

# TRENDS OF CHANGES AND GENDER DIFFERENCES IN INTELLECTUAL ACHIEVEMENTS AND PHYSICAL ABILITIES AT THE ENTRANCE EXAM OF THE UNIVERSITY OF CRIMINAL INVESTIGATION AND POLICE STUDIES

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*“Good cops always seem to identify the causes of problems and to come up with the least troublesome ways of solving them. Good cops think ahead and always leave a way out of any tough situation. Good cops rarely have to resort to the law to solve minor order-maintenance problems like drunks and noisy kids on the street. Good cops spend their time finding out about the people and places on their beats instead of lurking at speed traps or near badly marked stop signs.”*

(Skolnick & Fyfe, 1993, p. 127)

## INTRODUCTION

Good policemen and policewomen are not born, they rather become good not only through the processes of learning, education, from the lowest to the highest, university level, but also via everyday practice, resolving critical incidents and responding to challenges. University education can contribute to the development of various skills essential for the work environment and better efficiency. What is more, throughout the education process, students are taught critical thinking, problem solving, communication, team work, time management and organizational skills, which may positively affect their professional competences (Ionescu & Cuza, 2012). With the speed at which social surroundings are changing, as well as rapid technological advances, it is the mentioned competences of university education that are considered crucial for efficient police work (Roberg & Bonn, 2004). Likewise, high education of police officers could have a beneficial impact on their ability to better analyze critical situations, assess risk, as well as, with clear and precise communication with their colleagues (and citizens), resolve critical incidents with the use of force only if absolutely necessary (Rydberg & Terrill, 2010).

The advantages and qualities of higher education of police officers were recognized even over 30 years ago. It was back then that the first national studies emphasized that police officers with higher education “are more global in their thinking, they can adapt better to change and establish good relationships outside of the police community.” (Carter & Sapp, 1990). Better-educated police officers demonstrate analytical skills, communicativeness, the ability of quicker problem solving and initiative, fewer prejudices, and are more “globally oriented”. In all comments on the advantages of college education, two factors stand out: communicativeness and social skills. Formally educated police officers commu-

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nicate better with the public, hence eliciting fewer complaints. The social skills acquired through higher education are at least as relevant, if not even more so, than academic skills (Carter & Sapp, 1989).

The police, as an organizational structure and personnel system with the right to use means of coercion (physical force) to perform their duties, “reinforce” gender practices based on unverified assumptions that support beliefs not only about the roles of men and women, but also about their abilities and values (Rabe-Hemp, 2009: 115). However, contemporary police forces require that women and men work side by side, using equal police powers and responsibilities (Janković et al., 2020). Gender practices raise the issue of gender efficiency in the moments when the only solution to resolving an incident seems to be the use of force, i.e., physical strength (Courtright et al., 2013). Nevertheless, even in this case, the required level of physical abilities of police officers can be achieved through adequate selection, provided that it is gender-neutral – unburdened by the demands of male management. Formal obstacles arise in the standards of the selection process itself: requirements related to body height, body weight and physical abilities of male and female candidates, founded on the stereotype of physical strength as one of the essential prerequisites for a career in the police, ignoring the fact that between 80% and 90% of police interventions end without the use of force (Balkin, 1988).

Since 2002, the new system of police education has enabled the enrollment of the first generation of women, creating conditions for reducing discrimination. Equal selection requirements and admission conditions for men and women, as well as equal access to police training and education, have created an educational atmosphere that considers gender identity differences and allows for their equal educational development (Spasić 2008, 2009). Therefore, new personnel and managerial resources, free from gender prejudice, should introduce a gender perspective into other dimensions of police operations (Spasić et al., 2015).

The first step toward quality high education is selection. University selection is the process of choosing students from a population of interested candidates who meet certain predefined criteria, thus enabling them to more successfully master the education curriculum (Allen & Robbins, 2010; Schram et al., 2024). When it comes to university education for police officers, selection systems most often include a health status check, intellectual ability assessment, personality evaluation, and physical ability level (Annell et al., 2015; Koropanovski et al., 2022). The selection process at the University of Criminal Investigation and Police Studies (UCIPS) is designed to identify candidates with the appropriate psycho-physical characteristics, which will support them throughout their studies and ultimately prepare them to become experts in the field of policing (Koropanovski et al., 2020). Student admission to UCIPS is based on a multidimensional positive selection model that includes: health status, personality traits, high school success, proficiency in the native language, general knowledge test, and physical abilities (Dimitrijević et al., 2014; Janković & Koropanovski, 2017).

The entrance exam at UCIPS has played a key role in the selection process since its establishment. Initially, various subjects such as geography, history, and psychology were evaluated to assess candidates’ knowledge and traits. However, the current method, which includes the Serbian Language Test (SLT), General Knowledge Test (GKT), and Basic Physical Abilities (BPA) Test, alongside High School Success (HSS), was introduced in 2012. The ranking list is formed based on the results of these tests, with the highest-scoring candidates being eligible for enrollment (Janković & Koropanovski, 2017). In 2018, a significant change was made to the elimination threshold for the BPA test, increasing it from four to eight points (Janković & Koropanovski, 2022). Additionally, since 2018, admission quotas, or the number of students eligible to enroll at UCIPS, have also been adjusted. Considering these changes in the selection system, the primary aim of this research is to determine the differences among enrolled students over the course of four years for all scored segments of the entrance exam (HSS, SLT, GKT and



BPA), as well as to identify trends of change in these very same segments. Additionally, the second aim of the paper is to examine whether there are differences in the entrance exam segments between female and male candidates by analyzing their preferences and abilities in all sections of entrance exam.

## METHODS

### *Sample of Respondents*

Four generations of candidates who applied for admission at UCIPS from 2018 to 2021 were observed. All respondents included in the study successfully passed the first selection segment referring to health status and psychological features. Out of a total of 1,339 applicants (551 females and 788 males), 308 (23%) candidates were admitted (EN), while 1,031 (77%) were not admitted (NEN). In terms of gender, the sample of admitted female candidates (EN female) was 120 (39%), which represents 21.8% of the women who applied, whereas the admitted male candidates (EN male) were 188 (61%), representing 23.9% of the men who applied. Due to failing to meet the prescribed BPA standards, a total of 370 candidates were eliminated (199 women and 171 men) (Table 1, Figure 1, and Figure 2). Figure 3 shows the percentage of candidates from the total number who gained admission to UCIPS, while Figure 4 displays the percentage of candidates who did not meet the minimum physical ability standards observed at the general level.

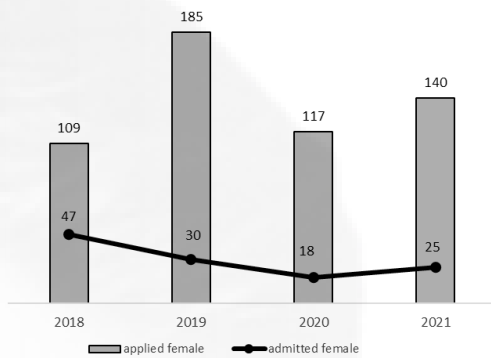
**Table 1.** *Overview of Candidates Who Applied and Enrolled at Ucips by Gender and Year of Application*

| Year        | Gender | Total | EN (%)     | NEN (%)    | EL <sub>BFA</sub> * (%) |
|-------------|--------|-------|------------|------------|-------------------------|
| 2018/19     | Female | 109   | 47 (43.1)  | 62 (56.9)  | 40 (36.7)               |
|             | Male   | 203   | 101 (49.8) | 102 (50.2) | 33 (16.3)               |
| 2019/20     | Female | 185   | 30 (16.2)  | 155 (83.8) | 86 (46.5)               |
|             | Male   | 248   | 40 (16.1)  | 208 (83.9) | 68 (27.4)               |
| 2020/21     | Female | 117   | 18 (15.4)  | 99 (84.6)  | 35 (29.9)               |
|             | Male   | 173   | 27 (15.6)  | 146 (84.4) | 38 (22.0)               |
| 2021/22     | Female | 140   | 25 (17.9)  | 115 (82.1) | 38 (27.1)               |
|             | Male   | 164   | 20 (12.2)  | 144 (87.8) | 32 (19.5)               |
| Σ 2018-2021 | Female | 551   | 120 (21.8) | 431 (78.2) | 199 (36.1)              |
|             | Male   | 788   | 188 (23.9) | 600 (76.1) | 171 (21.7)              |

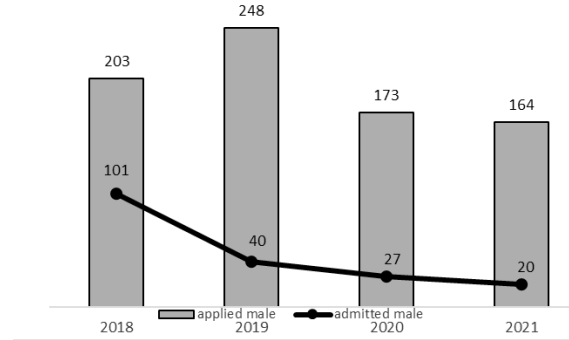
\*number of candidates who scored less than 8.00 points on the GPA assessment test and were thus eliminated



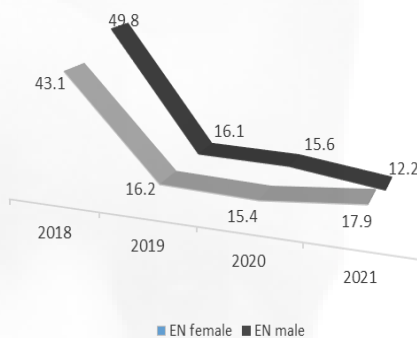




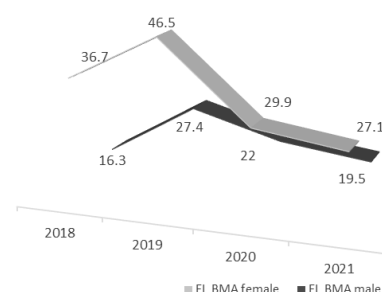
**Figure 1.** Overview of the Ratio of Female Candidates Who Applied and Enrolled at UCIPS from 2018 to 2021



**Figure 2.** Overview of the Ratio of Male Candidates Who Applied and Enrolled at UCIPS from 2018 to 2021



**Figure 3.** Percentage of Enrolled Candidates in Relation to the Total Number of Applicants



**Figure 4.** Percentage of Candidates Eliminated Due to Not Meeting the Minimum BPA Standards

## Variables

The research covered all components of the entrance exam used to select candidates (Janković & Koropanovski, 2017). The total score is obtained by summing the points achieved based on High School Success and the results of the aptitude and ability tests, which consist of three areas: Serbian Language Test, General Knowledge Test, and the assessment of Basic Physical Abilities.

- HSS is represented by the number of points calculated by summing the average grades achieved in each year of high school, after which the obtained sum is doubled. This results in a score range from 16 to 40. In terms of the total number of points that can be achieved on the entrance exam, HSS hypothetically accounts for 40%.

- SLT includes questions on Serbian language grammar and orthography, as well as knowledge of Serbian and world literature. The level of knowledge corresponds to the curriculum applied in high schools in the Republic of Serbia. The questions on the SLT as part of the entrance exam at UCIPS are reviewed by the Faculty of Philology at the University of Belgrade. Candidates answer 20 questions; each correct answer earns one point, whereas each incorrect answer reduces the total score by 0.25 points. The score range on the SLT is between 0 and 20.

- GKT covers questions from various fields, and the achieved result is not necessarily a consequence of formal education acquired through schooling. The success on the GKT is largely influenced by additional knowledge that could be gained by reading books, visiting theaters, cinemas, museums,

art galleries, or sports events. Furthermore, the result of this test can also be influenced by following scientific, political, or cultural content, as well as various electronic and print media. The GKT consists of 40 questions; each correct answer earns 0.5 points, while each incorrect answer reduces the total score by 0.1 points. The number of points that can be achieved is between 0 and 20.

- BPA assesses the general level of physical preparedness and consists of seven individual tests to evaluate: repetitive strength of arm extensor muscles, repetitive strength of trunk flexor muscles, explosive leg muscle strength in horizontal and vertical directions, motor educability, aerobic endurance, as well as maximum force of back extensors (for men), or maximum force of finger flexors (for women). The results of each test are multiplied by standard coefficients (different for women and men), and the total sum of all weighted values gives a score ranging from 0 to 20. A distinctive feature of this test is the elimination threshold set at eight points.

Based on the results, the overall number of points achieved on the Entrance Examination Test ( $\Sigma$ EET) is calculated, and the best-ranked candidates, whose number is defined for each year, gain the right to enroll at UCIPS.

### Statistics

The results were analyzed using basic descriptive statistical procedures. Measures of central tendency, minimum and maximum values, as well as the symmetric distribution of results, were determined. Based on average values, a trend equation of change and R-squared (R-squared) were calculated. Differences between the results of women and men were established using Independent t-test, while the existence of general differences in variability between generations (2018 - 2021) was determined using MANOVA analysis. The Bonferroni test was used to determine partial differences between pairs of variables. Statistical significance was defined at  $p < 0.05$ .

## RESULTS

### Descriptive Statistics

Table 2 shows basic descriptive data for enrolled females, and Table 3 for enrolled males from 2018 to 2021. Average values with standard deviations, as well as minimum and maximum values for each individual year and total for the observed period, are presented.

**Table 2.** Basic Descriptive Data for EN Female

| Year    | Statistics    | HSS              | SLLT             | GKT              | BPA              | $\Sigma$ EET     |
|---------|---------------|------------------|------------------|------------------|------------------|------------------|
| 2018/19 | Mean $\pm$ SD | 35.62 $\pm$ 3.06 | 10.69 $\pm$ 3.26 | 10.48 $\pm$ 3.45 | 10.71 $\pm$ 1.96 | 67.51 $\pm$ 6.08 |
|         | Min.          | 26.58            | 4.25             | 2.50             | 8.06             | 53.19            |
|         | Max           | 40.00            | 16.50            | 20.0             | 16.93            | 77.22            |
| 2019/20 | Mean $\pm$ SD | 37.11 $\pm$ 2.83 | 13.03 $\pm$ 2.82 | 11.87 $\pm$ 2.87 | 11.35 $\pm$ 1.51 | 73.35 $\pm$ 4.66 |
|         | Min.          | 29.26            | 8.0              | 6.30             | 8.73             | 67.59            |
|         | Max           | 40.00            | 17.50            | 17.9             | 14.75            | 83.38            |



|                    |               |                  |                  |                  |                  |                  |
|--------------------|---------------|------------------|------------------|------------------|------------------|------------------|
| 2020/21            | Mean $\pm$ SD | 37.98 $\pm$ 2.47 | 14.53 $\pm$ 1.70 | 11.93 $\pm$ 2.31 | 11.78 $\pm$ 1.76 | 76.22 $\pm$ 3.09 |
|                    | Min.          | 31.34            | 11.25            | 6.4              | 8.90             | 73.39            |
|                    | Max           | 40.00            | 16.75            | 15.8             | 15.06            | 84.01            |
| 2021/22            | Mean $\pm$ SD | 38.17 $\pm$ 1.97 | 15.11 $\pm$ 2.03 | 12.60 $\pm$ 2.37 | 13.09 $\pm$ 2.58 | 78.97 $\pm$ 2.94 |
|                    | Min.          | 33.28            | 10.25            | 7.0              | 8.72             | 74.42            |
|                    | Max           | 40.00            | 19.0             | 16.80            | 18.21            | 84.60            |
| $\Sigma$ 2018-2021 | Mean $\pm$ SD | 36.87 $\pm$ 2.89 | 12.77 $\pm$ 3.15 | 11.13 $\pm$ 3.34 | 11.52 $\pm$ 2.15 | 72.66 $\pm$ 6.60 |
|                    | Min.          | 26.58            | 4.0              | 2.5              | 8.06             | 53.19            |
|                    | Max           | 40.00            | 19.0             | 20.0             | 18.21            | 84.60            |

**Table 3.** Basic Descriptive Data for EN Male

| Year               | Statistics    | HSS              | SLT              | GKT              | BPA              | $\Sigma$ EET     |
|--------------------|---------------|------------------|------------------|------------------|------------------|------------------|
| 2018/19            | Mean $\pm$ SD | 33.73 $\pm$ 4.02 | 10.26 $\pm$ 3.45 | 10.78 $\pm$ 3.52 | 13.57 $\pm$ 2.79 | 68.34 $\pm$ 7.59 |
|                    | Min.          | 24.74            | 2.75             | 4.0              | 8.20             | 54.13            |
|                    | Max           | 40.00            | 18.75            | 20.0             | 19.72            | 84.14            |
| 2019/20            | Mean $\pm$ SD | 35.85 $\pm$ 3.19 | 11.06 $\pm$ 3.71 | 12.19 $\pm$ 3.40 | 14.03 $\pm$ 3.08 | 73.13 $\pm$ 5.94 |
|                    | Min.          | 28.78            | 5.75             | 6.9              | 8.32             | 67.83            |
|                    | Max           | 40.00            | 18.0             | 18.3             | 20.0             | 84.84            |
| 2020/21            | Mean $\pm$ SD | 37.11 $\pm$ 2.65 | 13.37 $\pm$ 2.60 | 13.46 $\pm$ 2.83 | 14.23 $\pm$ 2.87 | 78.16 $\pm$ 3.70 |
|                    | Min.          | 30.32            | 7.5              | 9.0              | 8.05             | 73.41            |
|                    | Max           | 40.00            | 17.5             | 19.5             | 20.0             | 87.80            |
| 2021/22            | Mean $\pm$ SD | 37.30 $\pm$ 2.92 | 14.18 $\pm$ 2.15 | 13.06 $\pm$ 2.59 | 14.93 $\pm$ 2.76 | 79.47 $\pm$ 3.24 |
|                    | Min.          | 28.32            | 10               | 8.1              | 9.57             | 74.69            |
|                    | Max           | 40.00            | 17.75            | 17.1             | 19.75            | 84.77            |
| $\Sigma$ 2018-2021 | Mean $\pm$ SD | 35.05 $\pm$ 3.86 | 11.29 $\pm$ 3.57 | 11.03 $\pm$ 3.83 | 13.91 $\pm$ 2.96 | 71.98 $\pm$ 7.75 |
|                    | Min.          | 24.74            | 3.0              | 4.0              | 8.09             | 52.15            |
|                    | Max           | 40.00            | 18.0             | 20.0             | 20.0             | 87.80            |

### *Differences in Achievement on the Entrance Exam Between Male and Female Candidates*

Compared to the total sample of enrolled female (No 120) and male (No 188) candidates, the study found that female candidates achieved statistically significantly higher scores in HSS by 1.83 points (5.2%) and in SLT by 1.48 points (13.2%),  $t = 4.739$ ;  $p < 0.001$  and  $t = 3.808$ ;  $p < 0.001$ , respectively. Conversely, in BPA, males achieved a better result by 2.39 points (17.2%),  $t = 8.282$ ;  $p < 0.001$ . No statistically significant difference was found in GKT ( $t = 0.589$ ;  $p = 0.556$ ). As expected (given the meth-



od of enrollment rights at UCIPS which only considers the total number of points), no statistically significant difference was found in  $\Sigma$ EET points ( $t = -0.855$ ;  $p = 0.393$ ). In further analysis, which is shown in Table 4, differences between female and male candidates in relation to the year of enrollment at UCIPS were observed.

**Table 4.** *Differences Between Female and Male Candidates in All Segments of the Entrance Exam by Year of Enrollment at UCIPS*

| Year    | Variable     | Pts*    | %      | t     | p       |
|---------|--------------|---------|--------|-------|---------|
| 2018/19 | HSS          | 1.89**  | 5.60   | 3.151 | 0.002   |
|         | SLLT         | 0.43    | 4.19   | 0.741 | 0.461   |
|         | GKT          | -0.30   | -2.78  | 0.488 | 0.627   |
|         | BPA          | -2.86** | -21.08 | 7.149 | < 0.001 |
|         | $\Sigma$ EET | -0.83   | 1.21   | 0.715 | 0.476   |
| 2019/20 | HSS          | 1.26    | 3.51   | 1.734 | 0.088   |
|         | SLLT         | 1.97**  | 17.81  | 2.726 | 0.008   |
|         | GKT          | -0.32   | -2.63  | 0.434 | 0.666   |
|         | BPA          | -2.68** | -19.10 | 4.792 | < 0.001 |
|         | $\Sigma$ EET | 0.22    | 0.30   | 0.165 | 0.869   |
| 2020/21 | HSS          | 0.87    | 2.34   | 1.125 | 0.267   |
|         | SLLT         | 1.16    | 8.68   | 1.804 | 0.078   |
|         | GKT          | -1.53   | -11.37 | 1.957 | 0.055   |
|         | BPA          | -2.45** | -17.22 | 3.327 | 0.001   |
|         | $\Sigma$ EET | -1.94   | -2.48  | 1.905 | 0.064   |
| 2021/22 | HSS          | 0.87    | 2.33   | 1.139 | 0.263   |
|         | SLLT         | 0.93    | 6.56   | 1.486 | 0.145   |
|         | GKT          | -0.46   | -3.52  | 0.616 | 0.541   |
|         | BPA          | -1.84** | -12.32 | 2.293 | 0.027   |
|         | $\Sigma$ EET | -0.50   | -0.63  | 0.536 | 0.595   |

\* difference between the results achieved by female and male students

\*\* statistical significance  $p < 0.05$

Differences in all segments of the entrance exam were analyzed in relation to the year of enrollment individually for female and male candidates. At the general level, a statistically significant difference was found at the Wilks' Lambda level of 0.471 ( $F = 8.206$ ,  $p < 0.001$ ) and 0.663 ( $F = 6.705$ ,  $p < 0.001$ ) for female and male candidates, respectively. Statistically significant differences were observed in all segments for female candidates: HSS ( $F = 6.267$ ,  $p = 0.001$  and  $F = 10.821$ ,  $p < 0.001$ ), SLLT ( $F = 19.550$ ,  $p < 0.001$  and  $F = 12.113$ ,  $p < 0.001$ ), GKT ( $F = 3.298$ ,  $p = 0.023$  and  $F = 6.486$ ,  $p < 0.001$ ), BPA ( $F = 7.956$ ,  $p < 0.001$  and  $F = 1.451$ ,  $p = 0.229$ ), and  $\Sigma$ EET ( $F = 35.573$ ,  $p < 0.001$  and  $F = 28.208$ ,  $p < 0.001$ ), respectively. The results of the Bonferroni test for female candidates are presented in Table 5, and for male candidates in Table 6.





**Table 5.** Bonferroni Test for EN Female by Year of Enrollment

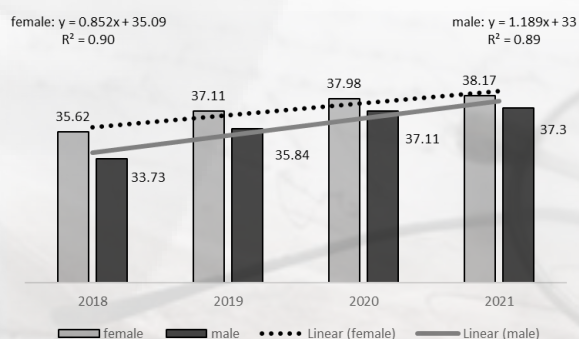
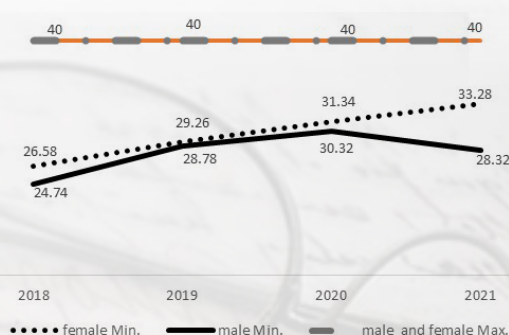
| Year |      | HSS    |       | SLLT   |        | GKT    |        | BPA    |        | $\Sigma$ EET |        |
|------|------|--------|-------|--------|--------|--------|--------|--------|--------|--------------|--------|
|      |      | Pts    | %     | Pts    | %      | Pts    | %      | Pts    | %      | Pts          | %      |
| 2018 | 2019 | -1.48  | -4.02 | -2.33* | -17.96 | -1.38  | -11.71 | -0.63  | -5.64  | -5.84*       | -7.96  |
|      | 2020 | -2.35* | -6.21 | -3.84* | -26.43 | -1.44  | -12.15 | -1.06  | -9.08  | -8.71*       | -11.43 |
|      | 2021 | -2.55* | -6.68 | -4.42* | -29.25 | -2.12* | -16.83 | -2.37* | -18.18 | -11.46*      | -14.51 |
| 2019 | 2020 | -0.87  | -2.29 | -1.50  | -10.32 | -0.07  | -0.50  | -0.44  | -3.65  | -2.88        | -3.77  |
|      | 2021 | -1.06  | -2.78 | -2.09* | -13.77 | 0.74   | -5.79  | -1.74* | -13.29 | -5.63*       | -7.12  |
| 2020 | 2021 | -0.19  | -0.50 | -0.58  | -3.84  | -0.67  | -5.32  | -1.30  | -10.01 | -2.75        | -3.48  |

\* $p < 0.05$ **Table 6.** Bonferroni Test for EN Male by Year of Enrollment

| Year |      | HSS    |       | SLLT   |        | GKT    |        | BPA   |       | $\Sigma$ EET |        |
|------|------|--------|-------|--------|--------|--------|--------|-------|-------|--------------|--------|
|      |      | Pts    | %     | Pts    | %      | Pts    | %      | Pts   | %     | Pts          | %      |
| 2018 | 2019 | -2.12* | -5.91 | -0.81  | -7.23  | -1.41  | -11.57 | -0.46 | -3.28 | -4.79*       | -6.55  |
|      | 2020 | -3.37* | -9.11 | -3.11* | -23.26 | -2.67* | -19.91 | -0.65 | -4.64 | -9.81*       | -12.56 |
|      | 2021 | -3.57* | -9.57 | -3.92* | -27.64 | -2.28* | -17.46 | -1.36 | -9.11 | -11.13*      | -14.01 |
| 2019 | 2020 | -1.25  | -3.40 | -2.31* | -17.28 | -1.27  | -9.44  | -0.20 | -1.41 | -5.02        | -6.44  |
|      | 2021 | -1.45  | -3.89 | -3.11* | -22.00 | -0.87  | -6.66  | -0.91 | -6.03 | -6.33*       | -7.98  |
| 2020 | 2021 | -0.20  | -0.51 | -0.80  | -5.71  | 0.40   | 3.06   | -0.71 | -4.69 | -1.31        | -1.65  |

\* $p < 0.05$ 

Figures 5 to 14 depict trends of changes, including minimum and maximum values for various segments of the entrance exam from 2018 to 2021. The graphs illustrate trends in average values, along with trend equations for average scores on the HSS, SLT, GKT, and BPA tests, as well as the total score obtained on the entrance exam.

**Figure 5.** Trends in Changes of HSS Average Values**Figure 6.** HSS Min and Max Values



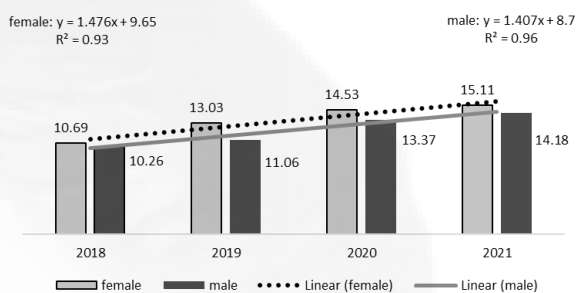


Figure 7. Trends in Changes of SLT Average Value

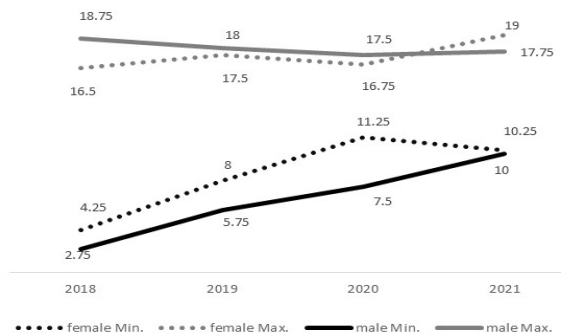


Figure 8. SLT Min and Max Values

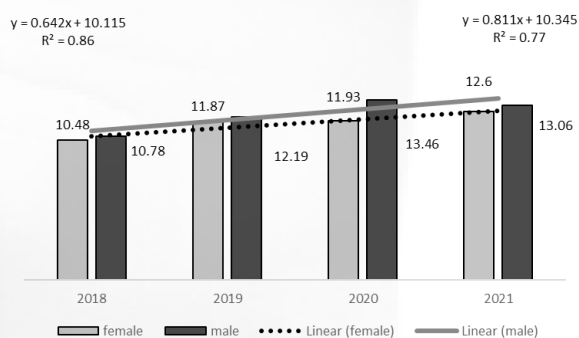


Figure 9. Trends in Changes of GKT Average Value

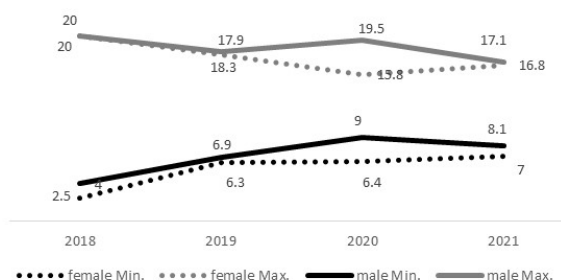


Figure 10. GKT Min and Max Values

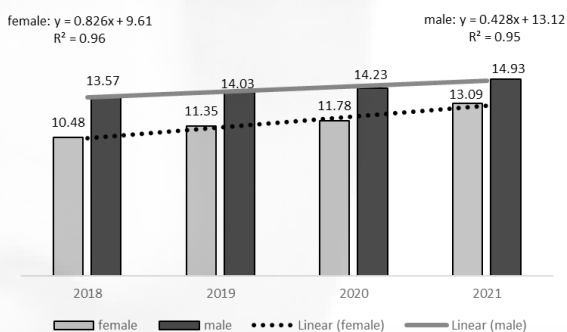


Figure 11. Trends in Changes of BPA Average Value

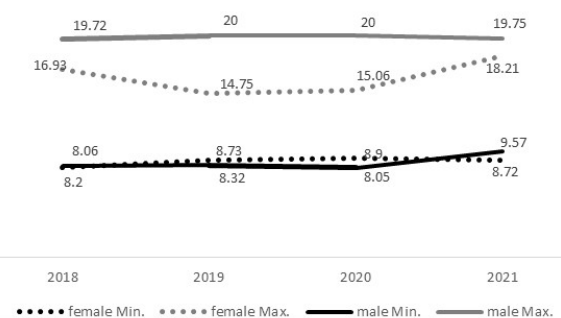


Figure 12. BPA Min and Max Values

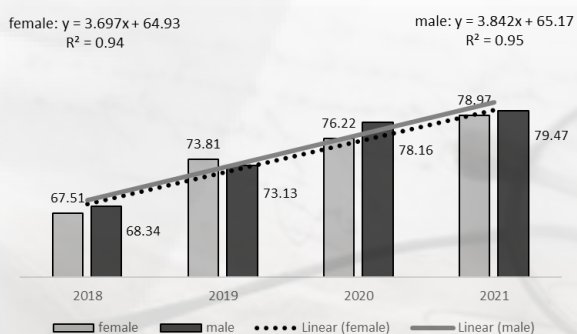


Figure 13. Trend of Changes in Average Values of the Number of Points Achieved on the Entrance Examination Test

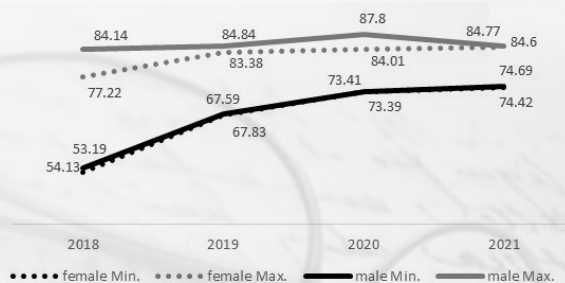


Figure 14. Min and Max Values of the Number of Points Achieved on the Entrance Examination Test



## DISCUSSION

The main findings of this study relate to statistically significant differences at a general level in performance on the entrance exam across four observed cohorts of enrolled students of both genders (Table 5 and Table 6). It was found that there are statistically significant differences among women in all variables between 2018 and 2021. Specifically, differences were observed in SLT between 2018 and 2019, in HSS and SLT between 2018 and 2020, and in SLT and BPA between 2019 and 2021. Additionally, a difference was found for HSS between 2018 and 2019. The results from 2018 were statistically significantly lower compared to 2020 and 2021 for HSS, SLT, and GKT, while between 2019 and 2020, as well as between 2019 and 2021, better results were achieved for SLT. No differences were found for BPA among men across the observed cohorts. Also, between 2020 and 2021, no statistically significant differences were found in the observed variables among both women and men. These partial results per variables influenced  $\Sigma EET$ , as well as the trend of changes in all observed variables, which were found to be progressing positively. In other words, trends in changes of average values over the observed period indicate that each year, students who are admitted demonstrate higher levels of knowledge and abilities on the UCIPS entrance exam; however, the mentioned improvement has stagnated in the last two observed generations (2020 and 2021).

Analyzing the trends of average values of all tests between 2018 and 2021 for men and women shows significant improvement among enrolled students of both genders. Particularly noteworthy is the improvement in the minimum values of enrolled candidates across all tests (from Figure 5 to Figure 14). The coefficients of determination, ranging from 0.77 to 0.96, indicate a high level of consistency in growth. However, given the high set standards on all segments of the entrance exam and the total number of points, stabilization of average values can be expected in the future period. This is further confirmed by the absence of statistically significant differences between the 2020 and 2021 cohorts. Although maximum values of individual results remain similar across all generations, minimum values show growth, indicating enrollment of increasingly qualified students. One possible reason for this trend could be the increased number of applicants compared to fewer available positions in 2020 and 2021. Specifically, in 2020, 15.6% of male applicants and 15.4% of female applicants enrolled, while in 2021, 12.2% of male applicants and 17.9% of female applicants were admitted (Figure 3).

After the first generation of young women (a total of 20) enrolled in 2002, the abolition of quotas for admission to UCIPS in the academic year 2013/2014 marked another step towards establishing gender equality in educating women for police duties. The harmonization of the selection process and adaptation of selection procedure norms to the requirements of educational programs, as well as the demands of police work and criteria for performing police duties, along with a strategic approach to projecting the number of admissions, have all led to a smaller annual intake at UCIPS, while ensuring that “quality follows quantity”. This means that only the best candidates are admitted, a fact confirmed by the results achieved during their studies. This finding can be linked to the improvement in the level of knowledge and skills among enrolled candidates over the four years of study, as well as the assumption that better selection contributes to the better success of students of both genders. Admission to and success during studies at UCIPS are further influenced by the specific motivation of the candidates (Meece & Courtney, 1992; Dimitrijević et al., 2014).

The findings of this study also indicate that equality has been achieved between male and female candidates in the selection process and during studies at UCIPS. Such a gender matrix would imply that students, upon completion of their studies and during employment in the police force, are assigned to appropriate positions based on their individual abilities. Previous research has shown that female candidates achieve better results in HSS and SLT compared to male candidates. This is believed to



be explainable by differences in cognitive-motivational functioning and learning styles (Janković & Koropanovski, 2017; Koropanovski et al., 2022). On the other hand, anatomical and physiological differences contribute to better physical performances among males. On average, males are taller and heavier than females, resulting in higher BMI, lower body fat percentage, and a higher protein/fat index. These differences also affect physical abilities, where males generally show better results in strength, speed, and endurance tests (Dopsaj et al., 2015; Kukić et al., 2020). Although males demonstrate greater physical achievements in absolute terms, the GPA grading system for entrance exams (and during studies at UCIPS) is adjusted by gender, providing equal conditions for students of both sexes (Koropanovski et al., 2022). Taking into account trends in changes, differences in specific segments of the entrance exam, and the percentage of enrolled students, it can be expected that BPA evaluations will also be equalized. During the observed period, a smaller percentage of candidates were eliminated due to insufficient physical preparedness (Figure 4). It can be assumed that candidates of both sexes approach the entrance exam with better developed physical abilities, which may result from greater commitment and thorough preparation for admission to UCIPS. Additionally, the ratio of applicants to enrolled students of both sexes (as mentioned earlier), along with higher levels of preparedness and greater motivation for enrollment, allows for the selection of the highest-quality candidates, thereby neutralizing possible differences between genders in cognitive-motivational functioning and learning styles.

Research shows that there are currently very few female officers in senior positions within the police force – they mostly perform administrative roles (Spasić & Radovanović, 2019). Regarding career development, women systematically focus on stagnant roles because prestigious positions often require work outside regular hours, frequent travel, and long absences from home, which hinders maintaining a balance between family and profession (Spasić et al., 2024). Research on the integration and career advancement of women in the Serbian police (Tomić, 2019) has shown that women are aware of their position but justify it with adopted values of patriarchal culture. On the one hand, they prioritize workplace safety, and on the other lack sufficient resources to change their professional and personal status in society. However, it is essential to consider the fact that there is little doubt of women's ability to perform policing responsibilities as well as men do, and they often excel in handling tense encounters without resorting to force. Female officers tend to be more empathetic toward citizens, possess better communication skills, and demonstrate greater proficiency in conflict resolution than male officers (Rabe-Hemp, 2009).

Additionally, worldwide, women are the most under-represented protected class in law enforcement today. While they make up 51% of the population, they occupy only 15-20% of positions across the nation (Deljić et al., 2023). This is not to suggest all women would make good officers any more than to say all men would make good officers. Nor should departments lower legitimate hiring standards to attract more women, since this would only discount the value quality candidates bring to the workplace. Generally, female officers possess many unique traits that make them exceptional officers. For instance, female officers overall are more likely to be better educated. In the USA, for example, in 2013 alone, women earned 61% of associate and 57% of bachelor degrees (Perry, 2013). They are less likely to use excessive force, or to be named in a lawsuit than male officers (Lonsway et al., 2003). What is more, they have better oral communication skills and are more empathetic than men. As traditional gender roles continue to evolve, increasing the focus on female candidates could offer an abundant source of highly qualified and capable employees. Failure to do so will adversely impact agencies to reach their recruiting goals and serve their communities in the future.

One way to achieve equality in abilities, duties, and positions at work, as well as equality in general, begins with an adequate selection system and education conducted at UCIPS. Based on the presented





research results, it can be assumed that future police officers of both genders will be able to adequately respond to all professional challenges with appropriate work abilities conditioned by the positions they will work in. This emphasizes the importance of continuous improvement and adaptation of selection systems, as well as educational programs that encourage equal opportunities and promote equal participation of women in all aspects of police work based on their professional performances.

## CONCLUSION

*The citizen expects police officers to have the wisdom of Solomon, the courage of David, the strength of Samson, the patience of Job, the leadership of Moses, the kindness of the Good Samaritan, the strategical training of Alexander, the faith of Daniel, the diplomacy of Lincoln, the tolerance of the Carpenter of Nazareth, and finally, an intimate knowledge of every branch of the natural, biological, and social sciences. If he had all these, he might be a good policeman!* (August Vollmer, 1936)

The findings of this study show a significant improvement in the level of knowledge and abilities of enrolled students of both genders during the observed four years, with a high level of consistency in the growth of average scores and individual minimum values across all segments of the entrance exam. The stabilization of trends in the last two years indicates a possible future parity in performances, driven by adequate selection and achievement of high standards in all parts of the entrance exam. Further enhancement of selection processes and adaptation of educational programs to the needs of police positions, as well as to the criteria for performing police duties, could further promote equal participation and optimal utilization of UCIPS students' achievements.

Future research should include long-term monitoring of the career development of UCIPS students, providing deeper insights into the effectiveness and long-term results of gender-balanced education regarding professional outcomes. Additionally, it would be useful to conduct a detailed analysis of motivational factors influencing candidates to apply to UCIPS, with a specific focus on differences between men and women, in order to better understand how to attract and retain high-quality and motivated candidates (students) for police work. The ultimate goal of this research would be to contribute to the development of more effective selection systems and educational strategies that can positively impact the work efficiency of police officers of both genders.

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