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INFLUENCE OF THE COLOR SPECTRUM ON HUMAN EFFICIENCY

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The topicality. This problem, connected with the influence of the color spectrum of surrounding objects, the interior as a whole and the room illumination when performing work, is now more relevant than ever, as it affects the most important aspects of human activity.

The purpose. To study the effect of the color spectrum on the human efficiency, to identify changes in efficiency when performing mental activities under the influence of different colors and to demonstrate the relationship between color and human efficiency.

Materials and methods. In the course of this study, an analysis of modern literature was conducted, the formation of test groups and the creation of specific conditions necessary for the practical part of the study. Under certain lights, the group needed to solve examples, and at the same time the time was taken for them to answer all the questions.

The results. When conducting the experiment under a red light bulb, half of the test group showed positive feelings when solving tasks. The number of errors performed was also taken into account. In this case, the error rate is 46.5% of the total number of tasks (20).

The following experiment took place in a room lit by a green light bulb. When interviewing subjective sensations and evaluating this color, half of the group showed indifference to color. When taking into account the errors made, 34% of the wrong decisions of the total number of tasks were identified.

The third experiment was to solve problems under blue lighting. Half of the test group also indifferently reacted to this color. When solving tasks in green lighting, the number of errors was 50.5% of the total number of solved problems.

When conducting the experiment under the illumination of a yellow light bulb, opinions about the subjective feelings of the group were divided. Both positive and negative attitudes toward color were noted. The number of errors in the efficiency of work was 31% of the total number of solved problems.

The control group was created under conditions of dimly lit room. It used a dim LED light bulb. The results of this experiment were used to calculate and summarize the above-listed colors. The total time to solve problems is 712.8 seconds.

Conclusions. This experiment proves that the working capacity is positively affected by yellow and green. Yellow color tones the nervous system, increases attentiveness in solving problems, stimulates mental abilities. Green color also has a beneficial effect on productivity, thinking, and increases the speed of information processing. Red and blue color reduce concentration of attention, impairs memorization and reduces the speed of building logical connections.