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**ЭФФЕКТ ДАНИНГА-КРЮГЕРА КАК НЕИЗБЕЖНОЕ  
ПСИХОЛОГИЧЕСКОЕ ИСКАЖЕНИЕ СРЕДИ СТУДЕНТОВ**

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**THE DUNNING-KRUGER EFFECT AS AN INEVITABLE PSYCHOLOGICAL  
BIAS AMONG STUDENTS**

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**Резюме.** Каждый человек склонен к завышенной самооценке, и студенты не исключение. Эффект Даннинга-Крюгера, как когнитивное искажение, является причиной, по которой зачастую невозможно адекватно оценить свои способности. Несмотря на то, что объективная оценка может быть непростой, важно иметь в виду данный психологический феномен для успешного саморазвития.

**Ключевые слова:** эффект Даннинга-Крюгера, метакогнитивное искажение, психологический феномен

**Abstract.** Everyone is susceptible to the excessive self-evaluation and students are not an exception. The Dunning-Kruger effect as a cognitive bias is the reason why it is often impossible to assess one's abilities adequately. Despite the fact that being objective can be difficult, it is highly important to bear in mind this psychological phenomenon for the successful self-improvement.

**Keywords:** Dunning-Kruger effect, cognitive bias, psychological phenomenon

**Relevance.** The Dunning-Kruger effect is a flaw in cognitive thinking which can be found in every human being. This phenomenon can be described as being sure of high expertise in a particular subject/field, while showing no deep knowledge or proper skills in it. In other words, that's when one fails to assess his/her abilities adequately. Thus, this person tends to highly overestimate his/her performance. The Dunning-Kruger effect is an absolutely exciting psychological bias to look at as it can be easily observed in everyday life without our realization. What is more, being acquainted with this bias is essential for the future and already practicing doctors in order to evaluate their theoretical and practical skills and cope with its consequences better.

**Aim:** the main purpose of the research is, firstly, to determine whether the Dunning-Kruger effect is present among the Belarusian State Medical University students and proves this flaw to be inevitable, albeit, not always adverse, feature of the human cognitive phenomenon. Secondly, this research will provide further explanation of the Dunning-Kruger psychological bias as well as more examples of it.

**Materials and methods.** The online platform Google Forms was used to conduct the survey on the voluntary basis among the Belarusian State Medical University first-year students. The respondents were 108 students of the Dental and General Medicine faculties. The questionnaire was sent to them via Vk social network. Questions were suggested in Russian for better understanding. In the survey the students were asked to share their cen-

tralized test results (in the Belarusian/Russian language and Biology), then they had to evaluate their knowledge in those subjects. Moreover, the questioned were to rate their first semester academic results and their knowledge on COVID-19. Concerning COVID-19, the respondents were interviewed on their virus understanding and the topic being informed. All the data were processed with the help of Microsoft Excel. Several Internet sources were used for the Dunning-Kruger effect information research (including the original study and analysis).

All the students' responses (Group A – dental students, Group B – general practitioner students) were properly analyzed. The data were divided into 4 studies.

Study 1. The Belarusian and Russian Languages. The students were to provide their centralized test results in these subjects and assess their knowledge in range from 0 (illiterate) to 10 (an absolute expert). The responses from both group were combined. The method was based on the original investigation by David Dunning and Justin Kruger.

Study 2. Biology. The participants were suggested to share their centralized test results and assume if they were in their faculty top 30%.

Study 3. GPA. The aim was to determine if the participants considered themselves among the top 10% students within their faculty.

Study 4. COVID-19. In order to compare the competence and confidence, and assess how students' being informed affect metacognition, they were provided with a number of questions, e.g. "What is the current number of COVID-19 cases worldwide?". To determine the respondents' self assessment, they were asked to agree or disagree with being better informed than their peers and friends.

All the data were processed. For the Studies 1, 2, and 3 the percentile was calculated with the Microsoft Excel help, then the graphs were created to visualize the results. For the Study 4 the responses were compared to the official statistics collected by the World Health Organization (dated March 3d, 2020). The students' self-appraisal conclusions were made.

**Results and discussion.** The Dunning-Kruger effect is a flaw in cognitive thinking that may be found in every human being. This phenomenon can be described as being sure of high expertise in the particular subject/field, while showing no deep knowledge or proper skills in it. Other words, one fails to assess his/her abilities accurately. Thus, this person tends to overestimate their performance highly. In total, 108 students participated in the research: 57 dental students (group A), 51 general practitioner students (group B).

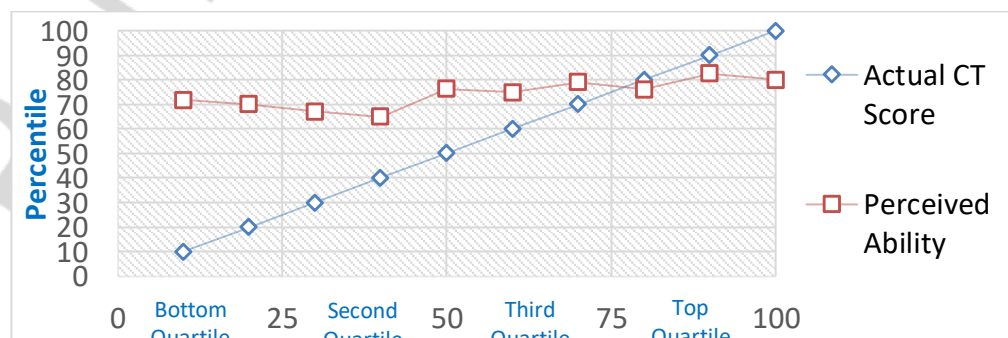


Fig. 1 — Study 1 results in the Russian language

Study 1. 79 students from Group A and B took the Russian language centralized test. Apparently, Figure 1 resembles the results obtained by David Dunning and Justin

Kruger with the bottom-quartile participants overestimating and the top-quartile participants underrating their competence.

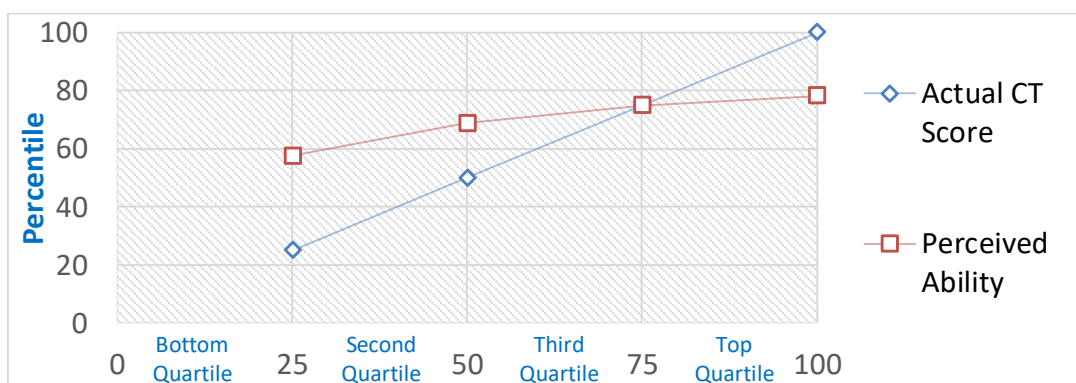


Fig. 2 — Study 1 results in the Belarusian language

The Figure 2 results accord with the original study. 28 Students from Group A and B took centralized test in the Belarusian language.

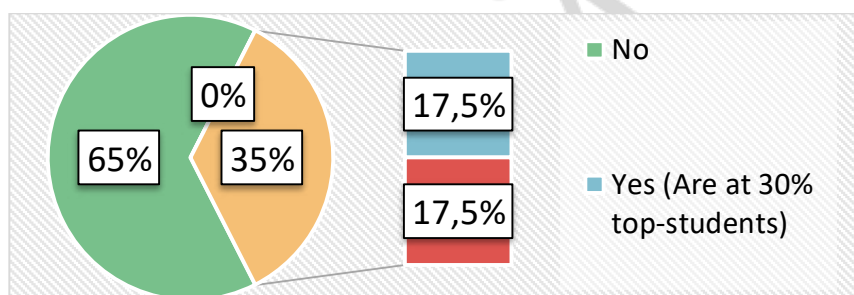


Fig. 3 — Group A answers to the question "Do you consider your Biology centralized test results being in the 30%?"

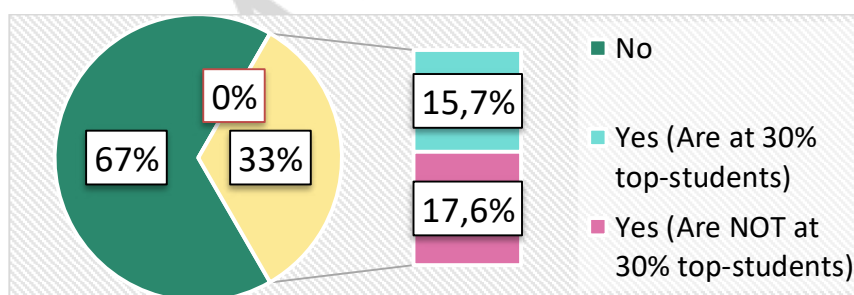


Fig. 4 — Group B answers to the question "Do you consider your Biology centralized test results being in the 30%?"

Study 2. The results have showed the participants' number, considered themselves to be in the 30%, exceeds the real number. Among them the amount of students in the rest 70% is equal to or more than the percentage of students, who are in fact in the top-30%.

Study 3. Firstly, the participants have named 3 countries confirmed the first cases of COVID-19 recently. The survey results were collected on 2nd-3d March 2020 and compared to those countries which had detected their first cases from February 28th to March 3d according to the official WHO information. 71% mentioned Belarus in their answers (considering that the first case was reported on February 28th).

36% named Italy (the official number of cases on March 3d – 2,502).

14% named China (the official number of cases on March 3d – 80,151).

14% responded "I do not know".

Less than 6% managed to name the 3 countries right.

Secondly, the approximate current number of the cases worldwide was asked.

90.9k cases were officially reported on March 3d by WHO.

36% responded "I do not know".

32% provided the number in the range between 80k and 100k. Thirdly, the opinion on effectiveness of wearing masks for self-protection against virus and its origin was questioned. 76% declared the masks to be useless in terms of self-protection.

63% believed the virus origin to be unknown. Finally, the participants were to assess their knowledge.

31% claimed they knew more about coronavirus, than their friends and acquaintances, because they often checked the news.

In terms of the mentioned above, the participants showed poor awareness and the topic knowledge. Nevertheless, a considerable number of the respondents genuinely believed that they were sufficiently informed, even better than their friends. It is necessarily to understand, that only narrowed specialists are competent enough to claim their being informed. This includes qualified epidemiologists, doctors and nurses, investigating, experimenting and being at the event epicenter.

### **Conclusions:**

1 Both groups showed general overestimation of the academic results, in particular those students with lower GPA and centralized test results.

2 Some of the interviewed depicted themselves to be the COVID-19 experts, however they were often unable to provide the proper information.

3 The research showed that the students fall into the Dunning-Kruger effect. Among them there were students with lower academic results, including the participants uninformed about the virus, who slightly overestimated their abilities.

4 The psychological bias among BSMU students was proved. Hence, people are able to evaluate themselves adequately with underlying reasons in our cognitive thinking mostly.

### **Literature**

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