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LINKS BETWEEN PSYCHO-EMOTIONAL WELL-BEING AND AGGRESSIVE BEHAVIOR OF ADOLESCENTS AND THEIR PHYSICAL ACTIVITY

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Key words: psycho-emotional well-being, sport, adolescents, mental health, feeling of coherence, self-control, level of stress, aggression.

Summary

Research aim was to establish the peculiarities of psycho-emotional well-being and aggression for physically active adolescents. The study deals with psycho-emotional well-being as a complex value consisting of four main components: level of mental health, feeling of coherence, self-control and level of stress. Adolescents were studied in two age groups: 12.81±0.38 years and 16±0.49 years, 90 subjects in each group. The survey was conducted using the following instruments: for adolescents' mental health, feeling of internal coherence, self-control and stress level as well as aggression.

$\chi 2$ and t-test were applied to verify hypotheses of Mathematical Statistics. The research findings revealed that adolescents engaged in sports for more years statistically significantly ($p<0.05$) differed from their counterparts in all investigated parameters. All indices of psycho-emotional well-being for adolescents engaged in sports for more years were better compared to those of beginner athletes, besides, their aggression decreased.

Introduction

The study deals with psycho-emotional well-being as a complex value consisting of four main components: level of mental health, feeling of coherence, self-control and level of stress. Aggression can be defined as behavior that may have physical or psychological effects on another person. Long-term studies show that adolescents' feelings of coherence have been under the influence of childhood psychological problems and it is linked with the quality of life (1, 2).

Aggressive behavior is a complex and multi-factor problem. Two principal manifestations of aggression are distinguished: proactive and reactive aggression (3, Fite). Reactive aggression arises after frustration. Its level is associated with the situation and the peculiarities of its perception of the company. Proactive aggression manifests as premeditated and prepared means of aiming at a certain strategic goal. In sports, aggressive behavior is often tolerated.

Hypothesis: physical activity may have a positive impact on psycho-emotional well-being and reduce aggressiveness.

Research aim was to establish links between adolescents' physical activity and their psycho-emotional well-being characteristics and aggressive behavior.

Respondents and research methods

Research included adolescents attending basketball schools. The subjects were involved into two groups: A – attending training sessions for the first year; and B – attending training sessions for four years. All in all the study included 180 adolescents, 90 adolescents in each group. The age of subjects in Group A was 2.81 ± 0.38 years and 16 ± 0.49 years in Group B.

The study employed the following methods: A.Asinger's questionnaire to establish attitudes towards aggression (4). Respondents' answers were scored. Total points of 35 and lower scores indicate a negative attitude towards aggression, 36-44 points - neutral, and 45 points or more - a positive attitude. The validity of the questionnaire was tested by means of Cronbach's alpha test (α = 0.76). We also used A.Buss and M.Perry's methodology to determine the overall aggression (5). This method allows determining the overall aggressiveness and its four forms: physical aggression, verbal aggression, anger and hostility. Questionnaire validity was tested by means of Cronbach's alpha test (α = 0.79).

S. Stepano's questionnaire (6) is for the assessment of

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adolescents' mental health (seven questions). The answers are scored. A lower score indicates a higher level of mental health: 0-17 points - high level, average level - 18-35, and 36-50 points - a low level of mental health.

A. Antonovsky (7) methodology was used for assessing the feeling of coherence (internal coherence) (13 questions). Rating: 44 points or more - expressed feeling of coherence, 28-43 points - an average level of the feeling of coherence, and the least 28 points – unexpressed coherence. Assessing the level of self-control we applied V. Milman's Questionnaire (8) (six questions, three possible answers). Responses were scored. If the score was less than 0, then it showed a low level of self-control, 0 - the average level of self-control, greater sum than 0 points - high level of self-control. Scale for assessing the level of stress was a ten-point scale (8). The subject had to note the level of stress that he felt during the investigation. The data were interpreted as follows: 0-3 points - low stress, 4-6 - the average level of stress, 7-10 - a high level of stress.

During the survey all information was collected directly from the research participants on their voluntary participation in the study. Adolescents were investigated in between the competition period, so that the results were not influenced by the pre-competition or post-competition emotional state.

Student's *t* test was used to verify the hypotheses of mathematical statistics, the level of statistical significance was set at ($p<0.05$). The survey data were processed by a computer program SPSS 13.0 for Windows.

Research results and their analysis

Research data on schoolchildren's attitudes towards aggression are given in Table 1.

Table 1. Distribution of adolescents according to their attitudes towards aggression

Subjects	Attitudes towards aggression,% (*n*)		
	Negative	Neutral	Positive
Group A	12.2 (11)	60 (54)	27.8 (25)
Group B	32.2 (29)	64.4 (58)	3.3 (3)

Note. Group A – adolescents attending training sessions for the first year; Group B – adolescents attending training sessions for four years

Attitudes towards aggression of adolescents attending training sessions for a longer period of time statistically significantly ($p<0.05$) differed from those who had been training for a shorter period of time. As many as 27.8 percent of adolescents training for one year were positive about aggression, but this attitude was supported only by 3.3 percent of adolescents training for a longer period of time. Evaluation of attitude towards aggression in points, 41.6±2.7 and 37.4±3.1 respectively, did not differ statistically significantly ($p>0.05$). However, the study results revealed a high level of adolescents' indifference: more than 60 percent of them expressed neutral attitudes to the manifestations of aggression.

The research data obtained applying A.Buss and M.Perry methodology on the forms of aggression among adolescents are reported in Table 2.

Table 2. Forms of aggression among adolescents

Traits	Group A	Group B	*t*
Physical aggression	4.56±0.26	2.12±0.34	2.37*
Verbal aggression	3.93±0.43	2.54±0.16	1.96*
Anger	3.53±0.38	2.77±0.26	1.96*
Hostility	2.61±0.31	2.88±0.19	- 0.91

**p<0.05.*

Physical and verbal aggression in Group A was more expressed statistically significantly ($p<0.05$) than among adolescents in Group B. Hostility levels between the two groups did not differ significantly ($p>0.05$).

Mental health indices for the research participants are given in Table 3.

Table 3. Levels of adolescents' mental health

Subjects	Level of mental health,% (*n*)		
	High	Moderate	Low
Group A	35.6 (32)	58.9 (53)	5.6 (5)
Group B	57.8 (52)	40.0(36)	2.2 (2)
χ^2 =22.7; *df*=2; *p*<0.05			

Adolescents training for more years demonstrated statistically significantly ($p<0.05$) higher levels of mental health. Thus, more than half (57.8 percent) of them showed high levels of mental health, while between the beginners in sports there were only 35.6 percent. In both groups, there were few adolescents with low levels of mental health, respectively only 2.2 and 5.6 percent.

Data on the distribution of adolescents' self-control levels are given in Figure 1.

Physically active adolescents' self-control levels are associated with the duration of attending training sessions – the longer period of time is related to better self-control. Therefore, we assume that vigorous physical activity favorably affects self-control abilities and skills.

Data on adolescents' feelings of coherence are given in

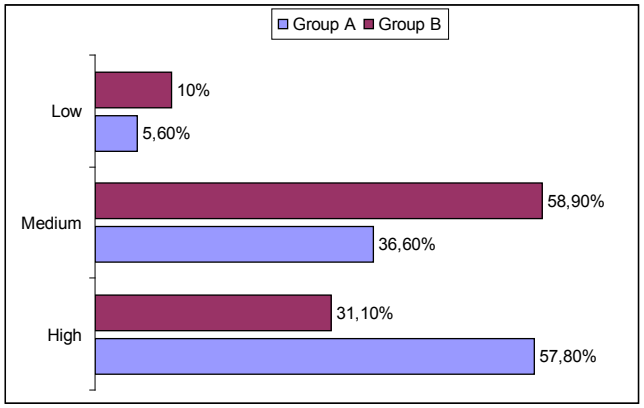

Fig. 1. Distribution of adolescents' self-control levels

Table 4. Data on adolescents' feelings of coherence

Subjects	Expression of coherence,% (*n*)		
	High	Moderate	Low
Group A	37.8 (34)	53.3 (48)	8.9 (8)
Group B	57.8 (52)	36.37 (33)	5.6 (5)
χ^2 =16.4; *df*=2; *p*<0.05			

High levels of expressed coherence are more typical (57.8 percent) of adolescents training for more than three years, and only slightly more than one third (37.8 percent) of adolescents training for one year. However, on averagely expressed feeling of coherence is more common for beginner athletes. Our obtained results are significantly different (better) from those received in the Lithuanian population - the implicit (low) internal coherence levels were established there (9).

In the aspect of expression, coherence is more expressed (p<0.05) among adolescents training for longer periods of tome compared to that of beginners. Thus, we suggest that sports activities positively affect adolescents' mental health.

Table 5 gives the data about adolescents' stress levels.

Table 5. Adolescents' stress levels

Subjects	Stress level,% (*n*)		
	High	Moderate	Low
Group A	10 (9)	21.1 (19)	68.9 (62)
Group B	6.7 (6)	12.2 (11)	81.1 (73)
χ2 =9.95; *df*=2; *p*<0.05			

Stress level of adolescents training for more years was statistically significantly (p<0.05) lower than that of beginners.

Summarizing the results, it can be stated that our hypothesis that physical activity favorably influenced adolescents' psycho-emotional well-being and reduced the aggressiveness was confirmed. This study expanded in other studies (10, 11) revealed knowledge of the favorable impact of physical activity on psycho-emotional well-being of aggression reduction. Our results are consistent with those of other investigators (12) revealing that higher levels of self-control and lower levels of stress may be associated with mental health improvement physically active persons.

Conclusions

Adolescents attending training sessions for several years more often assess their psycho-emotional well-being better than beginner athletes.

It was established that the levels of mental health and self-control for adolescents athletes were higher, they demonstrated more expressed levels of internal coherence, and their stress levels were lower compared to those of less physically active people (p<0.05).

Physical activity reduces adolescents' aggressiveness

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PAAUGLIŲ PSICHOEMOCINĖS SAVIJAUTOS IR AGRESYVAUS ELGESIO SĄSAJOS SU FIZINIU AKTYVUMU

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Raktažodžiai: psichoemocinė savijauta, sportas, paaugliai, psichikos sveikata, darnos jausmas, savikontrolė, streso lygis, agresyvumas.

Santrauka

Tyrimo tikslas — nustatyti fiziškai aktyvių paauglių psichoemocinės savijautos ir agresijos ypatumus. Straipsnyje psichoemocinė savijauta kaip kompleksinis įvertis apibūdinamas keturiais pagrindiniais komponentais: psichinės sveikatos lygis, darnos jausmas, savikontrolė, streso lygis. Buvo tiriami dviejų amžiaus grupių 12,81±0,38 metų ir 16±0,49 metų po 90 sportuojančių paauglių. Tiriamųjų apklausai buvo pasitelktos metodikos: paauglių psichinei sveikatai, vidinės darnos jausmui, savikontrolei ir streso lygiui bei agresyvumui įvertinti.

Matematinės statistikos hipotezėms tikrinti buvo taikomos χ^2 ir t kriterijai. Straipsnyje pateikiami duomenys atskleidžia, kad daugiau metų sportuojantys paaugliai statistiškai patikimai ($p<0,05$) skiriasi pagal visus tirtus parametrus. Ilgiau sportuojančių paauglių visi psichoemocinę savijautą atspindintys rodikliai geresni nei pradedančių reguliarias treniruotes, be to, mažėja jų agresyvumas.

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