Trakia Journal of Sciences, Vol. 22, Suppl. 1, pp 134-140, 2024

Available online at:
http://www.uni-sz.bg
ISSN 1313-3551 (online) **doi:10.15547/tjs.2024.s.01.019**

PECULIARITIES OF PHYSICAL SELF-CONCEPT AND PSYCHIC WELL-BEING OF FIFTH TO TWELFTH-GRADERS

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ABSTRACT
Building on numerous studies that have established the positive influence of physical activities on physical and mental health, this study AIMED to specifically investigate the influence, interrelations, and dynamics between Physical Self-Concept and the Well-being of fifth to twelfth-graders. The research was done among 46 pupils—23 girls and 23 boys—between the ages of 11 and 17, divided into groups according to their gender and age: 11-14-year-olds (24 pupils) and 15-17-year-olds (22 pupils). The pupils study at the Private Secondary School Roerich, where they extensively study foreign languages and art. METHODS: The research methods included a Bulgarian adaptation of the Physical Self-Description Questionnaire (PSDQ-S), which measures Physical Self-concept through scales measuring nine specific and two general components: global physical self-esteem and global self-esteem and a Well-being Index. RESULTS: Both tests of the Physical self-concept show that the main components are health and being overweight. We found statistically significant differences regarding the age in the second test related to appearance (U=174,000; p=0.05). The older pupils had higher results (M=3.83; SD= 1.53) than the younger ones (M=3.08; SD= 1.51). The data from the regression analysis showed that in the first testing, the high level of coordination (β=0.434) and the general physical self-concept (β=0.342) positively influenced well-being. In the second test, the coordination increased (β=0.656), while overweight (β=-0.319) negatively influenced the pupils' well-being. CONCLUSION: The results from this study may facilitate our understanding of the role of pupils' physical self-concept in their well-being.

Key words: global physical self-esteem, health, overweight, coordination, appearance

INTRODUCTION

In recent decades, there has been an increased interest in research aimed at investigating the positive relationship between physical activity and psychic well-being. The possibility that psychic well-being can be positively influenced by means of physical activity provokes researchers to concentrate their efforts not only on the relationship between the two constructs but also on the mechanisms and possibilities of using sports in a purposeful way to deal with stress and anxiety (1), as well as for the prevention of various diseases (2). Sports practice improves the health and well-being of individuals and society through external factors. In general, sport-based social interactions can further increase feelings of well-being and happiness (3).

Sport and physical activity have become major subjects of interest because they affect the quality of health and contribute to physical and psychological well-being. Physical self-concept is an important mediator in physical activity.

In many educational institutions, students have health problems or lead a sedentary lifestyle and do not participate actively in sports activities, which affects their physical and psychic well-being.

Social comparison and attributing qualities to one's personality based on observations of one's own actions, successes, or failures of personal efforts are the main factors influencing the self-

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evaluation process (4). Self-concept and self-esteem are terms that are often used interchangeably to describe how a person perceives or evaluates himself in the context of his experiences and the environment in which he lives.

In psychology, the level of general self-esteem is considered a stable personality characteristic. General self-esteem is associated with a generalized sense of self-worth and self-respect, which is not limited to certain situations but is valid for many areas and activities of life.

Physical self-esteem occupies a special place in the self-concept because the body, appearance, and abilities implement the connection between the individual and the world. Established interdependences are defined between the various components of self-assessment (academic competence, competence, sports social acceptance, appearance, and behavior) and general self-assessment. The strongest correlation is between appearance and self-esteem (5, 6).

Positive evaluation can improve mood and support healthy behavior, while negative self-esteem can lead to depressing moods and self-destructive behavior. It has been established that high self-esteem connects with independence, leadership, adaptability, and stress resilience (7). Low self-esteem is associated with depression, anxiety, and phobias during adolescence (8).

People with low self-esteem are highly vulnerable to social influence, lacking self-confidence, and being too sensitive to rejection and criticism. Degraded self-esteem can cause mental disorders, including depression, anxiety, and nutritional disorders. These people are sensitive to negative evaluation, failure, criticism, or attracting attraction. Therefore, they avoid such situations, thus their bad qualities may go unnoticed (9). The most essential function of favorable self-esteem is resilience to external factors, such as failure, rejection, or criticism.

During the different periods of personality development, self-esteem values also change. Self-esteem is relatively high during childhood, declines during adolescence, rises during adulthood, and declines sharply during old age. The increase in self-esteem can also begin in adolescence.

Social comparisons represent judgments of one's appearance, abilities, and behavior relative to those of others (10). What others think of them and how they are evaluated against their peers is extremely important for children. Through social comparisons, children build an idea of the supposed feedback and evaluation from others without the need to actually have one.

High self-esteem contributes to psychic well-being (11). It is one of the best predictors of personal happiness.

The term well-being was initially used in the 1950s as an indicator of quality of life. It is now taken as a measure of happiness and is associated with overall life satisfaction. Well-being encompasses all the ways in which people experience and evaluate their lives positively. Psychic well-being includes components referring to cognitive and affective aspects: life satisfaction, the presence of positive and negative emotions in one’s life, and a subjective feeling of happiness (12).

Well-being cannot be reduced to a person's everyday experiences; it requires defining the “optimal experience” and discussing the components that make up the “good life” (13). According to other authors, psychic well-being also includes components related to various cognitive and affective aspects: satisfaction with life, the presence of positive and negative emotions in a person's life, and a subjective feeling of happiness (14).

Well-being has been defined as the combination of feeling good and functioning well; the experience of positive emotions such as happiness and contentment as well as the development of one’s potential, having some control over one’s life, having a sense of purpose, and experiencing positive relationships (15). The term subjective well-being is synonymous with positive mental health. The World Health Organization defines positive mental health as “a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community” (16).

PURPOSE

The aim of this research was to reveal the influence, interrelations, and dynamics between physical self-concept and the well-being of

fifth—through twelfth-graders, who are not active athletes but play sports mainly in physical education classes.

We assume that physical self-esteem affects the level of psychic well-being in students from V to XII grades.

METHODS

1. Physical Self-Description Questionnaire (PSDQ-S) (17), Bulgarian adaptation (18) - measure Physical self-concept through scales measuring eight specific and two general components - global physical self-esteem and global self-esteem.

1. Health (HE): Not getting sick often, getting well quickly.
2. Coordination (CO): Being good at coordinated and smooth physical movements.
3. Activity (AC): Being physically active and doing many physical activities regularly.
4. Body Fat (BF): Not being overweight, not being too fat.
5. Global Physical (GP): Feeling positive about one's physical self.
6. Appearance (AP): Being good-looking and having a nice face.
7. Strength (ST): Being strong, having a robust body, and having lots of muscles.
8. Flexibility (FL): Being able to bend and turn your body easily in different directions.
9. Endurance (EN): Being able to run a long way without stopping, not tiring when exercising hard.
10. Global Esteem (ES): Overall positive feelings about self.

2. WHO-5 - Well-being Index for evaluation of subjective psychic well-being. The WHO-5 Well-being Index is a short questionnaire covering five positive items related to positive mood, vitality, and general interests (being interested in things). Each of the five items is rated on a 6-point Likert scale from 0 to 5, with higher scores meaning better well-being.

Participants: The research was done among 46 pupils - 23 girls and 23 boys - between the ages of 11 and 17, divided into groups according to their gender and age: 11-14 - year-olds (24 pupils) and 15-17-year-olds (22 pupils). They all study at the Private Secondary School Roerich, where they extensively study foreign languages and art.

Organization:

The data were collected during the academic year 2023/2024. The first testing was conducted in October. Participants then completed a short version of the Physical Self-Report Questionnaire (PSDQ - S) and the Well-Being Index (WHO – 5). After the mid-term vacation, repeated physical self-assessment questionnaire (PSDQ - S) and well-being index (WHO - 5) tests were conducted in the second and third week of February.

Tests for physical capacity assessment were also conducted with the researched students according to the system approved by the Minister of Education and Science (September 1, 2019) to assess the results of physical education and sports training in grades I - XII.

Data processing was carried out with SPSS 25.0. A set of statistical procedures was applied: descriptive statistics, comparative analysis (Mann-Whitney - U test for two independent samples and Wilcoxon test - T for two dependent samples — at the beginning and at the end of the experiment), and regression analysis.

RESULTS

The self-esteem values of all examined subjects in the first and second studies showed minimal differences **(Table 1).** Both measurements of the physical self-concept showed that health and being overweight were the main components. Students' self-assessed health component was the highest at the first measurement (M1=4.90; SD 1=1.18) and the second (M2=4.96; SD 2=1.03).

In the second place, they placed overweight in the first (M1=4.55; SD 1=1.50) and in the second study (M2=4.69; SD 2=1.37). This result showed that the students showed great criticality and demand for themselves, given that visually, most of them were of average weight and looked thin. The constructed self-concept influences experience and how it is interpreted. The real self-image is what a person thinks and says about himself, which may not match who he is. The ideal self-image is what he wants to be. This result shows the students' desire for greater perfection in appearance, which they rated with the lowest values of all indicators in the first test (M1=3.68; SD2=1.52) and in the second testing (M2=3.44; SD2=1.55). Even greater self-criticism, modesty, or low self-esteem was observed in the second measurement. During adolescence, self-esteem develops mainly through others. Seeking positive feedback from their peers, adolescents tend to compare themselves primarily to the most highly regarded in the group - the strongest, the most beautiful, the most popular.

The result is low self-esteem. It relates to the comparison they make between their self-image (how they perceive themselves) and their ideal self-image (the image they aspire to).

They placed general self-esteem in third place in the first study (M1=4.47; SD 1=1.17) and in the second (M2=4.40; SD 2=1.17). General self-esteem is associated with a sense of self-worth and self-respect, which applies to many areas and activities of life. This gives reason to believe that the pupils generally have good self-esteem about themselves, while their physical self-esteem is at a lower level.

Table 1. *Average values of physical self-esteem and psychic well-being in the subjects as a whole*

Subscales	M - I	SD - I	M - II	SD - II
Coordination	4.31	1.29	4.29	1.38
Strength	4.01	1.48	3.78	1.50
Endurance	3.73	1.50	3.75	1.44
Health	4.90	1.18	4.96	1.03
Activity	3.82	1.55	3.85	1.62
Flexibility	3.63	1.47	3.60	1.51
Overweight	4.55	1.50	4.69	1.37
Appearance	3.68	1.52	3.44	1.55
General physical self-esteem	4.28	1.48	4.15	1.43
General self-esteem	4.47	1.17	4.40	1.17
Well-being	52.34	20.67	54.60	24.45

Legend: I – first testing; II – second testing

The results of the comparative analysis of the physical self-assessment showed that there were differences regarding coordination in the groups differentiated by gender. Boys demonstrated a statistically significant higher level of coordination in both the first (U1=178,000; p=0.05) and the second study (U2=178,500; p=0.05) **(Table 2).**

Table 2. *Results of the variation and comparative analysis of physical self-esteem and well-being differentiated by gender*

Subscales	Girls - I	Boys - I	Girls - II	Boys - II
Coordination	***4.02***	***4.60***	***3.99***	***4.54***
Strength	3.89	4.13	3.86	3.69
Endurance	3.36	4.11	3.39	4.11
Health	4.74	5.06	4.93	5.00
Activity	3.70	3.93	3.79	3.86
Flexibility	3.47	3.78	3.50	3.69
Overweight	4.30	4.81	4.46	4.92
Appearance	3.53	3.84	3.49	3.39
General physical self esteem	4.04	4.53	3.94	4.36
General self-esteem	4.44	4.51	4.39	4.41
Well-being	50.60	54.08	***48.17***	***61.04***

* Legend: I – first testing; II – second testing

** Darker numbers in this and the following tables indicate the presence of statistically significant differences in the studied variables between individual groups

In the second test, statistically significant differences in appearance by age were found (U=174,000; p=0.05). Older students had higher results (M=3.83; SD = 1.53) compared to younger students (M=3.08; SD = 1.51) **(Table 3).**

Table 3. *Results of the variation and comparative analysis of physical self-esteem and well-being differentiated by age*

Subscales	11-14 y - I	15-17 y - I	11-14 y - II	15-17 y - II
Coordination	4.10	4.55	3.90	4.66
Strength	4.09	3.92	3.59	3.98
Endurance	3.73	3.74	3.72	3.78
Health	4.89	4.91	5.01	4.91
Activity	3.85	3.78	3.69	3.97
Flexibility	3.59	3.66	3.36	3.86
Overweight	4.63	4.46	4.63	4.75
Appearance	3.58	3.80	***3.08***	***3.83***
General physical self-esteem	4.12	4.46	3.83	4.50
General self-esteem	4.48	4.46	4.30	4.51
Well-being	***45.00***	***60.36***	50.66	58.90

* Legend: I – first testing; II – second testing

During the different periods of personality development, self-esteem values also change. It declines in late childhood and early adolescence and may begin to rise in late adolescence.

The results at both ages and in both studies confirmed this trend. In the first, older students were presented as more coordinated than younger students. In addition, they also scored higher in terms of health, flexibility, appearance, and general physical self-esteem compared to 11-14-year-olds. Younger students scored higher on strength, activity, overweight, and general self-esteem. Endurance values were close in both groups. In the second study, older students scored higher on all factors, especially appearance, coordination, and general self-esteem, except for health.

The comparative analysis (Wilcoxon test) of the studied indicators showed no statistically significant differences between the first and the second studies regarding the level of well-being and the components of physical self-esteem for this relatively short period of time.

In all examined individuals, the psychic well-being had average values (M=52.34; SD= 20.67), and in the second measurement, it had minimally increased results (M=54.60; SD= 24.45). This shows that physical activity for this short study period did not significantly affect the psychic well-being of the studied students **(Table 1).**

Factors determining the small positive change in psychic well-being can be sought in the second measurement period. Students return to school after vacation and new commitments. Other factors that could have influenced the results are the different spheres in which the students self-assess and interpret the lived experience (family, friends, school, etc.). In general, the students observed the preservation of close values regarding well-being within one academic term.

In the second study, statistically significant differences were found in terms of well-being between girls and boys (U2=167,000; p=0.032)—boys showed higher average values of subjective well-being compared to girls **(Table 2).**

It is also necessary to note the boys' higher results regarding the physical components and the second measurement compared to the girls for this period. Boys demonstrated better self-esteem and were more active than girls, suggesting that physical activity probably contributed to their higher psychic well-being.
The first study found statistically significant differences in the level of psychic well-being concerning age (U=165.500; p=0.030). Students aged 15 -17 showed higher results (M=60.00; SD=3.68) compared to 11 – 14 year olds (M=45.00; SD=23.39) **(Table 3).**

A stepwise regression analysis was applied to reveal the influence of physical self-esteem on mental well-being. The role of independent variables is the subscales of satisfaction, and the role of the dependent variable is psychic well-being. Two models were checked for the first and the second studies, respectively. The first study established that a high level of coordination and general physical self-esteem positively influence psychic well-being **(Table 4).**

Table 4. *Results of the influence of physical self-esteem on psychic well-being*

Indicator	Psychic well-being I			
	β	**t**	**Sig.**	**Δ R^2**
Coordination - I	0.434	3.352	0.002	0.348
General physical self-esteem - I	0.342	2.642	0.011	0.426

In the second study, at the beginning of the second school term, coordination increased the level of mental well-being (β=0.656) of the studied students, while overweight (β=-0.319) negatively affected mental well-being **(Table 5).**

Table 5. *Results of the influence of physical self-esteem on psychic well-being at the second measurement*

Indicator	Psychic well-being II			
	β	**t**	**Sig.**	**Δ R^2**
Coordination II	0.656	5.389	0.001	0.305
Overweight II	-0.319	-2.617	0.012	0.386

The more coordinated students are, the higher their perception of well-being. At the other extreme is overweight, which lowers their psychic well-being.

CONCLUSION

This study aimed to reveal the leading aspects of physical self-esteem and levels of students' well-being between the ages of 11 and 17 and whether changes occur in these variables after sports classes.

Students generally self-assess as healthy, coordinated, active, and in good physical shape. They define their flexibility as a weak point, and one of the leading aspects of physical self-esteem is overweight. A minimal drop in scores was observed in most indicators from the second test compared to the first (coordination, strength, flexibility, appearance, general physical and general self-esteem). The results of the physical tests conducted with the students showed a real improvement in the measured indicators of strength, speed, endurance, and agility in their second testing.

The second study minimally increased the psychic well-being of all study participants. Statistically significant differences were found in the sex-differentiated groups, with boys showing higher values than girls in the second study. In the groups differentiated according to age, statistically significant differences were found in both studies, with 15-17-year-olds having higher values than 11-14-year-olds.

In the first study, high levels of coordination and general physical self-esteem were found to positively influence mental well-being. In the second study, coordination increased the level, while overweight negatively affected the mental well-being of the studied students.

Sports participation affects mental health and well-being through multiple social and psychobiological mechanisms, but some outcomes are found in attitudes and beliefs about the self. Physical exercise and sports have a severe potential for changing self-perception and self-esteem.

The results from this study may facilitate our understanding of the role of exercise participation and physical activity in students' positive physical self-concept.

REFERENCES

1. Martín-Rodríguez, A.; Gostian-Ropotin, L.A.; BeltránVelasco, A.I.; Belando-Pedreño, N.; Simón, J.A.; López-Mora, C.; Navarro-Jiménez, E.; TorneroAguilera, J.F.; Clemente-Suárez, V.J. Sporting Mind: The Interplay of Physical Activity and Psychological Health. *Sports,* 12, 37, 2024
2. Wicker P, Frick B. Intensity of physical activity and subjective well-being: an empirical analysis of the WHO recommendations. *J Public Health (*Oxf). Jun 1; 39 (2) p.19-26, 2017

3. Downward, P., & Rasciute, S. Does sport make you happy? An analysis of the well-being derived from sports participation. *International Review of Applied Economics*, 25(3), p. 331–348, 2011
4. Rosenberg, M. Conceiving the Self. Melbourne, FL: Krieger, 1987
5. Harter, S. The Determinants and Mediational Role of Global Self Worth in Children. In: Eisenberg, N., Ed., Contemporary Topics in Reply to: Developmental Psychology, John Wiley, New York, p. 219-242, 1987
6. Earl, S. R. Global and appearance-contingent self-esteem: Associations with health and attractiveness exercise reasons. *Psychology of sport and exercise*. Mar; 65:102345, 2023
7. Wylie, R. C. Measures of Self-Concept. Lincoln: University of Nebraska, 1989
8. Väänänen, J., Isomaa, R., Kaltiala-Heino, R., Fröjd, S., Helminen, M., Marttunen, M. Decrease in self-esteem mediates the association between symptoms of social phobia and depression in middle adolescence in a sex-specific manner: a 2-year follow-up of a prospective population cohort study. *BMC Psychiatry* 14:79, 2014
9. Zeigler-Hill, V. The importance of self-esteem. In V. Zeigler-Hill (Ed.), Self-esteem (pp. 1–20). Psychology Press, 2013
10. Stets, J., Burke, P. The development of identity theory. Advances in group processes 31, p.57-97, 2014
11. Jordan, C. H., & Zeigler-Hill, V. Fragile self-esteem: The perils and pitfalls of (some) high self-esteem. In V. Zeigler-Hill (Ed.), Self-esteem (p. 80–98). Psychology Press, 2013
12. Dhanabhakyam, M., & Sarath, M. (2023). Psychological Wellbeing: Asystematic Literature Review. International Journal of Advanced Research in Science, *Communication and Technology*, p.603–607, 2023
13. Deci, E. L., & Ryan, R. M., Hedonia, eudaimonia, and well-being: An introduction. *Journal of Happiness Studies: An Interdisciplinary Forum on Subjective Well-Being*, 9 (1), p.1–11, 2008
14. Ruggeri, K., Garcia-Garzon, E., Maguire, Á. et al. Well-being is more than happiness and life satisfaction: a multidimensional analysis of 21 countries. *Health Qual Life Outcomes* 18, 192, 2020.
15. Huppert FA. Psychological well-being: evidence regarding its causes and consequences†. *Appl Psychol Health Well Being*, 1(2) p.137–64, 2009
16. World Health Organization. The world health report 2001: mental health: new understanding, new hope. Geneva: World Health Organization; 2001
17. Marsh, H. W., Martin, A. J., & Jackson, S. Introducing a short version of the Physical Self Description Questionnaire: New strategies, short-form evaluative criteria, and applications of factor analyses. *Journal of Sport & Exercise Psychology*, 32(4), p.438–482, 2010
18. Domuschieva-Rogleva, Approbation of the Physical Self-Description Questionnaire (PSDQ-S) in Bulgarian conditions. In: Personality, motivation, sports. (Aprobatsiya na testa za samootsenka na vŭnshniya vid (Physical Self-Description Questionnaire – PSDQ-S) v bŭlgarski usloviya. V: *Lichnost, motivatsiya, sport - in Bulgarian)* 21, p. 32-40, 2017