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# The Prediction of Cognitive Style of University Students through Personality Types

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**Abstract:** This study aims to analyze how five factor personality dimensions predict cognitive style of university students. 137 (56.8%) female and 104 (43.2%) male students participated into the study. The participants of the study include a total of 241 1st- 4th year students studying at Kırıkkale University during the spring 2012- 2013 academic year. The data of the study were obtained through the use of Cognitive Style Indicator (CoSI) and Personality Test Based on Adjectives (ABPT). The data were analyzed through using of hierarchical regression analysis method. The findings revealed that extraversion and openness to experience predicts creativity in a meaningful way. Furthermore, the openness to experience and responsibility dimensions predicts knowing.

**Key words:** Cognitive style; personality type; university student.

## GENERAL INFORMATION

In this study, the relationship between cognitive style and was studied in terms of how the five-factor personality types predict cognitive style dimensions of Turkish university students. The hypothesis developed for the purpose of the research were as follow: The five-factor personality dimensions (extraversion, agreeableness, responsibility, emotional instability / neuroticism, openness to experience) positively and significantly affect cognitive styles (creativity, knowing, planning).

## METHOD

In this study, a convenience sampling method (Wallen & Fraenkel, 2001; Cohen, Manion & Morrison, 2007) was used by the researcher, who involved the participants who were available during the course of the study. This research was designed as a cross-sectional study.

### 1.1 Research Instruments

Cognitive Style Indicator (CoSI). The indicator developed by Cools and Van Den Broeck (2007). Cognitive Style Indicator (CoSI) is a five point Likert-type scale consisting of 3 subscales and 18 items. CoSI subscales are as follows: Planning, knowing, and creating. The CoSI distinguishes between three

cognitive styles: a planning style (seven items, e.g., I prefer clear structures to do my job), a knowing style (four items, e.g., I like to analyze problems), and a creating style (seven items, e.g., I like to extend the boundaries). Cools and Van den Broeck (2007), CoSI factor loadings in study 1, study 2 and study 3 respectively for planning .44-.71, .54-.77, .44-.74; for creativity .44-.72, .50-.81, .36-.71 and for recognition -.57- -.68, -.56- -.90, -.53- -.63. Meanwhile, Cronbach Alpha Coefficient is respectively in study 1, study 2 and study 3 for planning .81, .84, .85; for creativity .79, .82, .78 and for recognition .73, .79, .76.

Personality Test Based on Adjectives (ABPT), developed by Bacanlı, İlhan and Aslan (2009) ABPT is a Likert type scale consisting of 40 pairs of adjectives which can be graded between 1-7. ABPT is composed of five dimensions extraversion, agreeableness, conscientiousness, emotional instability/neuroticism, and openness to experience. The factor loadings of ABPT were as follows for different dimensions: .56 to .79 for extraversion, .60 to .77 for agreeableness, .66 to .86 for responsibility, .36 to .71 for emotional instability/neuroticism, and .49 to .79 for openness to experience. Cronbach's alpha coefficients were .73 for emotional instability/neuroticism, .89 for extraversion, .80 for openness to experience, .87 for agreeableness, and .88 for responsibility.

## FINDINGS AND RESULTS

*Table 1. Correlation between Cognitive Style Indicator and Personality Test Based on Adjectives (ABPT)*

Dimension	Creativity	Knowing	Planning
Emotional instability/Neuroticism	-.119*	-.098	-.054
Extraversion	.429**	.306**	.307**

Openness	.430**	.315**	.343**
Agreeableness	.170**	.173**	.194**
Conscientiousness	.263**	.322**	.394**
<i>N</i>	241	241	241

\*  $p < .05$ , \*\*  $p < .01$

As seen in Table 1, significant positive correlation have been observed between emotional instability/neuroticism dimension of the Personality Test Based on Adjectives (ABPT) and knowing ( $r = 0.12$ ,  $p < 0.05$ ). There are also significant correlations between extraversion dimension and creativity ( $r = 0.43$ ,  $p < 0.01$ ); knowing ( $r = 0.31$ ,  $p < 0.01$ ); and planning ( $r = 0.31$ ,  $p < 0.01$ ). Significant correlations are determined between openness to experience dimension and creativity ( $r = 0.43$ ,  $p < 0.01$ ); knowing ( $r = 0.32$ ,  $p < 0.01$ ); and planning ( $r = 0.34$ ,  $p < 0.01$ ). Also significant correlations are observed between agreeableness dimension and creativity ( $r = -0.17$ ,  $p < 0.01$ ); knowing ( $r = 0.17$ ,  $p < 0.01$ ); and planning ( $r = 0.19$ ,  $p < 0.01$ ). There are significant correlations between responsibility dimension and creativity ( $r =$

$0.26$ ,  $p < 0.01$ ); knowing ( $r = 0.32$ ,  $p < 0.01$ ); and planning ( $r = 0.39$ ,  $p < 0.01$ ).

In Table 2, in the model, which was established to evaluate whether these dimensions predicted the three dimensions of the Cognitive Style Indicator, extraversion ( $\beta = 0.27$ ,  $p < 0.00$ ) and openness to experience ( $\beta = .27$ ,  $p < 0.00$ ) was found to have a positive and significant effect on creativity ( $R = 0.49$ ,  $R^2 = 0.24$ ,  $F(5, 235) = 14.49$ ,  $p < 0.00$ ). Responsibility dimension ( $\beta = 0.25$ ,  $p < 0.01$ ) had a positive and significant effect on knowing ( $R = 0.39$ ,  $R^2 = 0.15$ ,  $F(5, 235) = 8.51$ ,  $p < 0.01$ ). Significant correlations were found between planning and openness to experience ( $\beta = 0.25$ ,  $p < 0.01$ ) and responsibility ( $\beta = 0.36$ ,  $p < 0.01$ ), ( $R = 0.45$ ,  $R^2 = 0.20$ ,  $F(5, 235) = 11.67$ ,  $p < 0.01$ ).

Table 2. Results of Hierarchical Regression Analysis on the Five Factor Personality Dimensions

		$R^2$	F	$\beta$	t
Yaratıcı	Creativity	0.24	14.49**		
	Neuroticism			-0.11	-1.97
	Extraversion			0.27	2.90**
	Openness			0.27	3.04**
	Agreeableness			-0.13	-1.78
	Conscientiousness			0.06	0.76
Bilme	Knowing	0.15	8.51**		
	Neuroticism			-0.09	-1.44
	Extraversion			0.08	0.85
	Openness			0.19	2.02
	Agreeableness			-0.11	-1.35
	Conscientiousness			0.25	3.04**
PPP	Planning	0.20	11.67**		
	Neuroticism			-0.03	-0.58
	Extraversion			-0.02	-0.20
	Openness			0.25	2.79*
	Agreeableness			-0.14	-1.80
	Conscientiousness			0.36	4.63**

\*  $p < .05$ , \*\*  $p < .01$

## CONCLUSIONS

It was found that extraversion and openness to experience explain the creativity dimension of cognitive style positively and in a mid-level manner in university students. In this study, it was found that responsibility explains knowing positively. It was found in this study that openness to experience and

responsibility explain planning dimension of cognitive style in a positive.

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