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PECULIARITIES OF RELATIONSHIP BETWEEN THE TRAIT ANXIETY AND THE LEVEL OF SUBJECTIVE CONTROL IN STUDENTS

Abstract. *Backgrounds and aims of the research.* An important research area of psychophysical training of students in the process of physical education is the research of relationship of professionally significant psychophysical characteristics in future professionals. The information obtained in this area can be used as a basis for the development of scientific concepts and pedagogical technologies. Trait anxiety and the level of subjective control are important characteristics of personality, which significantly influence the level of psychophysical preparedness of a professional. The research is aimed to test the assumption that the indicators of trait anxiety and the level of subjective control in students are to some extent interrelated.

Material and methods. 50 students of Dnipro National University of Railway Transport named after Academician V. Lazaryan took part in the research. 28 of them are boys and 22 are girls. Age of the research participants is 17-19 years. Psychological diagnosis of trait anxiety was performed using the State-Trait Anxiety Inventory. The level of subjective control was measured using the test questionnaire "Research of subjective control" by E. F. Bazhin, developed on the basis of J. Rotter's Locus of Control Scale. Statistical processing of the results obtained was performed using Spearman's rank correlation coefficient.

Results. A statistically significant negative correlation between the indicators of trait anxiety and the level of subjective control in students was established. It concerns both boys and girls. The correlation between indicators of trait anxiety and the level of subjective control is greater in girls.

Conclusions. The results obtained during the research reveal the nature of relationship of such personal characteristics as trait anxiety and the level of subjective control in students.



Keywords: students, trait anxiety, level of subjective control, psychophysical training, correlation.

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ОСОБЛИВОСТІ ВЗАЄМОЗВ'ЯЗКУ ОСОБИСТІСНОЇ ТРИВОЖНОСТІ ТА РІВНЯ СУБ'ЄКТИВНОГО КОНТРОЛЮ У СТУДЕНТІВ

Анотація. *Передумови і мета дослідження.* Важливим напрямком досліджень психофізичної підготовки студентів в процесі фізичного виховання є вивчення взаємозв'язку професійно значущих психофізичних характеристик у майбутніх фахівців. Отримані у цій сфері дані можуть бути покладені в основу розробки наукових концепцій та педагогічних технологій. Важливими характеристиками особистості, які здійснюють суттєвий вплив на рівень психофізичної підготовленості фахівця, є особистісна тривожність і рівень суб'єктивного контролю. Метою дослідження є перевірка припущення про те, що показники особистісної тривожності і рівня суб'єктивного контролю у студентів певним чином взаємопов'язані.

Матеріал і методи. В дослідженні приймали участь 50 студентів Дніпровського національного університету залізничного транспорту імені академіка В.Лазаряна. З них 28 – юнаки, і 22 – дівчата. Вік учасників дослідження від 17 до 19 років. Психологічна діагностика особистісної тривожності проводилась із застосуванням шкали оцінки рівня ситуативної і особистісної тривожності Ч. Спілбергера в адаптації Ю. Л. Ханіна. Рівень суб'єктивного контролю вимірювався за допомогою опитувальника рівня суб'єктивного контролю Є. Ф. Бажина, розробленого на основі шкали локусу контролю Дж. Роттера. Статистичну обробку отриманих результатів проведено з використанням коефіцієнта рангової кореляції Спірмена.

Результати. Встановлено статистично значущу негативну кореляцію показників особистісної тривожності і рівня суб'єктивного контролю у студентів. При цьому, це стосується як юнаків так і дівчат. Кореляція показників особистісної тривожності і рівня суб'єктивного контролю є більшою у дівчат.

Висновки. Результати, отримані в дослідженні, розкривають характер взаємозв'язку таких характеристик особистості як особистісна тривожність та рівень суб'єктивного контролю у студентів. Встановлено статистично значущу



негативну кореляцію особистісної тривожності і рівня суб'єктивного контролю у студентів.

Ключові слова: студенти, особистісна тривожність, рівень суб'єктивного контролю, психофізична підготовка, кореляція.

Formulation of the problem. One of the most important research directions of psychophysical training of students in the process of physical education [1] is the research of relationship of professionally significant psychophysical characteristics in the future professionals. The information obtained in this area can be used as a basis for the development of scientific concepts and pedagogical technologies that will promote solving the problem of forming psychophysical preparedness for professional activity in physical education.

Analysis of recent research and publications. Recently published works present information on the peculiarities of the relationship of indicators of physical preparedness with such psychological characteristics as attention selectivity, concentration and attention span, trait anxiety [2], and imagination productivity [3]. They are important when developing the basics of psychophysical training of students in the process of physical education. At the same time, to increase the effectiveness of pedagogical activities implemented, one should understand the nature of relationship between the actual psychological characteristics of students.

Trait anxiety and the level of subjective control are important characteristics of personality, which significantly influence the level of psychophysical preparedness of a professional. In psychology, anxiety is considered as an individual psychological feature, which is manifested in a propensity of a person to frequent and intense experiences of anxiety, as well as in the low threshold of its occurrence. In its turn, anxiety is interpreted as emotional discomfort related with expectation of trouble, presentiment of threat. For many professions, anxiety is classified as one of the characteristics that hinder professional performance. An important generalized characteristic of the individual, which influences the formation of interpersonal relationships and the ways of resolving crisis (including industrial) situations, is the level of subjective control. It is determined as the ability of a person to control themselves and their behavior and take responsibility for what is happening to them and around them. According to the conception of J. Rotter's locus of control, people who take responsibility for the events that take place in their lives (explain them by their behavior, personal traits, abilities) have internal control. As for the personalities who are committed to attribute responsibility for the events to the external factors (other people, chance, etc.) have external control. The purpose of the research is to test the hypothesis of the connection between the indicators of trait anxiety and subjective control in students.



The aim of the study. Purpose of the article. The purpose of the research is to test the hypothesis of the connection between the indicators of trait anxiety and subjective control in students.

Presenting main material. Presentation of the main material of the study. Material and methods. *Participants.* 50 students of Dnipro National University of Railway Transport named after Academician V. Lazaryan took part in the research. 28 of them are boys and 22 are girls. Age of the research participants is 17-19 years. During the experiment, informed consent was obtained from all participants. *Procedure.* While planning this research, we assumed that indicators of trait anxiety and the level of subjective control in students are interrelated to some extent. To test this assumption, a sample of students was created using a random selection strategy. The indicators of trait anxiety and the level of subjective control were diagnosed for the students in the sample. The following step was the empirical verification of the correlation of the results obtained. Psychological diagnosis of trait anxiety was performed using the State-Trait Anxiety Inventory. The level of subjective control was measured using the test questionnaire "Research of subjective control" by E. F. Bazhin, developed on the basis of J. Rotter's Locus of Control Scale. *Statistical analysis.* Statistical processing of the obtained results was performed using Spearman's rank correlation coefficient using the statistical software package SPSS 10.0 for Windows.

Results. The problem of anxiety was studied by S. Freud, K. Horney, C. Spielberger, A. M. Prykhozhan, F. B. Berezin, Yu. L. Khanin, R. May, and others. Various aspects of the problem were also studied by A. V. Skuratova [4], S. Yu. Tarasova [5], O. V. Kuznetsova [6], O. O. Tsareva [7], O. P. Gredyushko [8], I. V. Volzhentseva [9], G. A. Mamadalieva [10], V. V. Krasnova [11], Yu. A. Zaytsev [12], O. L. Hirchenko [13]. The following issues drew researchers' attention: conditions of overcoming anxiety; anxiety indicators; influence of anxiety on the behavioral strategies in conflict situations; socio-psychological factors of anxiety; dynamics of anxiety state of students during the educational process; prevention and correction of anxiety; diagnosis and correction of anxiety, etc. Generalizing the research results, one should note that the researchers conclude that it is advisable to reduce high indicators of trait anxiety. Of particular note is the work of O. V. Kuznetsova, who studied the relation of the anxiety level and the adaptation mechanisms in the period of adolescence [6]. The researcher made an assumption that the level of trait and state anxiety are related to the individual ways of adaptation, and the resources of the adaptation process are the peculiarities of self-attitude. During the experiment, O. V. Kuznetsova found out that high trait anxiety is related to the difficulties in satisfaction of significant needs that are associated with health limitations. She also identified that in adolescence there are differences in the level of state anxiety between people with different health limitations.



T. A. Arutyunyan researched the relationship between sociability and anxiety of adolescents [14]. Lower or normative anxiety levels were recorded in more sociable adolescents. Increased or high anxiety levels have been recorded in less sociable adolescents.

The problem of control locus of personality also attracts significant researchers' interest. Among the works in this area the following can be emphasized: Ana Kurtovic, Iva Vukovic, and Martina Gajic [15], Balbag, Z., Cemrek, F. & Mutlu, T. [16], Bowling, N. A., Eschleman, K. J. & Wang, Q. [17], Chiang Y. T., Fang W. T., Kaplan U., Ng E. [18], Çağlar, M., Dinçyurek, S. & Silman, F. [19], Kairupan B. H. R., R. Luddin M., C. Kambey D. [20], Ghasemzadeh, A. & Saadat, M. [21], Ghasemzadeh, A., Karami, S., Saadat, M. & Soleimani, M. [22], Tyler N, Heffernan R and Fortune C-A. [23] and others. The researchers' attention to the issue of interrelation between the control locus and other components of personality should be noted. At the same time, the analysis shows that the problem of interrelation of trait anxiety and the level of subjective control in students was not the subject of the special research.

The experimental hypothesis of the research was the assumption that the indicators of trait anxiety and the level of subjective control in students are in some way interrelated. The task was to confirm (or reject) this assumption. In case of confirmation of the assumption, the task was to establish the nature of the relationship between these indicators.

The statistical null hypothesis was the assumption that the correlation between indicators of trait anxiety and the level of subjective control in students does not significantly differ from zero (is random). An alternative statistical hypothesis was the assumption that the correlation between indicators of trait anxiety and the level of subjective control in students significantly differs from zero.

According to the results of this work, statistically significant correlation of trait anxiety indicators and the level of subjective control in students has been established. This refers to both, boys and girls. The results obtained are given in Table 1.

Table 1

Correlation coefficient of trait anxiety indicators and the level of subjective control in students

Students	Psychological characteristics		r_s
Boys	Trait anxiety	Level of subjective control	-0.461*
Girls	Trait anxiety	Level of subjective control	-0.692**

*Note. The correlation coefficient is statistically significant at the level of * $p < 0,05$; ** $p < 0.01$.*



While planning this research, we assumed that indicators of trait anxiety and the level of subjective control in students are to some extent interrelated. To test this assumption, a sample of students was created using a random selection strategy. The indicators of trait anxiety and the level of subjective control were diagnosed in the sample. The data obtained during the research give grounds to assert that the experimental hypothesis has been confirmed. The indicators of trait anxiety and the level of subjective control in students are interrelated. The statistically significant negative correlation of these characteristics in students was found during the research.

In our opinion, the data presented indicate that such characteristics as trait anxiety and the level of subjective control in students are interrelated. Based on this fact, we should draw an important conclusion for psychophysical training in physical education that reducing the high level of trait anxiety in students, which is one of the important tasks during this work, also helps to increase their level of subjective control. On the other hand, increasing the level of subjective control in students helps to reduce their level of trait anxiety.

Discussion of the results. In our time, psychology emphasizes complexity and uniqueness of the organization of personality, which is considered as a dynamic formation characterized by the relationship and complementarity of the structure components. One should take these realities into account also in the field of physical education, where the question of increasing its educational and disciplinary potential in the formation of the personality of a modern specialist is reasonably raised. The results obtained in the research reveal the nature of relationship between such characteristics of personality as trait anxiety and the level of subjective control. They are professionally significant for many types of professional activities. In this regard, to develop effective pedagogical technologies for their formation, one should take into account the dependencies recorded in the study.

The research results correspond to the data presented in the works of Robert P. Archer [24]; Biaggio A. M. B. [25]; Hoehn-Saric R., McLeod D. R. [26]; Molinari V., Khanna P. [27]; Hope N. H., Wakefield M. A., Northey L., Chapman A. [28].

In our work [2], we give the data concerning the presence of statistically significant negative correlation of such indicators as trait anxiety and general level of physical fitness in students. On that basis, a pattern was formulated. It is in the fact that increase in the general level of physical fitness of students significantly affects the reduction of their level of trait anxiety. In our opinion, the data obtained in the research on the presence of a statistically significant negative correlation between indicators of trait anxiety and the level of subjective control give grounds to expand the content of the above pattern. This fact should also be taken into account in the new wording. Thus, the increase in the general level of physical fitness of students



significantly affects the reduction of their level of trait anxiety and helps to increase the level of subjective control.

The author connects the prospect of further research with the study of the feasibility of using different types of physical culture and sports activities to reduce the high level of trait anxiety in students and increase their level of subjective control.

Conclusions. Formulating the main conclusions of the experiment we note that:

1. According to the results of the work, the hypothesis that the indicators of trait anxiety and the level of subjective control in students are interrelated was experimentally confirmed.

2. A statistically significant negative correlation between trait anxiety and the level of subjective control in students was found out.

3. The correlation between the indicators of trait anxiety and the level of subjective control is greater in girls.

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