engineering. We considered the sex factor, since numerous studies showed its effect on the level of emotional intelligence.

For young adults majoring in humanities linear regression revealed that the study participants' sex, satisfaction with life and orientation to the future showed significant contributions as predictors of intrapersonal EI. The three variables jointly explained 28% of the variance ($R2 = 0.298$; adjusted $R2 = 0.285$; $F(1,171) = 16.76$; $p < 0.001$). For young adults majoring in engineering six variables (satisfaction with life, planning, survival//self-expression values, orientation to the future, taking risk for achievement and sex) appeared to be significant predictors of intrapersonal EI. The six dimensions accounted for 26% of the variance ($R2 = 0.282$; adjusted $R2 = 0.261$; $F(1,213) = 5.612$; $p < 0.05$) in intrapersonal EI.

Of ten variables entered into the regression analysis for young adults majoring in humanities, only planning and taking risk for achievement were significant predictors of their interpersonal EI ($R2 = 0.080$; adjusted $R2 = 0.074$; $F(1,171) = 14.65$; $p < 0.001$). Two variables just accounted for 7.4 % of the variance in interpersonal EI. In the subsample of young adults majoring in engineering three variables jointly explained 30% of the variance, $R2 = 0{,}317$; adjusted $R2 = 0.307$; $F(1,213) = 12.147$; $p < 0.001$. The result indicated that systemic reflection, purposefulness and taking risk for achievement were positive and significant predictors contributing to interpersonal EI.

To sum up, EI has revealed a relationship with the psychological parameters of activity. However the predictors contributing to intrapersonal EI and interpersonal EI differed in groups of young adults majoring in humanities and engineering.

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