



PERSONALITY TRAITS AND INTELLIGENCE AS PREDICTORS OF POLICE OFFICERS' PERFORMANCE IN ESTONIAN POLICE COLLEGE

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INTRODUCTION

Police academy training provides the formative knowledge and experience for police recruits. The positive impact of cognitive ability and Conscientiousness trait on academic performance is well documented (see Kuncel & Hezlett, 2010; Poropat, 2009, for a review). Additionally, the predictive validity of these factors in the police officer selection context is also demonstrated (Aamodt, 2004; Detrick, 2004); however, the results are mainly based on US samples.

The main goal of the study was to examine the predictive validity of intelligence and Big Five personality traits for predicting graduation and performance of police officers in Police College in Estonia. Cadets of this college learn by competency based model, in which learning is very closely related to actual work.

METHOD

PARTICIPANTS

The sample consisted of 309 police cadets (41% females, 59% males) who were enrolled in the Police College of the Academy of Security Sciences in Estonia in 2004–2007. Of these admitted cadets, 222 successfully completed college degree in 2007–2009. The cadets' age ranged from 16 to 32, with a mean age of 18.3 years ($SD = 1.90$).

MEASURES

Psychological measures were administered as part of admission procedure. The following two scales were used:

Big Five personality traits

The Personality Inventory (*NEC-S/V4*) developed by Tripod was used to measure five personality domains: *Emotional Stability* (N), *Extraversion* (E), *Openness* (O), *Agreeableness* (A), and *Conscientiousness* (C). All 85 items were answered on a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The Cronbach α -s of the scales varied from $\alpha = .79$ to $.92$.

Mental abilities

General intelligence (IQ) was measured by the Mental Abilities Scale (*VVS/3*) developed by Tripod, consisting of 36 items and three subscales (verbal, numerical, and visuo-spatial). The test was administered in 40 minutes.

Academic performance

Academy performance was measured as an overall grade point average (GPA) from 6 proficiency exams (e.g., report writing, patrol procedures, evidence and investigative procedures), graded using a five-point system, ranging from 1 to 5 ($m = 3.80$, $SD = 0.53$).

Additionally, the recruits' **physical ability** (PA) ratings and **social desirability** (SD) scores from the personality inventory collected during admission procedure were included to the regression analyses to control for the potential effect. All the variables were standardized ($m = 0$, $SD = 1$) by gender for further analyses. **College graduation** was measured as a dichotomous variable (1 = graduated; 0 = not graduated).

RESULTS

The main results of the study were as follows:

- (1) Cadets graduating on schedule ($n = 222$) had significantly ($p < .05$) higher levels of IQ and Conscientiousness compared to students who did not graduate due to resignation or dismissal ($n = 87$). In the joint regression analysis, both IQ and C scores predicted graduation, $\beta = .15$ and $\beta = .14$, $p < .05$, respectively.
- (2) Cognitive ability of applicants was significantly related to later academic performance in the Police College ($r = .26$, $p < .001$; uncorrected for range restriction). Thus, 63% of cadets who score above average on the IQ test excel in the police proficiency exams and only 37% of those who score below average succeed above the standard ($OR = 2.9$, Table 1).
- (3) Regarding personality traits, the Conscientiousness and Extraversion scales demonstrated significant positive correlations with GPA, $r = .21$, $p < .001$ and $r = .13$, $p < .05$, respectively. The results for the C scale are presented in Table 1 using BESD technique.
- (4) When all variables (IQ, NEACO, PA, and SD) were entered together into a regression model to predict GPA, Intelligence and Conscientiousness were significant predictors of academic achievement. Beta values for multiple regression coefficients are reported in Table 1. The interaction term IQxC did not contribute significantly to the model, $\beta = .02$, $p = .76$.

TABLE 1. GENERAL INTELLIGENCE AND CONSCIENTIOUSNESS PREDICTING ACADEMIC PERFORMANCE (BESD, %)

Academic performance	Intelligence		Conscientiousness	
	High IQ	Low IQ	High C	Low C
High GPA	63	37	61	39
Low GPA	37	63	39	61
Odds ratio	2.9		2.4	
Beta values	$\beta = .23$, $p < .001$		$\beta = .22$, $p < .01$	

Notes. Rosenthal's (1984) Binomial Effect Size Display (BESD) technique. Variables are dichotomized based on a median split procedure (*High* = above average, *Low* = below average).

CONCLUSION

The present study demonstrates that successfully graduating and nongraduating police cadets of competency based learning in Estonian Police College differ significantly by their levels of cognitive abilities and conscientiousness trait.

Similarly to previous studies (e.g., Poropat, 2009), both Conscientiousness and Intelligence had a significant independent contribution to predict academic achievement. Admitted police cadets who score above average on the IQ test or C domain can upwards of double the rate of successful police college performance.

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