

The Influence of Particular Entrance Exam Score on Enrolment and Graduation at the University of Criminal Investigation and Police Studies

^[1]Radivoje Janković¹, ^[2]Filip Kukić², ^[1]Nenad Koropanovski³

^[1]University of Criminal Investigation and Police Studies, Belgrade, Serbia

^[2]University of Banja Luka, Faculty of Physical Education and Sports, Republic of Srpska, Bosnia and Herzegovina

Submitted: 2024-11-04 • Accepted: 2024-12-24 • Published: 2025-01-20

Abstract: The aim of the research was to determine if there was a difference in the entrance exam scores between the candidates who enrolled and those who did not at the University of Criminal Investigation and Police Studies (UCIPS), as well as between the graduates and non-graduates. Analysing the data from 1657 candidates who participated in the UCIPS entrance exam, the study categorizes candidates based on gender, entrance exam results, and graduation. The research focuses on High School Success (HSS), and three components of the entrance exam: Serbian Language Test (SLT), General Knowledge Test (GKT), and Basic Physical Abilities (BPA). To examine the impact of all variables, the study applied an independent t-test to compare group differences, followed by effect size calculations. The findings reveal that candidates who enrolled, regardless of gender, exhibited significantly higher scores and larger effect sizes in all exam segments compared to those who did not enrol. Additionally, graduates exhibited higher performance in HSS, SLT, and GKT, which may indicate the predictive value of these components for academic success. Conversely, no significant difference was found in BPA scores between graduates and non-graduates, underscoring its unique eliminatory role in the selection process, as BPA is the only test with an eliminatory threshold. The study also emphasizes the role of continuous learning, perseverance, and motivation, as reflected in higher entrance exam scores, in influencing academic achievement. The research suggests that implementing a minimum score threshold for various exam components could potentially enhance learning efficiency and graduation rates at the UCIPS.

Keywords: selection, academic success, police students, higher education.

INTRODUCTION

Police officers are confronted with diverse and complex tasks on a daily basis, necessitating a broad range of knowledge, skills, and attributes. In this context, specialized training programs play a crucial role in preparing officers to efficiently meet their professional challenges (Anderson et al., 2001; Strating et al., 2010). Contemporary societal and technolog-

1 Corresponding author: radivoje.jankovic@kpu.edu.rs • <https://orcid.org/0000-0002-8902-2737>

2 filip.kukic@gmail.com • <https://orcid.org/0000-0002-8625-5375>

3 nenad.koropanovski@kpu.edu.rs • <https://orcid.org/0000-0002-7196-7185>



ical changes have transformed the functions and demands of police work, underscoring the importance of comprehensive education for law enforcement personnel (Roberg & Bonn, 2004). Well-educated officers, in addition to acquiring relevant theoretical insights, develop the capacity for innovation and creativity in their duties, thereby enhancing police performance (Rydberg & Terrill, 2010). Consequently, the modern approach to specialized police training is a key factor in developing professional competencies. Higher educational attainment can positively impact decision-making, complex problem-solving, and effective public communication (Chappell, 2008). Moreover, current educational models aim not only to provide theoretical understanding but also to foster practical skills applicable in varied scenarios. Thus, the focus of such educational initiatives is on cultivating professionals whose competencies are recognized both locally and internationally (Roberg & Bonn, 2004; Janovac & Virijević-Jovanović, 2020).

A pivotal initial step in ensuring quality education involves selecting suitable candidates through a reliable and validated selection system (Metchik, 1999; Annell et al., 2015). The fundamental objective of the selection process is to identify individuals from the applicant pool who possess the innate qualities necessary to assimilate the educational material efficiently. The overarching aim of integrating selection and education is to cultivate skilled future professionals, equipped to tackle the complexities of police work with expertise and adeptness (Anderson et al., 2001; Sanders, 2003). Moreover, given the professional and societal responsibilities, along with the risk of misconduct, specialized selection also seeks to exclude candidates whose traits or capabilities are deemed unfit for policing by established standards (Lonsway, 2003). Diverse selection systems employed by educational institutions vary significantly in identifying suitable candidates for police officer training. However, the existing research suggests that most models have common components, typically evaluating candidates' health, cognitive abilities, personality, and physical fitness (Metchik, 1999; Lonsway, 2003; Chappell, 2008; Annell et al., 2015; Koropanovski et al., 2022).

The UCIPS serves as a premier institution dedicated to developing a skilled workforce for the Ministry of Internal Affairs of the Republic of Serbia. Its unique educational programs are designed to impart both theoretical knowledge and practical skills essential for the effective execution of police duties (Koropanovski et al., 2022). The foundational academic program at the UCIPS spans eight semesters, offering 40 courses, and enabling students to earn up to 240 ECTS points. These courses predominantly focus on legal, social, and criminalistic studies, accounting for 219 ECTS points (91.25%), while Specialized Physical Education (SPE), aimed at honing both basic and specific physical abilities, contributes up to 21 ECTS points (8.75%) (Koropanovski et al., 2020). Furthermore, the UCIPS employs specialized pedagogical approaches to equip students with advanced skills vital for policing (Milojević et al., 2015). Given the rigorous demands of the program and the professional responsibilities of police officers, student selection emphasizes the importance of psychological and physical aptitude, ensuring graduates are well-equipped to excel as experts in policing (Koropanovski et al., 2020). The UCIPS entrance examination is a comprehensive, two-phase selection process. The first phase filters out candidates lacking in health, personality, and physical fitness, while the second phase assesses knowledge and skills through tests including the Basic Physical Abilities Test, High School Success, Serbian Language Test, and General Knowledge Test (Dimitrijević et al., 2014; Janković & Koropanovski, 2017). Ultimately, those who score the highest are granted admission to the UCIPS.



Efficient studying is characterized as an educational process aimed at achieving graduation as swiftly and with as high a GPA as possible. It is anticipated that the UCIPS students will complete their studies within a four-year time frame, although the legal limit for graduation extends to eight years (Koropanovski et al., 2020). Despite a well-defined selection system and a set timeframe, not every enrolled candidate completes their education within this legal duration (Lockie et al., 2019; Janković et al., 2021). Enhancing the educational outcomes of future police officers may involve refining the selection systems to more effectively identify candidates who possess the necessary skills and foundational knowledge for academic success (Annell et al., 2015). Consequently, this paper aims at: 1) examining the score differences in all segments of the UCIPS entrance exam between those who enrolled and those who did not; 2) exploring whether initial variations existed in entrance exam performances between graduates and non-graduates within the legally mandated timeframe.

METHODS

PARTICIPANTS

The overall examinees sample consisted of 533 females and 1124 males who took the entrance exam at the UCIPS in the academic years 2012/13 and 2013/14. Initially, groups were formed based on the examinees' success at the entrance exam (EE), as shown in Table 1. Accordingly, the following groups were defined: enrolled females (EF), not enrolled females (NEF), enrolled males (EM), and not enrolled males (NEM).

Table 1. *The Examinees Sample According to Their Success at the Entrance Examination*

	Total sample	Enrolled	Not enrolled
Female	533	175 (32.8%)	358 (67.2%)
Male	1124	258 (22.9%)	866 (77.1%)
Σ	1657	433 (26.1%)	1224 (73.9%)

Subsequently, the results of 175 females and 258 males who had enrolled at the UCIPS after going through the selection system were analysed. Groups were formed based on their study success within the legally set timeframe: graduated females (GF), not graduated females (NGF), graduated males (GM), and not graduated males (NGM). The examinees sample was divided into sub-samples as shown in Table 2.

Table 2. *The Examinees Sample According to the Success of Their Studies*

	Total sample	Graduated	Not graduated
Female	175	82 (46.9%)	93 (53.1%)
Male	258	109 (42.2%)	149 (57.8%)
Σ	433	191 (44.1%)	242 (55.9%)



MEASUREMENTS AND PROCEDURES

The research encompassed all components of the entrance exam, where candidates' knowledge and abilities were assessed (Janković & Koropanovski, 2017):

- High School Success (HSS). This was calculated by first adding the average grades achieved at the end of the first, second, third, and fourth years of high school, then multiplying the sum by two. The points could range from 16 to a maximum of 40.
- Serbian Language Test (SLT): The assessment, designed by the Faculty of Philology at the University of Belgrade, corresponded to high school curriculum levels, including grammar, orthography, and Serbian and world literature. The test comprised 20 questions; each correct answer scored one point, while each incorrect answer resulted in a deduction of 0.25 points. The total score ranged from 0 to 20 points.
- General Knowledge Test (GKT). This test aimed to evaluate the level of formal education obtained during schooling and through extracurricular activities such as reading, theatre, cinema, museum visits, and engagement with scientific, political, or cultural content via electronic or print media. It consisted of 40 questions, each correct answer awarded 0.5 points, and each incorrect answer resulted in a deduction of 0.1 points. The total score ranged from 0 to 20 points.
- Basic Physical Abilities (BPA) Test. The general level of physical abilities results was calculated based on a candidate's performance in seven tests, measuring: maximum push-ups in 10 seconds, maximum sit-ups in 30 seconds, the Abalakov vertical jump, standing long jump, contraction and stretching (where the participant alternates between a supine position, lateral rotation, and seated flexion, returning to the initial position, performed on both sides), the 12-minute Cooper running test, and maximal isometric force of the back extensors for males or hand grip force for females (Koropanovski et al., 2020). These cumulative results were derived by multiplying each test's outcome with a standard coefficient, which varied for males and females, to relativize the absolute results and ensure equitable assessment criteria for both genders. For the cohorts under study, achieving less than 4 points on the BPA test led to elimination.

STATISTICAL ANALYSES

The data analysis began with basic descriptive statistics, focusing on the mean (Mean) and standard deviation (SD) as the main parameters of central tendency. To determine statistically significant differences between the defined groups, an independent samples t-test was used. The criterion for statistical significance was set at the 95% level, namely $p < 0.05$ (Hair et al., 1998). According to the sample size, the distribution of the results was analysed using skewness and kurtosis parameters. The values fell within the range of -1 to 1, indicating acceptable normality of the distribution. Based on this, the assumption of normality was met, allowing for the application of further statistical procedures (Cain et al., 2017). Furthermore, the effect size (Cohen's d) for each variable was calculated, providing a better understanding of the practical significance of the detected differences. Cohen's d is calculated using the following formula:



$$d = \frac{\text{Mean 1} - \text{Mean 2}}{\sqrt{\frac{(N1-1) \cdot SD1^2 + (N2-1) \cdot SD2^2}{N1+N2-2}}}$$

Where Mean1 is the average value of the first group, Mean 2 is the average value of the second group, SD1 is the standard deviation of the first group, SD2 is the standard deviation of the second group, N1 is the number of participants in the first group and N2 is the number of participants in the second group. This provides a standardized measure of the difference between groups, useful for interpreting the magnitude of the effect (Lakens, 2013). All statistical data were processed using IBM SPSS software (USA), version 22.0.

RESULTS

The results of the entrance exam were analysed in order to define the differences in performance among various groups of candidates. Table 3 depicts basic descriptive indicators of all of the observed scores of males and females who succeeded in enrolling at the UCIPS as well as those who did not manage to enrol, while Table 4 shows the descriptive data of males and females who graduated as well as those who did not graduate.

Table 3. Basic Descriptive Indicators of Entrance Exam Segments of EF, EM, NEF and NEM

Variable	EF			EM			NEF			NEM		
	Mean±SD	Min.	Max.	Mean±SD	Min.	Max.	Mean±SD	Min.	Max.	Mean±SD	Min.	Max.
HSS (pts)	36.32±3.32	20.52	40.00	34.60±3.93	18.30	40.00	31.83±4.71	17.28	40.00	29.44±4.91	17.28	40.00
SLT (pts)	14.73±2.58	7.00	20.00	14.31±2.58	6.00	20.00	11.93±3.00	3.00	20.00	10.92±2.96	4.00	19.00
GKT (pts)	13.51±3.01	4.50	20.00	13.91±2.74	6.50	19.00	10.77±2.91	3.50	19.00	11.30±2.90	3.00	19.50
BPA (pts)	12.92±2.97	6.12	20.00	12.69±3.12	4.12	20.00	10.37±2.91	0.00	18.01	10.05±3.41	0.00	19.32

Note. EF – Enrolled Female; EM – Enrolled Male; NEF – Not Enrolled Female; NEM – Not Enrolled Male; HSS – High School Success; SLT – Serbian Language Test; GKT – General Knowledge Test; BPA – Basic Physical Abilities.

Table 4. Basic Descriptive Indicators of Entrance Exam Segments of GF, GM, NGF and NGM

Variable	GF			GM			NGF			NGM		
	Mean±SD	Min.	Max.	Mean±SD	Min.	Max.	Mean±SD	Min.	Max.	Mean±SD	Min.	Max.
HSS (pts)	37.23±2.44	28.68	40.00	35.81±3.63	18.30	40.00	35.52±3.77	20.52	40.00	33.72±4.10	21.84	40.00
SLT (pts)	15.19±2.71	7.00	20.00	14.69±2.52	6.00	20.00	14.33±2.39	8.00	20.00	14.05±2.93	7.00	19.00
GKT (pts)	14.07±2.92	7.50	20.00	14.40±2.60	8.50	19.00	13.01±3.01	4.50	20.00	13.56±2.81	6.50	19.00
BPA (pts)	13.34±2.97	6.89	19.76	12.55±3.23	4.12	19.82	12.56±2.92	6.12	20.00	12.81±3.05	5.59	20.00

Note. GF – Graduated Female; GM – Graduated Male; NGF – Not Graduated female; NGM – Not Graduated Male; HSS – High School Success; SLT – Serbian Language Test; GKT – General Knowledge Test; BPA – Basic Physical Abilities.



The absolute and relative differences of all the segments of the entrance exam, along with their statistical significance and effect size between the enrolled and not enrolled candidates of both sexes are shown in Table 5, while the differences between those who graduated and those who did not are displayed in Table 6.

Table 5. *The Difference in Entrance Exam Scores Between Enrolled and Not Enrolled Candidates*

Group	Variable	Absolute (pts)	Relative (%)	<i>t</i>	<i>p</i>	<i>d</i>
Females	HSS	4.49	14.11	15.457	< 0.001	1.04
	SLT	2.81	23.47	16.807	< 0.001	0.98
	GKT	2.74	25.44	12.834	< 0.001	0.93
	BPA	2.55	24.59	11.140	< 0.001	0.87
Males	HSS	5.16	17.53	11.294	< 0.001	1.10
	SLT	3.39	31.04	10.595	< 0.001	1.18
	GKT	2.61	23.10	10.089	< 0.001	0.91
	BPA	2.55	26.27	9.069	< 0.001	0.87

Note. HSS – High School Success; SLT – Serbian Language Test; GKT – General Knowledge Test; BPA – Basic Physical Abilities.

Table 6. *The Difference in Entrance Exam Scores Between Students Who Graduated and Those Who Did Not Graduate*

Group	Variable	Absolute (pts)	Relative (%)	<i>t</i>	<i>p</i>	<i>d</i>
Females	HSS	1.71	4.81	3.498	0.001	0.53
	SLT	0.86	6.00	2.230	0.027	0.28
	GKT	1.07	8.15	2.358	0.018	0.36
	BPA	0.77	6.21	1.730	0.085	0.23
Males	HSS	2.09	6.20	4.361	< 0.001	0.53
	SLT	0.64	4.56	2.124	0.035	0.23
	GKT	0.83	6.19	2.416	0.016	0.31
	BPA	-0.26	-2.03	-0.662	0.508	-0.08

Note. HSS – High School Success; SLT – Serbian Language Test; GKT – General Knowledge Test; BPA – Basic Physical Abilities.



DISCUSSION

The research was conducted to determine whether there were differences in HSS, SLT, GKT, and BPA scores between candidates who passed the exam and those who failed to enroll, as well as between those who graduated and those who did not within the legally set timeframe. For both genders, the enrolled candidates demonstrated significantly better performance across all segments of the entrance exam compared to the non-enrolled candidates, with large Cohen's d values ($d > 0.8$), further confirming significant differences in performance (Table 5). Further analysis showed that GF achieved statistically significantly better results than NGF in HSS, SLT, and GKT variables by 4.81%, 6.00%, and 8.15%, respectively. The same EE segments showed significant differences between GM and NGM, specifically in HSS by 6.20%, SLT by 4.56%, and GKT by 6.19%. For both genders, HSS showed a moderate effect ($d = 0.5 - 0.8$), while SLT and GKT had a small effect ($d = 0.2 - 0.5$). For females, BPA also demonstrated a small effect. On the other hand, in the male cohort, such an effect was not evident (Table 6).

The grades that students achieve during their studies can be viewed as indicators of years of continuous learning, as well as results of perseverance, motivation, and intellectual curiosity. In this context, intellectual curiosity emerges as a key element of the 'hungry mind', a strong desire for knowledge and understanding, which is one of the fundamental determinants of academic performance (Von Stumm et al., 2011). In this regard, high school grades could carry some forecasting value for studying success as they represent not only gained knowledge but also one's learning habits, responsible attitude towards obligations, and readiness to invest time and effort into achieving them (Matović, 2010; Koropanovski et al., 2022). Thus, HSS, as one of the parameters, is closely linked to entrance examination success, not only providing a certain number of points but also emphasizing higher intellectual potential that positively impacts SLT and GKT scores. Furthermore, the parameters leading to higher grades in high school also build a sturdy foundation for the next level of education, potentially influencing the study efficiency of the UCIPS students if maintained. This has been confirmed by Koropanovski et al. (2022), who determined that HSS results were the most significant predictor of grade point average in both sexes. Besides HSS, the type of high school should be considered a predictive factor of one's university success, as it was determined that completing grammar school has a beneficial impact on studies at the UCIPS. This could be due to the grammar school curriculum providing students with a broader spectrum of learning fields than more specialized high schools, thus offering suitable knowledge as a good basis for studying at the UCIPS (Milojević et al., 2015). The sustained academic success in school, attributed to an elevated level of knowledge and heightened intellectual curiosity leading to superior grades, emerges as a pivotal predictor of enhanced and efficacious academic performance at the university level. This elucidates the discernible discrepancies in HSS scores observed across the different groups.

The modern approach to police work is predominantly associated with solving societal issues within communities, necessitating a broad knowledge of social problems, their causes, and consequences. This knowledge forms a solid foundation for successfully tackling complex and specific police tasks. Abilities such as making connections, seeing the bigger picture, being creative, and effectively solving problems can be viewed as aspects of fluid intelligence, which are rooted in a broad knowledge base from various fields (Batey et



al., 2010; Rindermann et al., 2010). Moreover, proficient language skills and the ability to communicate effectively with citizens are also considered prerequisites for quality policing (White, 2008). In the 21st century, numerous professional advantages are linked to police officers' higher education. The evolving landscape of social and technological changes, advancements in civil rights, and the increasing complexity of police work require an elevated educational level. Therefore, the benefits attained through higher education suggest that holding a university degree should be considered a prerequisite for working in the police force (Roberg & Bonn, 2004). Bearing all these factors in mind, the level of candidates' formally and informally acquired intellectual skills should play a significant role in the selection process, as it also influences their graduation rate and ultimately shapes skilled and well-educated POs.

A number of courses at the UCIPS are focused on developing the skills and habits necessary for police tasks that demand a high level of physical ability (Dopsaj et al., 2007; Milojević et al., 2015; Koropanovski et al., 2020). Accordingly, during the selection process, the physical ability levels of candidates should meet the requirements to pass the SPE course exams (Dimitrijević et al., 2014; Janković et al., 2021). Although males generally exhibit higher physical fitness potential in absolute terms compared to females, the BPA evaluation system for both the entrance exam and the SPE subject during studies is sex-adjusted. This adjustment allows students of all genders to have equal opportunities to pass the SPE test (Janković & Dopsaj, 2022; Koropanovski et al., 2022). This research indicates that the enrolled candidates, regardless of gender, have statistically significantly higher BPA levels than those who did not enroll. However, BPA is the sole component of the entrance exam where no statistically significant difference was observed between students who graduated and those who did not. This can be attributed to the fact that BPA is the only component with an eliminatory threshold, preventing candidates with insufficient physical abilities from enrolling at the UCIPS. This threshold possibly influences the selection process by favouring candidates with adequate physical abilities, thereby aligning the enrolled students with the physical requirements necessary for successfully completing courses at the UCIPS.

CONCLUSIONS

This research aimed to analyse candidates' scores across all segments of the entrance exam and correlate them with their enrolment and graduation outcomes at the UCIPS. It was found that the candidates of both genders who enrolled exhibited significantly higher scores, as well as larger effect sizes, in all observed variables, compared to those who did not secure enrolment. In other words, the multifaceted entrance exam in each individual segment effectively selects more qualified candidates for the UCIPS. The students who did not graduate had significantly lower scores in HSS, SLT, and GKT. The exception was the BPA scores, where no significant difference was observed between graduates and non-graduates. Unlike HSS, GKT, and SLT, the BPA test has a predetermined eliminatory nature, designed to prevent candidates with insufficient physical skills from enrolling. Therefore, it could be concluded that the enrolled students were likely to have an adequate initial BPA level, enabling them to effectively master the UCIPS courses.



During a student's academic journey, significant changes can occur in motivation, knowledge acquisition and interpretation, and physical ability. The limitation of this research lies in its focus on initial-level variables only. Additionally, it is important to acknowledge that the student journey is dynamic, with various changes in personal, academic, and environmental factors potentially influencing the decision to discontinue studies. Future research should aim to identify predictors of student dropout, potentially through continuous monitoring of student performance throughout their academic tenure at the UCIPS, to timely diagnose and address issues leading to student attrition, in order to prevent it.

ACKNOWLEDGMENT

The authors declare that there is no conflict of interest regarding this study. No specific funding sources were used for this research.

REFERENCES

- Anderson, G., Plecas, D., & Segger, T. (2001). Police officer physical ability testing: Re-validating a selection criterion. *Policing: An International Journal*, 24(1), 8–31. <https://doi.org/10.1108/13639510110382232>
- Annell, S., Lindfors, P., & Sverke, M. (2015). Police selection – implications during training and early career. *Policing: An International Journal*, 38(2), 221–238. <https://doi.org/10.1108/PIJPSM-11-2014-0119>
- Batey, M., Furnham, A., & Safiullina, X. (2010). Intelligence, general knowledge and personality as predictors of creativity. *Learning and Individual Differences*, 20(5), 532–535. <https://doi.org/10.1016/j.lindif.2010.04.008>
- Cain, M. K., Zhang, Z., & Yuan, K. H. (2017). Univariate and multivariate skewness and kurtosis for measuring nonnormality: Prevalence, influence and estimation. *Behavior research methods*, 49, 1716–1735. <https://doi.org/10.3758/s13428-016-0814-1>
- Chappell, A. (2008). Police academy training: Comparing across curricula. *Policing: An International Journal*, 31(1): 36–56. <http://dx.doi.org/10.1108/13639510810852567>
- Dimitrijević, R., Koropanovski, N., Dopsaj, M., Vučković, G., & Janković, R. (2014). The influence of different physical education programs on police students' physical abilities. *Policing: An International Journal*, 37(4), 794–808. <https://doi.org/10.1108/PIJPSM-05-2014-0060>
- Dopsaj, M., Blagojević, M., & Vučković, G. (2007). Normativno-selekcioni kriterijum za procenu bazično motoričkog statusa kandidata za prijem na studije Kriminalističko-policijske akademije u Beogradu. *Bezbednost, Beograd*, 49(4), 166–183.
- Hair, J., Anderson, R., Tatham, R., & Black, W. (1998). *Multivariate data analysis* (5th ed.). Prentice Hall.



- Janković, R., & Dopsaj, M. (2022). Sprint running, agility and anaerobic endurance: Standards for the students at the University of Criminal Investigation and Police Studies. *NBP. Nauka, bezbednost, policija*, 27(2), 45–58. <https://doi.org/10.5937/nabepo27-36046>
- Janković, R., & Koropanovski, N. (2017). Trend of changes of the students results in the Academy of criminalistic and police studies entrance exam. *NBP. Nauka, bezbednost, policija*, 22(1), 93–110. <https://doi.org/10.5937/nabepo22-12301>
- Janković, R., Kukić, F., & Koropanovski, N. (2021). Razlike bazično-motoričkih sposobnosti u odnosu na uspeh postignut na prijemnom ispitu i efikasnost studiranja. *Bezbednost, Beograd*, 63(1), 44–64. <https://doi.org/10.5937/bezbednost2101044J>
- Janovac, T. D., & Virijević-Jovanović, S. (2020). Research on employer satisfaction concerning higher education quality. *Inovacije u nastavi*, 33(4), 120–135. <https://doi.org/10.5937/inovacije2004120J>
- Koropanovski, N., Kukić, F., Janković, R., Dimitrijević, R., Dawes, J., Lockie, R., & Dopsaj, M. (2020). Impact of physical fitness on recruitment and its association to study outcomes of police students. *South African Journal for Research in Sport, Physical Education and Recreation*, 42(1), 23–34. <https://sajrsper.com/index.php/sajrsper/article/view/47>
- Koropanovski, N., Kukić, F., Janković, R., Kolarević, D., Subošić, D., & Orr, R. (2022). Intellectual potential, personality traits, and physical fitness at recruitment: Relationship with academic success in police studies. *SAGE Open*, 12(1), 1–10. <https://doi.org/10.1177/21582440221079932>
- Lakens, D. (2013). Calculating and reporting effect sizes to facilitate cumulative science: a practical primer for t-tests and ANOVAs. *Frontiers in Psychology*, 4, 863. <https://doi.org/10.3389/fpsyg.2013.00863>
- Lockie, R. G., Balfany, K., Bloodgood, A. M., Moreno, M. R., Cesario, K. A., Dulla, J. M., Dawes, J. J., & Orr, R. M. (2019). The influence of physical fitness on reasons for academy separation in law enforcement recruits. *International Journal of Environmental Research and Public Health*, 16(3), 372. <https://doi.org/10.3390/ijerph16030372>
- Lonsway, K. A. (2003). Tearing down the wall: Problems with consistency, validity, and adverse impact of physical agility testing in police selection. *Police Quarterly*, 6(3), 237–277. <https://doi.org/10.1177/1098611103254314>
- Matović, N. (2010). Prognostička valjanost kriterijuma za izbor studenata na studije pedagogije. *Nastava i vaspitanje*, 59(4), 570–586.
- Metchik, E. (1999). An analysis of the „screening out“ model of police officer selection. *Police Quarterly*, 2(1), 79–95. <https://doi.org/10.1177/109861119900200104>
- Milojević, S., Janković, B., & Cvetković, V. (2015). Prediction model of effective studies at the Academy of criminalistic and police studies. *NBP. Nauka, bezbednost, policija*, 20(1), 135–149. <https://doi.org/10.5937/NBP1501135M>
- Rindermann, H., Flores-Mendoza, C., & Mansur-Alves, M. (2010). Reciprocal effects between fluid and crystallized intelligence and their dependence on parents' socioeconomic status and education. *Learning and Individual Differences*, 20(5), 544–548. <https://doi.org/10.1016/j.lindif.2010.07.002>



- Roberg, R., & Bonn, S. (2004). Higher education and policing: Where are we now? *Policing: An International Journal*, 27(4), 469–486. <https://doi.org/10.1108/13639510410566226>
- Rydberg, J., & Terrill, W. (2010). The effect of higher education on police behaviour. *Police Quarterly*, 13(1), 92–120. <https://doi.org/10.1177/1098611109357325>
- Sanders, B. (2003). Maybe there's no such thing as a "good cop": Organizational challenges in selecting quality officers. *Policing: An International Journal*, 26(2), 313–328. <https://doi.org/10.1108/13639510310475787>
- Strating, M., Bakker, R., Dijkstra, G., Lemmink, K., & Groothoff, J. W. (2010). A job-related fitness test for the Dutch police. *Occupational Medicine*, 60(4), 255–260. <https://doi.org/10.1093/occmed/kqq060>
- Von Stumm, S., Hell, B., & Chamorro-Premuzic, T. (2011). The hungry mind: Intellectual curiosity is the third pillar of academic performance. *Perspectives on Psychological Science*, 6(6), 574–588. <https://doi.org/10.1177/1745691611421204>
- White, M. D. (2008). Identifying good cops early predicting recruit performance in the academy. *Police Quarterly*, 11(1), 27–49. <https://doi.org/10.1177/1098611107309625>

