

## THE DYNAMICS OF INDICATORS OF PSYCHO-EMOTIONAL CONDITION OF COLLEGE STUDENTS, INFLUENCED BY TEAMBUILDING TECHNIQUES

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**Abstract.** Specialists say that the issue of understanding of influence mechanism of physical activity on psychological health of children and teenagers is not investigated thoroughly. This concerns primarily college students, for their age equals to that of high school pupils. Psycho-emotional processes in the students' consciousness and behavior at that age are caused by the end of biological and physical development and adaptation to new conditions of studying and living. Our previous research allowed us to determine the condition and dynamics of psycho-emotional indicators during the first academic year against the background of low physical activity. The question of how particular physical activity influences the dynamics of these indicators among college students remains to be unanswered. The aim of the research is to determine the dynamics of indicators of psycho-emotional condition among 15–16 years old students from Medical College. Research methods and techniques like analysis and generalization of scientific literature, documentation, pedagogical observation, SAN and mathematical statistics were applied. The results of the research. Any reliable changes towards either more positive or negative side have not been detected among students from Experimental Group (EG), though indicators of well-being and mood of students from Control Group (CG) have considerably decreased ( $p \leq 0,05$ ) during the pedagogical experiment. The reliable deterioration of the CG students' well-being from have been noticed in comparison with the EG students on the 2nd stage of the experiment. The conclusions. The data obtained from the pedagogical experiment have proved the positive effect of implementation of team-building techniques into physical education of college students on their psycho-emotional condition indicators.

**Keywords:** *physical education, psycho-emotional condition, students, team-building technique.*

## **Introduction**

Regular physical activity is an essential element of healthy lifestyle and it is, unquestionably, the key component of keeping and improving students' health (Antonov, 2013; Zavydivska & Khanikiants, 2016; Gieroba, 2019). Specialists state that regular motor activity is a key factor in forming physical as well as psychological human health (Khanikiants, 2011; Zavydivska O., Zavydivska N., Khanikiants & Rymar, 2017; Solovei, Rymar, Yaroshyk, & Sorokolit, 2017). However, it is clear that the issue of understanding of influence mechanism of physical activity on psychological health of children and teenagers is not investigated enough and requires further research. The impact of motor activity has special value in the period when a teenager begins to study in college as a student, because their age in first academic years in college equals to that of high school students. Complex psychological processes in students' consciousness and behavior at such age, psycho-emotional feelings that relate to the ending of biological and physiological development and with adaptation to new conditions of studying and living, are manifested through their psycho-emotional condition (Semenova & Mahlovanyi, 2015; Semenova & Mahlovanyi, 2017). However, specialists mention (Romanovskiy, Shapovalova, Kvasnyk, & Gura, 2017; Kondratets, 2019; Gieroba, 2019) that low level of motor activity among adolescents and youth pushes specialists to search and implement modern, innovative techniques into physical education that could increase the level of interest towards it and facilitate favorable health condition, particularly its psychological (psycho-emotional) domain.

Nowadays team-building in Ukraine is being applied mainly as the means to form efficient cooperation in business, human resources management and sparsely among pedagogical groups (Semenova, 2015; Yachniuk, 2016; Bodnar et al., 2018). Its implementation in physical education classes, sport, health, and recreation activity of students' youth is one of perspective and innovative options, yet not being investigated enough (Nikifirova & Bilokon, 2012; Rymar & Solovei, 2015).

Previous research of psycho-emotional condition of students from Medical College at Danylo Halytskyi Lviv National Medical University allowed to determine the condition and dynamics of psycho-emotional indicators during the first academic years (Semenova & Mahlovanyi, 2015; Semenova & Mahlovanyi, 2017). Psycho-emotional condition has been studied by several scientists who interpret it as a complex phenomenon which consists of cognitive, evaluative, and emotional domains (Khoroshilove & Hilger, 2019). However, the question

of how particular physical activity or developed techniques influence the dynamics of indicators of psycho-emotional condition of college students remained unanswered. We suggest that applying team-building techniques during physical education classes will facilitate better students' adaptation to studying in college and will increase the level of interest towards physical education classes and sport. As the result of this approach psycho-emotional indicators are supposed to improve.

The goal of the research is to determine the dynamics of indicators of psycho-emotional condition among 15–16 years old students of Medical College during the term influenced by the developed and implemented team-building technique.

### **Methodology**

To achieve the determined goal such methods like analysis and generalization of scientific literature and documentation (attendance lists), pedagogical observation, SAN method, mathematic statistics criteria (Student's t-criteria for independent samples) were applied

The statistical analysis of the results has been performed using Microsoft Excel. Such statistical characteristics as arithmetic mean ( $X$ ), standard error ( $m$ ), the minimum value ( $X_{min}$ ) and the maximum value ( $X_{max}$ ) have been determined in the research.

The pedagogical experiment took place during spring term of 2018–2019 academic year. There were 37 students aged 15–16 from Medical College of Danylo Halytskyi Lviv National Medical University. The students were divided into two groups: The Control Group (CG,  $n=17$ ) that were following typical standard program of physical education, and the Experimental Group (EG,  $n=20$ ) that were performing various tasks, exercises, games and relays, based on team-building technique during 20 minutes at every physical education lesson. This optional part was indicated in the physical education program and was performed in accordance with educational program in both groups. The implementation of the developed team-building technique must facilitate trust, coherence of actions, mutual assistance, and effective collaboration in the groups through mutual solving of targeted tasks.

The investigation of indicators of students' psycho-emotional condition was performed applying SAN method (where S (*samopochuttia*) stands for well-being, A (*aktyvnist*) stands for activity, N (*nastriy*) stands for mood), which was developed and implemented in 1973 by a group of scientists (Doskin, Lavrentieva, Miroshnikov & Sharai, 1973). This method is applied to evaluate psycho-emotional human condition in the exact moment of the research. Students are to evaluate their condition regarding a number of features on a

multi-level scale. The scale consists of indices (3 2 1 0 1 2 3) located between 30 pairs of words of opposite meaning, reflecting the speed and pace of functions (activity), strength, health, fatigue (well-being), as well as the characteristics of the emotional state (mood). The method is basically a map (a table) that consists of 30 pairs of opposite characteristics that reflect the investigated specifics of psycho-emotional condition (well-being, activity, and mood). The students are asked to choose the characteristic in a pair that would best reflect their condition and to choose a number that would represent the level of expression of that characteristic. The total quantity of those numbers lies between 10 and 70 points for each criteria. If the evaluated characteristics gets 40 points and more it is interpreted as a favorable condition of the participant and are evaluated as an average result. Those less than 40 points are considered unfavorable and are evaluated as low estimates of the participants' condition. The points between 50 and 70 are evaluated as high estimates of the participants' conditions.

### **Results and Discussion**

The results obtained allow to confirm that average value of well-being (as the state of feeling healthy and happy), activity and mood of first-year college students from both groups reflected average and high levels in the beginning and in the end of the term.

The well-being indicators of EG students are between 36–66 points in the beginning of the term and 40–64 points in the end of the term. The activity indicators are 27–54 points in the beginning and 22–55 points in the end of the term, the mood indicators vary between 47 and 68 points in the beginning and between 43 and 69 points in the end of the term.

The well-being indicators of CG students vary between 25 and 64 points in the beginning of the term and 28–59 points in the end of the term. The activity indicators are 33–62 points in the beginning and 26–60 points in the end of the term, the mood indicators are 13–68 points in the beginning and 30–68 points in the end of the term (Table 1).

*Table 1 The Evaluation of Well-being, Activity and Mood (points) by Students*

Indicators	Stages	CG(n=17)		EG(n=20)	
		X <sub>min</sub>	X <sub>max</sub>	X <sub>min</sub>	X <sub>max</sub>
Well-being	I	25	64	36	66
	II	28	59	40	64
Activity	I	33	62	27	54
	II	26	60	22	55
Mood	I	13	68	47	68
	II	30	68	43	69

Self-evaluation of students' own psycho-emotional condition in the beginning of the term determined that two students evaluated their well-being state as low as well as 5 students found their activity state low. There were no students from the EG, who evaluated their well-being level with low points during the term. The mood indicators did not change during the pedagogical experiment. However, number of high evaluation points increased both for well-being and activity indicators.

The analysis of self-evaluation of CG students' well-being showed the increase of low points evaluations. The quantity of those who evaluated their well-being state as average also increased. The number of CG students who evaluated their well-being with high points have decreased two times from 10 to 5 (Table 2).

*Table 2 The Dynamics of Psycho-emotional Indicators of Students' Well-being, Activity and Mood (SAN method)*

		Low		Average		High	
		I stage	II stage	I stage	II stage	I stage	II stage
Well-being	CG	2	5	5	7	10	5
	EG	2	0	6	6	12	14
Activity	CG	5	4	10	9	2	4
	EG	5	5	11	9	4	6
Mood	CG	3	3	2	7	12	7
	EG	0	0	3	3	17	17

The attendance lists and students' participation in physical education lessons show negative tendency among the CG students (who were having classes according to typical physical education program). Thus, in the beginning of the term 89% of those attending the lessons were actively taking part in physical exercises during each lesson. During the term, however, this indicator decreased to 67%. Meanwhile not less than 88% of the EG students showed high activity in performing physical exercises during the whole term. Attendance among the EG students was on average consistently at the level of 90%.

The analysis of data of psycho-emotional condition according to the SAN method shows some improvement of EG students' well-being indicators during the term. The same tendency is noticed in the activity indicators; they have grown up from  $42.62 \pm 7.11$  points to  $43.10 \pm 9.57$ . A little deterioration is observed in the mood indicators. Thus, from  $60.70 \pm 7.26$  points they decreased to  $58.95 \pm 7.34$ . However, the reliable changes were not found out among students from the EG during the term.

The well-being indicator has decreased significantly from  $49.82 \pm 8.74$  to  $44.35 \pm 9.82$  points ( $p \leq 0.05$ ) in the control group during the term. The well-being

indicators between groups did not vary significantly at the beginning of the experiment, however, this indicator has grown among the EG students from  $52.3 \pm 8.05$  points to  $53.70 \pm 7.35$  during the term. Though, the result in the CG is as follows: it has decreased from  $49.82 \pm 8.74$  to  $44.35 \pm 9.82$  points that shows reliable difference between indicators from EG and CG groups on the second stage of the experiment ( $p \leq 0.05$ ).

The CG students' activity level during the term did not get any significant changes. The indicator was at the level of  $42.82 \pm 7.26$  at the beginning of the experiment and has grown a little in the end ( $43.71 \pm 9.55$  points). The reliable deterioration has occurred for the mood indicator among students from the CG during the term ( $p \leq 0.05$ ) (Table 3).

**Table 3 Well-being, Activity and Mood (SAN method) Indicators of Students from the EG and CG on the Different Stages ( $X \pm m$ )**

Psycho-emotional indicators	I stage		II stage	
	EG	CG	EG	CG
Well-being	$52.3 \pm 8.05$	$49.82 \pm 8.74$	$53.70 \pm 7.35$	$44.35 \pm 9.82^{***}$
Activity	$42.62 \pm 7.11$	$42.82 \pm 7.26$	$43.10 \pm 9.57$	$43.71 \pm 9.55$
Mood	$60.70 \pm 7.26$	$53.18 \pm 14.36^{**}$	$58.95 \pm 7.34$	$50.24 \pm 11.62^{*****}$

Notes: \*-reliable difference between indicators inside the group, ( $p \leq 0.05$ )

\*\* - reliable difference between indicators from the EG and CG, ( $p \leq 0.05$ )

\*\*\* - reliable difference between indicators from the EG and CG, ( $p \leq 0.01$ )

The results obtained from the investigation of psycho-emotional students' condition, applying the SAN method, indicate that average values represent moderate and high level of evaluation of students' own well-being, activity, and mood during the term in both groups. Such results are like those obtained in previous researches. However, we have noticed the deterioration of the well-being and mood indicators among CG students during the term. The observation of these indicators dynamics allowed to determine the reliable difference inside the group as well as between the CG and the EG.

## Conclusions

The analysis of attendance lists and students' participation in the physical educational lessons helped to determine the negative tendency among students from the CG that were studying according to typical physical education program and stable enough attendance of students from the EG (not less than 90% of total

number of students in the group) and active participation during the lessons (not less than 88% of those attending classes).

The results of the pedagogical experiment indicate the positive influence of the implemented technique on the indicators of psycho-emotional condition of the students from the EG according to the SAN method. Classes with team-building techniques applied have facilitated keeping psycho-emotional condition indicators of students from the EG close to the initial results obtained on the first stage without reliable changes to either way. On the other hand, the well-being indicator has decreased significantly from  $49.82 \pm 8.74$  to  $44.35 \pm 9.82$  points ( $p \leq 0.05$ ) among the CG students. The decrease in the mood indicator among the CG students was observed.

The results of the pedagogical experiment indicate positive influence of the implemented team-building technique on the indicators of psycho-emotional condition according to the SAN method.

Conflict of interest. The authors declare there is no conflict of interest.

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