

THE LIFE HABITS, COGNITIVE CAPACITY AND EFFICIENCY OF STUDY

Aljoša Arlov, MSc
Željko Krneta, PhD

Faculty of Sport and Physical Education, University of Novi Sad, Serbia

Abstract: In this paper we have tried to find out whether, and if so, how much, the success of studying, contributed to certain life habits, as well as the cognitive abilities of students of the University of criminal investigation and police studies in Belgrade. Life habits are defined by displaying habits in eating, using leisure time, physical activities as well as relationships with the use of cigarettes and alcohol, and cognitive abilities through the display of the coefficient of intolerance. The sample of students was 89 students of the final year of academic studies. The effectiveness of studying is calculated from the available information on the average grade, the total number of points actually achieved and the duration of the study up to the moment of computation of performance. Adequate statistical procedures have not shown a significant contribution to the monitoring of space, the effectiveness of studying students of the Criminal Police Academy.

Keywords: students, life habits, study success

INTRODUCTION

Investing in higher education is an investment in the future. In the Republic of Serbia, about 11% of the population gained this level of education. Acceptance of European standards in the field of studying resulted in the Republic of Serbia with shortening the completion time of the studies (Savic et al., 2016). At the same time, there are no valid results that would indicate the state of the level of acquired competencies of graduated students.

Professional areas, such as military and police, are very popular in this region for studying. This is indicated by the results of the research of attitudes of high school students in Republic of Serbia. In the mentioned population, there is a considerable interest in the University of Criminal Investigation and Police Studies (CIPS)¹ as a representative higher education institution, and therefore also for

¹ By the fulfillment of the necessary conditions, by the Decision of the Commercial Court in

police work (Koropanovski et al., 2016; Jankovic & Koropanovski, 2017; Janković et al. 2018).

As a basis of interest, students have indicated their desire to acquire knowledge from selected fields. In addition to the desire to acquire knowledge, it is assumed and supposedly easier employment after the completion of studies, as well as the expectations of the family (Lažetić et al., 2014).

The organization of accredited study programs at the Criminal Investigation and Police Studies, but also the location itself, imposes the need for student residence in Belgrade, and therefore a real change in the previous way of life. Most of the students at the University of Criminal Investigation and Police Studies are not from the territory of the city of Belgrade, therefore, they are not able to live with their parents (During the schooling, CIPS students, in most cases, lead an internal way of life, independently feed themselves and independently decide on the content of their free time. The transition from the secondary school system (shift and life relative perennial period) to the faculty system (in most cases changing the place of residence, moving to a large urban environment, separation from the family, variable and extensive teaching, a greater number of obligations) can lead to disturbance of the previous life habit (Dimitrijević, 2016). It is to be assumed that such significant changes in lifestyle also affect previously acquired life habits both for female and male students.

In Serbia, about 52.5% of students live with their parents during the study, and more than 90% are financially dependent on them (Savić et al., 2015). The problem of the presence of healthy lifestyles in young people, and in this context, and the ever more intense affirmation of the active lifestyle, is today one of the most frequently asked questions when examining their living and working conditions.

Research shows that there is a trend of an increase number of young people, especially among the student population, dominated by life habits characterized as unhealthy (Nešić et al., 2016).

The efficiency of study² means completion of studies within the deadline. The preceding characteristics are generally expressed through the average grade during the studies and the duration of the studies. This way of calculating the average grade of a student during a study does not give a true picture of the students' performance and expertise in the given profession studied. By adjusting the Bologna process and introducing points for each subject, calculating the average grade for studying can be even more specific for each profession (Isljamovic et al., 2012). Recognizing the existence of the points mentioned for each subject

Belgrade, 24.12.2018. In the same year, the registration of a change in the form of organization from the Criminal Police Academy to the University Criminal Investigation and Police Studies was carried out with the Departments of Criminalistics, Informatics and Computing and the Department of Forensic Engineering

²The socio-economic as well as demographic characteristics of the students certainly have a significant impact on the efficiency of studying, but they were not the topic of this paper. The same applies to possible differences in the level of quality of life habits of students at the beginning and end of study or as a possible subject of other research.

in the calculation of the average grade would make it clearer to demonstrate the students' expertise and training for the given profession studied and the insight into his knowledge from the given faculty (Kovačević et al, 2009).

The aim of studying, among other things, is acquiring general and specific competences for the chosen field of study.

METHODOLOGY

In order to understand the contribution of the quality of life habits and cognitive abilities to the efficiency of studying by students of the CIPS, part of the available information (student service of the CIPS) was used, as well as direct collection, using appropriate procedures (life habits of students and their cognitive abilities).

Sample

The sample of respondents in the research consisted of 89 students of the final year of basic academic studies at the CPIS in Belgrade. Subsample was represented 37 (41.6%) male and 52 female students (58.4%) The budget of the Republic of Serbia, as a source of funding the studies, was used by 40 (45%) students, while the self-financed were 49 (55%). There were only 7 (7.8%) students from the city of Belgrade.

Life habits

A survey, conducted by authors Turkony and his associates (2003) was used to determine life habits (LifeH). The questionnaire is structured in three parts, the first being to determine eating habits (NUTR), the other, the area of physical activity (PA), and the third relation to the use of cigarettes (CIG) and alcohol (ALC).

Cognitive capacity

For the assessment of cognitive (intellectual) abilities, a cybernetic battery of intelligence tests with selected tests was used to enable the evaluation of the efficiency of the functioning of the most important cognitive processors (Wolf et al., 1998). This battery contains three tests for assessing the effectiveness of perceptual functions: the parallel processor function and the serial processor functions. They enable the effective manifestation of perceptual, verbal and non-verbal intellectual abilities. By combining the results obtained on these tests, a reliable assessment of general intelligence is obtained. The battery is recommended by the

makers for use as a whole, and the ability to use each of the three tests separately. For the purposes of this paper, the authors used the battery in their entirety, with the aim of determining the IQ, that is, the efficiency of the CIPS as a variable for this area.

Efficiency of study

The performance of CIPS students was evaluated through the achieved average grade during the course of study. The average grade is counted as the product of a collection of all grades and the number of passed exams and was used in paper as variable (EFC).

Statistical evaluation

Data processing was carried out using the statistical program SPSS version 20.0 using adequate procedures for determining descriptive indicators for all observed variables, as well as for determining the significance of correlations as indicators of the predictive value of predictor variables compared to the success of study as a criterion variable.

RESEARCH RESULTS

Table 1 shows the basic descriptive indicators for the total sample and all the variables in the survey. In the last three rows of the same table, the values for two predictor fires (life habits as a total expressed score (LifeH), and the ratio of intelligence (IQ)) and the criterion variable (the success of the study (EFC)- expressed through the average grade) are indicated.

Table 1. *Descriptive indicators for the total sample*

Variables	average value	SD	MIN	MAX
NUTR	25.3	4.608	15	37
PA	11.11	2.34	5	15
CIG	1.7	0.681	0	2
ALC	1.51	0.503	1	2
LifeH	39.62	6.284	26	53
IQ	110.3	6.54	94	122
EFC	7.69	0.62	6.6	9.68

The values, shown for the nutritional quality of students in the study, show that there are no maximal possible values (42), which is the state of life habits when viewed in total (diet, physical activity, smoking and alcohol) (63).

Values for IQ show that students are in high levels of intelligence (according to the division: 90 to 109 = average, 110 to 119 = high, 120 + = above average).

Table 2. *Important indicators Linear regression analysis of variables Successful study*

variables	r	rpart	Beta	t	p
NUTR	-.058	-.058	-.066	-.531	.597
PA	-.179	-.167	-.177	-1.540	.127
CIG	.117	.152	.161	1.404	.164
ALC	.052	.057	.057	.522	.603
LifeH	-.092	-.092	-.092	-.864	.390
IQ	.099	.117	.115	1.073	.286

R = .262

R² = .069

F = 1.222

P = .306

The low value of the multiple correlation coefficient of 0.306 indicates that the applied predictor system nutrition, physical activity, smoking, alcohol, and life habits overall value is not significantly related to the criterion variable (the success of a study expressed by an average grade).

DISCUSSION AND CONCLUSION

A great interest in studying in the last decade in the world as well as in Serbia, brought a great need in researching the aspect of the students themselves as well as their student life. Efficiency of studying is defined as the academic performance of a student and could be influenced by many factors.

There are a quite number of papers in the area of students' characteristics and their students' habits as well as their relations to the efficiency of studying. Güllü and Güllü (2019) were conducting a research looking for the relations between anthropometric characteristics and lifestyle of secondary school students. Irazusta and the associates (2006) were conducting their research on the first year of female nursing students. More similar research to this paper was made by author Trockel and his associates (2000) where they were interested in the connection between some health-related variables and academic performance. The emphasis of the paper was on the sleep behavior. As for the new papers on the similar topic, Masoomi and the colleagues (2019) were looking for some correlations between breakfast, snack foods, cognitive and academic performance and physical activity levels.

In this paper, however, on the sample of 89 students of the final year of basic academic studies at the Criminal Investigation and Police Studies in Belgrade, we tried to find out whether there is a significant connection between the students'

life habits and their cognitive abilities with the study's success. After analyzing the results, no significant association was found ($p = 0.306$) among the selected predictors of the total observed (life habits, which were studied in the study through student attitudes towards nutrition, physical activities smoking and alcohol, and cognitive abilities expressed by the ratio of intelligence - IQ) and the criterion variable the success of the study was also evident (expressed by the average grade). The success in studying, individually and in total, is influenced by some other factors that were not included in this research. Study motivation and study skills, that were not tested in this research exhibit the strongest relationships with both grade point average and grades in individual classes (Credé & Kuncel, 2008).

The quality of the survey's results in this research was also influenced by the quality of the sample of the respondents and the quality of defining individual variables. Nevertheless, new information about the work of the population of the students of the Criminal Investigation and Police Studies were obtained and the possibilities of other and different research are still open.

REFERENCES

1. Credé, M., & Kuncel, N. R. (2008). Study habits, skills, and attitudes: The third pillar supporting collegiate academic performance. *Perspectives on psychological science*, 3(6), 425-453.
2. Dimitrijević, R. (2017). *Modelne karakteristike motoričkih sposobnosti, morfoloških karakteristika i životnih navika studentkinja Kriminalističko-policijske akademije, Doktorska disertacija*, Univerzitet u Beogradu, Kriminalističko-policijska akademija.
3. Güllü, E., & Güllü, A. (2019). The Relationship between Daily Lifestyle and Anthropometric Parameters in Secondary School Student. *Asian Journal of Education and Training*, 5(1), 134-139.
4. Hegde, S. V., Rao, S. K., Menezes, R. G., Kotian, S. M., & Shetty, S. (2018). Knowledge, Attitude, and Practice of Yoga in Medical Students: Assessment of Anthropometry and Lifestyle Factors. *International journal of yoga therapy*, 28(1), 9-14.
5. Isljamovic, S., Vukicevic, M., & Suknovic, M. (2012). Demographic influence on students' performance-case study of University of Belgrade. *TECHNICS TECHNOLOGIES EDUCATION MANAGEMENT-TTEM*, 7(2), 648-660.
6. Irazusta, A., Gil, S., Ruiz, F., Gondra, J., Jauregi, A., Irazusta, J., & Gil, J. (2006). Exercise, physical fitness, and dietary habits of first-year female nursing students. *Biological Research for nursing*, 7(3), 175-186.
7. Jankovic, R., & Koropanovski, N. (2017). Trend of changes of student results at the Academy of criminalistic and police studies entrance exam. *Nauka, bezbednost, policija*, 22(1), 93-110.

8. Janković, R., Koropanovski, N., & Dimitrijević, R. (2018). Evaluation of Tests for the Assessment of Police Officers Physical Abilities. In *Thematic conference proceedings of international significance. Vol. 2/International Scientific Conference "Archibald Reiss Days", Belgrade, 2-3 October 2018* (pp. 73-82). Belgrade: Academy of Criminalistic and Police Studies.
9. Koropanovski, N., Dimitrijevic, R., & Jankovic, R. (2016). Trend of changes in motor abilities initial level in the male students of the Academy of Criminalistic and Police Studies, in: *International Scientific Conference "Archibald Reiss Days"*, Academy of Criminalistic and Police Studies, Belgrade.
10. Kovačević, I., Katić, V., Bojanić, R., Nikolić, D., Perović, V., Nerandžić, B. & Zubić A. (2009). Način izračunavanja prosečne ocene studija. Zbornik radova XV skupa Trendovi razvoja: Doktorske studije u Srbiji, region i EU. Kopaonik: Fakultet tehničkih nauka, Novi Sad, Republika Srbija.
11. Lažetić P., Živadinović I., Jarić I. & Radonjić, O. (2014). Od studenta do (ne) zaposlenog stručnjaka: pregled rezultata istraživanja o diplomiranim studentima u Srbiji, Bosni i Hercegovini i Crnoj Gori u okviru CONGRAD TEMPUS projekta. Kragujevac: Univerzitet u Kragujevcu.
12. Masoomi, H., Taheri, M., Irandoust, K., H'Mida, C., & Chtourou, H. (2019). The relationship of breakfast and snack foods with cognitive and academic performance and physical activity levels of adolescent students. *Biological Rhythm Research*, 1-8.
13. Nešić, M., Srđić, V. & Jezdimirović, T. (2016). Evaluacija skale percepcije aktivnog životnog stila studenata. *Sportske nauke i zdravlje*, 6 (1), 5-12.
14. Savić, M., Živadinović, I., Jovanović, V., Čekić-Marković, J., & Kresoja, M. (2016). Socijalna dimenzija studiranja u Srbiji - EUROSTUDENT V – izveštaj za Republiku Srbiju. Beograd: Univerzitet u Beogradu. (available on <http://www.finhed.org/media/files/Eurostudent-Serbia.pdf>)
15. Trockel, M. T., Barnes, M. D., & Egget, D. L. (2000). Health-related variables and academic performance among first-year college students: Implications for sleep and other behaviors. *Journal of American college health*, 49(3), 125-131.
16. Turconi, G., Celsa, M., Rezzani, C., Biino, G., Sartirana, M.A. & Roggi, C. (2003). Realibility of dietary questionnare on food habits, eating behaviours and nutritional knowledge of adolescent. *European Journal of Clinical Nutrition*, 57, 753-763.
17. Wolf, B., Momirović, K. & Džamonja, Z. (1998). KOG - 3 Baterija testova inteligencije. Beograd: Centar za primenjenu psihologiju.