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The Contribution of the Psychomotrical Activities Carried out in the School after School System to the Psychic, Emotional and Social Development Plan of 9 - 10 Year Old Children

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Abstract

The experimental research carried out in the 2021-2022 academic year aimed at the fruition of children's personal development opportunities in terms of open psycho-social and affective development at the age of 9 - 10, through a global project of psycho-motor activities, carried out in the School after School program, with a frequency of 3 hours/week. The didactic strategy used in the experimental group focused on dynamic games and sports games with a specific subject, physical skills track and group activities that favor mental, socio-affective development and cultivate proactive social behavior. All the methods and means used in the experimental group aimed to increase the level of distributive attention, group cohesion, self-confidence, involvement in various didactic activities as well as in the family, and the promotion of fair play. At the beginning of the research, for all the evaluation tests/samples used, the two groups, experiment (24 subjects) and control (12 subjects), recorded significantly equal values and it was found that no significant differences were manifested between them. At the end of the research, after 5 months of implementation of the program proposed by us in the School after School system, for the experimental group, the results of the Prague test showed us an increase in the attention capacity of the subjects of the experimental group compared to those of the control group. The results of the other assessment tools, the Psychosocial Behavior test and the Adapted Social and Behavioral Skills Questionnaire, show significant differences between the two groups for $p < 0.05$. Due to the additional hours of psycho-motor activities, the behavior of the subjects of the experimental group changed, they became more cooperative and communicative with each other. Also, the level of ag-

gression has decreased. Thus, the working hypothesis was verified according to which practicing the psycho-motor activities proposed by us for the experimental group, in the School after School Program facilitates the fruition of the personal development opportunities at mental, social and behavioral level.

Keywords

School after School, Mental Development, Cooperation, Socialization, Fair-Play

1. Introduction

In our research approach, we considered several premises in the context of the topic addressed. Thus, W.H.O. specifies that the issue of health must be addressed from childhood, both from an emotional point of view and from the point of view of developing some social skills necessary for life. The risk factor can be the mental health of parents, residence in poor areas, low incomes, lack of access to education and the necessary medical care in chidhood. In addition, parents' lack of interest in educating their children can lead to anxiety, behavioral problems, attention and learning deficits with negative effects on future adults. Also, poverty has been shown to have adverse effects on cognitive, socio-emotional, and physical development ((Hodgkinson, Godoy, Beers, & Lewin, 2017) https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5192088/). Humans' higher psychological functions, their language and thinking, have to be the core of human psychology (Marcinkowski & Rehring, 1995). Knowing the role of sport in maintaining health and the fact that studies in recent years show that the level of physical activity is decreasing among young people, the same organization developed a "Global Action Plan on Physical Activity and Health, 2018-2030" which aims for a 15% reduction in global physical inactivity (Pop & Grosu, 2022). U.N.I.C.E.F. underlines the fact that between 10% - 20% of children worldwide suffer from some kind of mental disorder and these are largely due to insufficient physical exercise (Baena-Morales, Ferriz-Valero, & Garcia-Taibo, 2022: p. 1591). One of the reasons is the abundance of technology in recent years. There are studies that have evaluated the symptoms of nomophobia and psychological aspects such as anxiety, insomnia or addiction to certain foods. (Almarzooqi, Alhaj, Alrasheed, Helmy, Trabelsi, Ebrahim, Hattab, Jahrami, & Saad, 2022). The sedentary behavior adopted by children and especially by adolescents at the expense of psychomotor activities is associated with an increased risk of depressive symptoms at the age of 18 (Gonzales-Serrano, Gonzales-Garcia, Gomez-Tafalla, Roman, Garcia-Pascual, & Calabuig, 2022). EU member states believe that "education is an absolute priority and a key agent in ensuring social cohesion" (Tudor, 2005). In the cycle of primary education, the foundations for the development of human personality are laid. It is also important for children to be part of an environment concerned with intelligence and

development, which afterward differentiates between people and explains different behavioral aspects (Clipa, Mihalache, & Serdenciuc, 2016). It is known that all sports activities improve the physical level and mental health, but at the same time, they also have an impact on social ties, relationships and social attitudes (Czupich, 2020: p. 2875). Bidzan-Bluma, I., Lipowaska, M., state that "children who do not exercise will never fully develop their genetic potential in terms of motor skills" (Bidzan-Bluma & Lipowaska, 2018). Acquiring movement skills is important because certain motor difficulties are a risk factor for good psychosocial and behavioral functioning (Xu, Xu, Zhou, & Xie, 2022). For an individual to succeed in life, he must adopt an attitude suitable to the society he lives in, and these attitudes have their roots in childhood (Epuran, 2011: p. 87). The preparation of the individual for his further integration into society begins at an early age (Schmidt, 2012: p. 27). If an attachment to a certain activity is created in childhood, this state can be perpetuated in adolescence, the individual's intention and desire being to interact with similar activities (Lim, Min, & Kim, 2022). General well-being is adapted to the interaction of physiological, psychological and social factors that have a cause- and-effect relationship with health (Ardelean, Andrei, Miuta, Boros-Balint, Deak, Molnar, Berki, Gyori, Geanta, Dehelean, & Borcan, 2022). At the age of 9-10, children have a series of personal development opportunities (Richardson, 2008: p. 16) which must be exploited including through sports, whose valences in terms of mental, social and emotional development have been demonstrated and which contribute to the subsequent formation of an adaptable adult. The saying "sport builds character" is true, but building positive character doesn't happen by accident. Values such as respect, honesty, teamwork, emotional regulation or perseverance, are life skills but can be practiced and improved through any sport, whether team or individual (Corliss et al., 2022). It is important to take into account the development of emotional intelligence which is characterized by 4 skills (the ability to perceive emotions, evaluate them, regulate emotions and perceive certain feelings), and an athlete who has such intelligence is more likely to use psychological skills and techniques in both training and competition (Mitić, Nedeljković, Takšić, Sporiš, Stojiljković, & Milčić, 2020).

The emotional life of the school-age child gradually acquires greater stability and balance, as they become more persistent, more orderly and more planned (Şchiopu & Varză, 1997: p. 168-169). Being the period of intense mental development, preschool age makes playing the main form of activity, helping to develop the child's personality, simultaneously stimulating their socialization skills and bringing them satisfaction and fun (Epuran, 2013: p. 105). It is the age when children begin to show independence and critical spirit. Motivation has an important role, the intrinsic one being based on the individual's desire to engage in activities that rely upon the satisfaction of basic needs while the extrinsic motivation follows the positive consequences that a certain activity has in the longer term, in our case referring to their desire to be healthy, to look good and to be successfully integrated and valued in society (Wikman, Elsborg, Nielsen, Seide-

lin, Nyberg, Bangsbo, Hellsten, & Elbe, 2018). "People who regulate their motivation autonomously show more perseverance, commitment, effort and pleasure in the activities they carry out (Cid, Pires, Borrego, Duarte-Mendes, Teixeira, Moutão, & Monteiro, 2019)." Much evidence shows that, in addition to teachers, coaches or peer groups, it is parents who have an important role in motivating children regarding motor activities (Kolayiş, Sarı, & Çelik, 2017). Parents who initiated among children a climate in which success is associated more with pleasure than with performance, were able to increase the level of intrinsic motivation and decrease their anxiety level (Sorensen, Roberts, Farholm, 2021). Also in childhood, children must be instilled with optimism and confidence in their own strength, "a person who believes in a possible success, continues the effort (Carver & Scheider, 2014)". There are studies that reported gender differences saying that boys are more active than girls at the age of 9 - 11 (Jerina, Pišot, & Volmut, 2018) but we believe that all children should be integrated into psychomotor activities and motivated equally.

Educational institutions suggest that schools must be a space where health is promoted, protected and cultivated, contributing to the well-being and development of students' socio-emotional and cognitive skills (Júnio da Silva, Barbosa, Barbosa Filho, & de Farias Júnior, 2022). To promote academic success and student well-being, the school is responsible for children's formal education, while the family is responsible for extracurricular education (Paccaud et al., 2021). The school-after-school programs (Ș.D.Ș.), often meet parents who want to have qualified support for their children to increase school performance, personal development and cultivate talents (MEN, 2009), this system is beneficial for both children and parents. In Romania, the School after School system works and is one of the most requested.

"Relying primarily on biological behavior, human motor action is constituted as a social action, mediated by techniques and means producing cultural values (Dragnea & Bota, 1999)." Thus, motor activity becomes "from a socialized activity, a socializing one, but also cultural or enlightening" (Neagu, 2010).

Psycho-motor activities thought out, structured and inserted into a school after school program (Ș.D.Ș.), can contribute essentially to the start that children have in life. Psychomotor activities are varied both in content and in form, they can take place at the most diverse ages and are characterized by the omnipresence of the formative function (Neagu, 2010).

A series of research highlights the fact that "insufficient physical activity has been identified as a potential risk factor for physical and mental health" (Pedišić, Dumuid, & Olds, 2017). There are studies that prove that connections are made between physical and mental exercise and that a constantly practiced physical activity seems to influence the cognitive performance even of children with mental retardation (D'Isanto & Di Tore, 2016). Moreover, the influence that physical activity has on the psyche of healthy growing and developing children is greater and more significant in the formation of tomorrow's adult. Positive childhood experiences, such as good family relationships, belonging to a group,

integration in school or a sports team, can prevent adolescents from developing depression and anxiety (Kienngam, Maneeton, Maneeton, Pojanapotha, Manomaivibul, Kawilapat, & Damrongpanit, 2022). The particularity of psychomotor activities carried out constantly and systematically develops thinking, memory, attention and the spirit of observation. The concept of emotional learning appeared in the early 1990s in the USA and refers to the process of acquiring basic skills, recognizing and managing emotions, setting and achieving positive goals, feeling and showing empathy for others, making responsible decisions and better managing various interpersonal situations (Li, Ma, Lu, & Hesketh, 2022), all these positive attributes also being developed through sport.

Sports in general "can be a means of great value because it is often seen as a facilitator of pleasure and fun in both girls and boys" (Macias, Robles, & Fuentes-Guarra, 2021), the physical education teacher being put in front of a difficult challenge to make the children enjoy sports. At the age in question (9 - 10 years old), the main means used by teachers in the educational act and accepted by children, is the game, it being their main way to communicate, experience and learn (Cohen, 2012). Also, the foundations of team sports should be laid from this age, as they seem to be associated with better psychological outcomes due to their "social nature" (Eime, Young, Harvey, Charity, & Payne, 2013), as they contribute to increasing the degree of cooperation within the group. As stated by Shernoff, D. J., the quality of experiences gained in extracurricular activities or after school may be a more important factor than their quantity (Shernoff, 2010). Such activities give children opportunities to interact with teachers and peers in different activities that are not part of the school program but that are of interest to children and can also support the development of self-regulation and control of their own impulses (Vandell, Simpkins, & Liu, 2020). I considered that this methodical approach to the psycho-motor activities carried out in the School after School system can contribute to the psychological, socio-affective and behavioral development of children and can increase the degree of cohesion within the group. The purpose of the research is the optimal fruiting of the personal development windows of 9 - 10 years old children in terms of mental and socio-emotional, through the program of motor activities carried out in the school after school system. The main objectives are the development and experimentation of the program of specific motric activities used and the establishment of evaluation method of the psycho-social-affective level (Mihețiu & Mihăilescu, 2022). The 36 research subjects are 9 - 10 years old children from two schools in Arad city. All children constantly participate in school after school program.

2. Materials and Methods

To measure children's distributed attention capacity, we used the Prague Test. Applying the "Psychosocial Behavior" test allowed us to identify how children are perceived by their group mates during sports activities. We specify the fact that, since the experimental group was made up of students from two different

schools, although the program of activities carried out in the School after School system was the same for the entire experimental group, in the case of the "Psychosocial Behavior" test, its administration was done separately by each school. We wanted to highlight the level of interpersonal relationships during physical education classes, and this is only possible within classes/groups that have common activities, with children evaluating each other. The adapted social and behavioral skills questionnaire was the tool based on which we outlined the psycho-social and behavioral profile of each child, to capture their way of behaving and relating within the family or peer group. In order to determine how much time the children spend practicing motor activities, we developed the Diary Sheet entitled "How much time did I move today?" This was systematically completed for a month.

The development of an observation protocol for the subjects of the experimental group and its completion during our research, allowed us to form an opinion about the child's attitude towards work requirements, his ability to adapt, the manner of reporting to activities and the ability of group integration, collaboration and communication. The interpretation of the observations was made by giving a score from 1 - 5, as follows: 1 point—very weak participation/to a very small extent; 2 points—weak participation/to a small extent; 3 points—average participation/to an average extent; 4 points—good participation/to a good extent; 5 points—very good participation/to a very good extent.

Study participants

36 3rd and 4th grade students (9 - 10 years old) were involved in our research, respectively a control group (12 subjects) and an experimental group (24 subjects). The results of the tests done at the beginning of the research showed us that there are no significant differences between the subjects of the two groups (Table 1, Table 3 & Table 4). The subjects of the experimental group participated in the School after School program, in which psychomotor activities took place 3 times/week for which the didactic strategy used was designed in complementarity with physical education activities realized in school in achieving the subject's matter objectives, to which we added a general objective and three specific ones, to complement the others, emphasizing the aspects targeted in the research.

The proposed general objective was the following: the integration of psycho-motor acquisitions acquired within the activities provided in the School after School program in specific actions that outline a proactive socio-affective behavior. Through the psycho-motor activities included, through the games and physical skills tracks chosen, the aim was to increase the degree of collaboration and cooperation between the children, with them frequently interacting, helping and encouraging each other. It was insisted on increasing the degree of confidence in one's own forces but also on proactive behavior in the spirit of fair play.

Statistical Analyses

The quantitative analysis was carried out by determining the statistical indicators: the arithmetic mean (MA), the standard deviation (SD) and the coeffi-

cient of variation (CV) for the results recorded in the tests and the applied evaluation samples and the Student t-Test (TT), a significance inducer of differences, for comparing two or more values measured on the same subjects. In the case of the present research, this test was applied to compare the results of the initial and final research between the two groups and to compare the differences between the groups.

3. Results and Discussion

1) The analysis of the results of the Prague Test was carried out in the light of the value of the statistical indicators presented in Table 1. They highlight the level of distributive attention capacity.

At the beginning of the research, the t value (−1.076) at a $p = 0.144 > 0.05$, indicates an insignificant difference between the two groups. The score obtained by the subjects of the experimental group at the initial test is 41.96 points, and the one obtained at the final test was improved (44.71 points), their progress expressed in points being 2.75. And for the control group, we recorded an increase in the number of points between the two tests, from 44.33 points-T.I. at 45.92 pct.-T.F., but not as obvious as for those in the experimental group (their progress being only 1.59 pct.). Even if the difference in the final results between the two groups is not significant (t = 0.525, $p > 0.05$), the centile related to the score obtained by the subjects of the two groups in T.F. shows us a better progress of the subjects of the experimental group, from which we deduce that they have improved their attention capacity. The distribution of points in the 4 stages of testing highlights a common aspect of the two groups, namely the fact that after the first two stages, i.e. after 10 minutes of testing, the children's distributive attention and concentration decreases slightly. In both cases, the value of the standard deviation is relatively small, and the coefficient of variation shows us two homogeneous groups.

2) The determination of personality traits by applying the Psychosocial Behavior Test was carried out by the statistical processing of the results of each subject of the two groups, recorded in individual files, structured according to the one presented in Table 2, for the subject of the E07 experimental group, established randomly.

Table 1. The dynamics of the statistical indicators recorded during the research for the Prague Test.

Statistical indicators	INITIAL TESTING		FINAL TESTING		INITIAL TESTING		FINAL TESTING	
	EXPERIMENTAL GROUP				CONTROL GROUP			
	No. point/test	Related percentile %	No. point/test	Related percentile%	No. point/test	Related percentile %	No. point/test	Related percentile %
MA	41.96		44.71		44.33		45.92	
AS	5.74	42	6.22	49	7.16	49	7.04	51
CV	5.74		13.92		16.16		15.33	

Table 2. Example of the centralizing sheet of the dynamics of the responses to the Psychosocial Behavior Test, subject E07.

To what extent the subject tends to be	Subjects of the experimental group-Mihai Eminescu Middle School Arad																						Average	
	E10		E04		E03		E13		E18		E21		E19		E20		E22		E15		E16			
	TI	TF	TI	TF	TI	TF	TI	TF	TI	TF	TI	TF	TI	TF	TI	TF	TI	TF	TI	TF	TI	TF	TI	TF
Cooperative	1	3	2	4	3	3	2	2	3	3	3	4	2	3	1	3	1	2	2	2	3	4	2.09	3.00
Authoritative	2	3	3	2	1	1	2	2	2	2	3	3	2	1	1	2	3	2	2	2	1	2	2.00	2.18
Communicative	3	3	1	3	2	3	1	2	2	2	2	2	3	2	2	4	2	2	1	2	1	2	1.81	2.54
Popular	1	1	1	2	2	2	3	2	2	2	1	2	1	1	2	1	1	3	2	2	1	2	1.54	1.81
Aggressive	3	2	3	2	2	3	1	2	2	1	3	1	4	2	1	1	1	1	2	1	2	2	2.18	1.63
Creative	1	2	3	4	4	4	3	4	2	4	5	5	1	3	2	2	2	1	4	4	3	3	2.72	3.27

For example, the centralized results in the sheet in Table 2 show us that:

- Subject E10 has a higher level of cooperation (from 2.09 to 3.63) and the degree of communication increased from 1.81 to 2.72;
- Subject E03 has a higher level of cooperation (from 2.09 to 3.18) and the degree of communication increased from 2.09 to 2.72;
- Subject E07 has a higher level of cooperation (from 2.09 to 3.00) and the degree of communication increased from 1.81 to 2.54;

The results of the statistical indicators (Table 3 and Table 4) show us a progress of the subjects of the experimental group in terms of determining the positive traits and a regression in the case of the negative ones.

The results recorded at the end of the research indicate that in 2 of the 4 determinations of positive traits (communicative and popular), the subjects of the experimental group registered a progress between TI and TF. They became more cooperative, more communicative (T.I.—1.90; T.F.—2.36) in the relationship with colleagues and more popular (T.I.—1.74 and T.F.—1.92), in the latter case even having a significant difference between the two tests ($p < 0.05$). Authority and aggression, considered negative traits, tend to regress in some cases, with significant differences (t = 2.034, $p < 0.05$ for aggression). And creativity within the group is on the rise. The coefficient of variation shows us a homogeneous group for all determined traits, with the exception of "aggressiveness" where it was registered in T.F. CV the value of 26.8%.

In the case of the control group as well we had different results between T.I. and T.F. (Table 5).

At the subjects of the control group as well it was found in T.F. an increase in the degree of communication (from 1.85 to 2.43), but the subjects are less cooperative. Creativity also shows a downward trend. Instead, authority tends to increase (from 2.25 to 2.61) but without aggressive tendencies. The coefficient of variation indicates a homogeneous group.

Comparing the T.F. results of the two groups, we can state that the 4 traits considered as positive scored higher in the case of the experimental group than in the case of the control group, with significant differences in terms of cooperation

Table 3. The results of statistical indicators for students from the Mihai Eminescu Arad Secondary School.

Statistical Indicators/ Temperament		Cooperative		Authoritative		Communicative		Popular		Aggressive		Creative	
		TI	TF	TI	TF	TI	TF	TI	TF	TI	TF	TI	TF
MA		2.18	2.85	2.19	2.11	1.90	2.36	1.74	1.92	2.35	2.04	2.79	2.90
AS		0.16	0.41	0.10	0.19	0.26	0.17	0.22	0.21	0.31	0.55	0.44	0.38
CV		7.33%	14.51%	4.79%	8.96%	13.76%	7.09%	12.90%	10.78%	13.30%	26.80%	15.59%	13.29%
Test t (Student)	t	−5.896		1.452		−4.022		−2.196		2.034		0.575	
	p	$p = 5.179$ >0.05		$p = 0.087$ >0.05		$p = 0.001$ <0.05		$p = 0.025$ <0.05		$p = 0.033$ <0.05		$p = 0.288$ >0.05	

Table 4. The results of statistical indicators for students from Aron Cotruș Arad Secondary School.

Statistical indicators/ Temperament		Cooperative		Authoritative		Communicative		Popular		Aggressive		Creative	
		TI	TF	TI	TF	TI	TF	TI	TF	TI	TF	TI	TF
MA		2.16	2.90	2.25	2.15	2.08	2.51	1.80	1.88	2.42	1.96	2.84	2.79
AS		0.14	0.37	0.05	0.16	0.19	0.30	0.24	0.20	0.33	0.13	0.25	0.43
CV		6.49%	12.70%	2.41%	7.23%	9.17%	12.06%	13.11%	10.49%	13.81%	6.77%	8.75%	15.50%
Test t (Student)	t	−6.589		2.362		−3.849		−0.888		4.958		0.498	
	p	$p = 3.080$ >0.05		$p = 0.019$ <0.05		$p = 0.001$ <0.05		$p = 0.197$ >0.05		$p = 0.000$ <0.05		$p = 0.315$ >0.05	

Table 5. The results of statistical indicators for students from the Mihai Eminescu Arad Secondary School, control group.

Statistical indicators/ Temperament		Cooperative		Authoritative		Communicative		Popular		Aggressive		Creative	
		TI	TF	TI	TF	TI	TF	TI	TF	TI	TF	TI	TF
MA		2.56	2.34	2.25	2.61	1.85	2.43	1.74	2.13	2.62	2.33	2.76	2.49
AS		0.17	0.12	0.06	0.26	0.21	0.22	0.13	0.37	0.03	0.32	0.07	0.21
CV%		6.68	5.10	2.59	9.90	11.57	8.90	7.77	17.46	1.04	13.65	2.67	8.30
Test t (Student)	t	2.431		−4.9225		−9.700		−2.891		3.002		3.792	
	p	$p = 0.016$ <0.05		$p = 0.000$ <0.05		$p = 5.002$ >0.05		$p = 0.007$ <0.05		$p = 0.005$ <0.05		$p = 0.001$ <0.05	

($p < 0.05$), which proved to us that spending extra time in a group and systematic interaction between children leads to better collaboration and increases the level of group cohesion. Also, the authority and aggression of the subjects of the experimental group show a stronger downward trend than in the subjects of the control group (with significant differences in aggression), while the authority of the subjects of the control group is increasing in TF. The coefficient of variation values shows us that both groups are homogeneous.

The results recorded at the end of the experiment confirm the conclusions of other researchers (Neagu, 2010; Corliss et al., 2022; Cohen, 2012) who claim that

physical activity has influence on the development of the human psyche and influences behavior within a group.

3) The dynamics of the results of the adapted Social and Behavioral Skills Questionnaire, presented in Table 6.

For all 4 components of social skills, the arithmetic mean of the scores of the experimental group is higher at the final test compared to the initial one. The group is homogeneous in both TI and TF, all values are grouped around the average, the standard deviation value being small. Also, the differences between the two tests are significant, in all 4 cases $p < 0.05$. In the case of behavioral skills, the average of the scores obtained by the subjects regarding the manifestations of internalizing or hyperactivity is decreasing, but the groups are not homogeneous. The differences between the two tests are significant. The score obtained under the "extroverted" column is the only one that indicates an insignificant difference between the tests.

The statistical indicators show us a difference between the averages obtained in TI and TF for all the determinations made, significant even when we refer to how extroverted and hyperactive the children are ($p < 0.05$), the latter trait being on a downward slope (TI—2.58, TF—1.67).

Following the analysis of the answers received to the social skills questionnaire, we found no obvious differences in perception and self-evaluation of one's own social skills between TI and TF. We noticed only a few improvements, in TF noting that the degree of cooperation with others increased slightly from 10.46 to 12.54 and the degree of assertiveness from 11.58 to 13.42. In both cases, the groups are homogeneous in both tests. As for the degree of responsibility that children show, it increased from 13.17 to 17.51, but the homogeneity of the group decreased. Also, in TF the subjects consider themselves more in control of themselves (TI—10.08, TF—12.04). A percentage of 83.33% of children preferring, most of the time, to stay away from arguments and remain calm when involved in a dispute. 76.16% of them do not react nervously when they are scolded

Table 6. The dynamics of the scores obtained by the subjects of the experimental group, on the social and behavioral skills questionnaire.

Statistical indicators		Social skills								Behavioral skills					
		Cooperative (point)		Assertive (point)		Responsible (point)		Self control (point)		Extrovert (point)		Introvert (point)		Hyperactive (point)	
		TI	TF	TI	TF	TI	TF	TI	TF	TI	TF	TI	TF	TI	TF
M.A.		10.46	12.54	11.58	13.42	13.17	15.71	10.08	12.04	1.42	1.79	3.08	1.92	2.58	1.67
A.S.		1.32	1.38	1.89	2.31	2.05	1.67	1.93	2.01	1.47	1.71	1.63	1.53	1.68	1.40
C.V		12.64	11.03	16.33	17.20	15.61	10.63	19.19	16.69	103.7	95.29	52.89	79.58	65.08	84.26
Test t (Student)	t	−10.026		−11		−12.2		−17.442		−2.098		5.454		2.326	
	p	$p = 3.638$ >0.05		$p = 6.145$ >0.05		$p = 7.940$ >0.05		$p = 4.665$ >0.05		$p = 0.023$ <0.05		$p = 7.613$ >0.05		$p = 0.014$ <0.05	

by their parents and most of the time they answer nicely when they are asked something. If in TI the average that shows us how introverted the subjects are was 3.08, in TF it dropped to 1.92, the degree of homogeneity of the group is very low. Children's appreciation for other family members and friends increased (increased number of children who often show appreciation for others from 91.66% to 95.83%). Also, the number of children who offer help to family members remains high (83.33).

Even if the differences obtained between the two tests are not large, we can affirm the fact that the degree of socialization and cooperation within the family or group of friends, but also the children's ability to control their nervous manifestations, has increased.

From the answers received after completing the questionnaire regarding children's behavior, we concluded that, if in the final testing 91.66% of them self-assessed as being often angry and sad, at TF this percentage dropped to 66.66%. TF also shows us that all the children state that they do not threaten those around them, not having verbal and physical aggressive behavior. The percentage of those who are easily distracted decreased from 54.16% to 41.66%. The degree of internalization of the children decreased from TI—3.08 to TF—1.92 and at the same time, the way of externalizing does not show violence of any kind.

4) The results recorded through the Sheet-Journal "How long did I move today?" are presented quantitatively, by the value of the statistical indicators, at the end of the research for both groups, in the following table (Table 7).

The subjects of the experimental group, constantly participating in the 3 psychomotor activities of 45 minutes each within the School after School program, automatically benefit from a number of 135 minutes/week more than the subjects of the control group. It is observed that, adding the time of motor activities carried out in school with that of individual sports activities (performance sports, physical activities carried out at the weekend with family or friends), the subjects of the experimental group end up practicing motor activities between 270 and 345 minutes/week. In contrast, the subjects of the control group are involved in motor activities only between 135 and 255 minutes. It is obvious that the difference of 120.7 minutes is due to the sports activities provided in the School after School program. We recorded a standard deviation value of 21.67 in

Table 7. The time allocated weekly to the practice of motor activities by the research subjects.

Statistical indicators	Experimental group	Control group
	Time allocation/week (min.)	
MA	292.5	174.8
AS	21.67	33.44
CV	7.41	19.13
Test t (Student)	T = 1.156 $p > 0.05$	

the experimental group and 33.44 in the control group, which indicates the fairly high degree of dispersion of the data compared to the average. The coefficient of variation shows a good homogeneity of both groups, and the value of t indicates that the differences are insignificant (t = 1.156; $p > 0.05$).

4. Conclusion

Our research partially confirms the hypotheses issued by us, according to which the School after School system favors the formation of general and specific skills of formal physical education through the complementarity of motor activities designed and carried out in the timetable of school units that include the School after School program and that the program of psychomotor activities also contributes to mental and emotional development and cultivates proactive social behavior.

The final results analyzed at the Prague Test show us that the number of points accumulated in each of the 4 stages decreases for both groups of children in stages 3 and 4. We therefore conclude that after 10 minutes of testing, the children's distributive attention and mental concentration decrease slightly. The difference in the final results between the two groups shows greater progress for the experimental group, but not significantly (t = 0.525; $p > 0.05$).

The results of the "Psychosocial Behavior" test and the dynamics of the children's responses to the two tests show better group cohesion at the end of the research in the experimental group, the children appreciating their colleagues as more cooperative and communicative. There were significant differences between the groups at the end of the experiment, in favor of the experimental group in terms of cooperation, aggression and creativity ($p < 0.05$).

The results of the final testing are interesting when applying the Social and Behavioral Skills Questionnaire, which indicates that the degree of socialization and cooperation within the family or group of friends, but also the children's ability to control their nervousness increased in the experimental group. It also increased the degree of appreciation of those around and decreased the degree of aggression and internalization. The t value allows us to state that we recorded a significant difference between T.I. and T.F. for $p < 0.05$, in two targeted traits: extroverted and hyperactive.

The results of our research highlight the contribution of practicing motor activities at the age of 9 - 10 years, in a volume of time greater than the one established by the national curriculum, of 2 hours/week, through the School after School program. The contribution is manifested not only in terms of physical, motor and functional development highlighted by many studies and researchers (Epuran, M., Dragnea, A., Bota, A., Ciolcă, C. Balint T., Dobrescu T., Raţă M., Cristuță A, Balko S., Balko I., Valter L., Jelinek M.), but also in terms of psycho-social, psycho-behavioral and psycho-affective development.

Although our experiment was preceded by a long period of online school, generated by the Sars-Cov 2 pandemic, which only lasted 5 months, the results

recorded at the end of the research on the evaluation samples used by us, reveal the fact that there are differences, even if not in all cases statistically significant, between subjects of the experimental group and those of the control group. This allows us to state that the practice of age-appropriate psycho-motor activities, organized in the School after School program, in the form of games, practicing in groups, teams, sports games and thematic games, stimulating cooperation, mutual help in carrying out motor tasks, accepting roles, etc., contributes to the mental, social and emotional development of children and determines the adoption of a proactive behavior, even from this age.

Taking advantage of the fact that at this age children have a series of personal development opportunities, increasing the volume of weekly motor activities contributes to the formation/education of healthy young people, physically, mentally, emotionally balanced and adaptable to future times.

Such age-adapted programs could also be introduced to younger children where the main method used will be the game, or at the secondary school level through the children's participation in activities that can later be reflected in the formation of the school s representative teams in athletics, football, voleyball, basketball. We recommend involving children in such activities in school where the school after school program operates.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

References

Almarzooqi, M., Alhaj, O., Alrasheed, M., Helmy, M., Trabelsi, K., Ebrahim, A., Hattab, S., Jahrami, H., & Saad, H. (2022). Symptoms of Nomophobia, Psychological Aspects, Insomnia and Physical Activity: A Cross-Sectional Study of ESports Players in Saudi Arabia. *Journal Healthcare, 10,* 257. https://www.mdpi.com/2227-9032/10/2/257 https://doi.org/10.3390/healthcare10020257

Ardelean, V. P., Andrei, V. L., Miuța, C. C., Boros-Balint, I., Deak, G. F., Molnar, A., Berki, T., Gyori, F., Geantă, V. A., Dehelean, C. A., & Borcan, F. (2022). The KIDSCREEN-27 Quality of Life Measure for Romanian Children Aged 6: Reliability and Validity of the Romanian Version. *Journal Healthcare, 10,* 1198. https://www.mdpi.com/2227-9032/10/7/1198 https://doi.org/10.3390/healthcare10071198

Baena-Morales, S., Ferriz-Valero, A., & Garcia-Taibo, O. (2022). Influence of Cooperative Strategies and Mindfulness on the Perception and Control of Emotions in Primary Physical Education. A Proposal to Improve Sustainability in the Social Dimension. *Journal of Physical Education and Sport, 22,* 1590-1598. https://www.efsupit.ro/images/stories/iulie2022/Art%20200.pdf

Bidzan-Bluma, I., & Lipowaska, M. (2018). Physical Activity and Cognitive Functioning of Children: A Systematic Review. *International Journal of Environmental Research and Public Health, 15,* 800. https://www.mdpi.com/1660-4601/15/4/800 https://doi.org/10.3390/ijerph15040800

Carver, C., & Scheider, M. F. (2014). Dispositional Optimism. *Trends in Cognitive Science, 18,* 293-299. https://doi.org/10.1016/j.tics.2014.02.003

Cid, L., Pires, A., Borrego, C., Duarte-Mendes, P., Teixeira, D. S., Moutão, J., & Monteiro, D. (2019). Motivational Determinants of Physical Education Grades and the Intention to Practice Sport in the Future. *PLOS ONE, 14,* e0217218. https://pubmed.ncbi.nlm.nih.gov/31120973 https://doi.org/10.1371/journal.pone.0217218

Clipa, O., Mihalache, E., & Serdenciuc, N. L. (2016). Level of Satisfaction in School-Pupil and Teacher Perceptions. *Revista Românească pentru Educație Multidimensională, 8,* 149-170. https://doi.org/10.18662/rrem/2016.0801.09

Cohen, L. (2012). *Rețete de jocuri, de ce și cum să te joci cu copilul tau*. Editura Trei, București.

Corliss, B., & Kramers, S. (2022). How Sports Can Prepare You for Life. *Frontiers for Young Minds, 10,* Article ID: 666078. https://kids.frontiersin.org/articles/10.3389/frym.2022.666078

Czupich, M. (2020). Sport as an instrument of social development-the example of London. *Journal of Physical Education and Sport, 20,* 2875-2882. https://efsupit.ro/images/stories/octombrie2020/Art%20390.pdf

D'Isanto, T., & Di Tore, A. (2016). Physical Activity and Social Inclusion at School: A Paradigm Change. *Journal of Physical Education and Sport, 16,* 1099-1102. http://efsupit.ro/images/stories/3%20September2016/art%20176.pdf

Dragnea, A., & Bota, A. (1999). *Teoria Activităților Motrice*. Editura didactică și pedagogică, R.A., București.

Eime, R. M., Young, J. A., Harvey, J. T., Charity, M. J., & Payne, W. R. (2013). A Systematic Review of the Psychological and Social Benefits of Participation in Sport for Children and Adolescents: Informing Development of a Conceptual Model of Health through Sport. *International Journal of Behavioral Nutrition and Physical Activity, 10,* 98. https://pubmed.ncbi.nlm.nih.gov/23945179 https://doi.org/10.1186/1479-5868-10-98

Epuran, M. (2011). *Motricitate și psihism în activitățile corporale, prolegomene la o metateorie a activităților corporale* (Vol. 1). Editura Fe48st, București.

Epuran, M. (2013). *Motricitate și psihism în activitățile corporale, prolegomene la o metateorie a activităților corporale* (Vol. 2). Editura Fest, București.

Gonzales-Serrano, M. H., Gonzales-Garcia, R. J., Gomez-Tafalla, A., Roman, I. R., Garcia-Pascual, F., & Calabuig, F. (2022). Promoting Physical Activity Habits after Completing Secondary School: Does the Age Matter? *International Journal of Environmental Research and Public Health, 19,* 14160. https://doi.org/10.3390/ijerph192114160 https://www.mdpi.com/1660-4601/19/21/14160

Hodgkinson, S., Godoy, L., Beers, L. S., & Lewin, A. (2017). Improving Mental Health Access for Low-Income Children and Families in the Primary Care Setting. *Pediatrics, 139,* e20151175. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5192088 https://doi.org/10.1542/peds.2015-1175

Jerina, T., Pišot, R., & Volmut, T. (2018). Social and Demographic Factors of Physical Activity in 9-11 Year Old Slovenian Children. *Journal Kinesiology, 50,* 68-78. https://hrcak.srce.hr/ojs/index.php/kinesiology/article/view/5782 https://doi.org/10.26582/k.50.1.13

Júnio da Silva, D., Barbosa, A. B., Barbosa Filho, V. C., & de Farias Júnior, J. C. (2022). Is Participation in Physical Education Classes Related to Physical Activity and Sedentary Behavior? A Systematic Review. *Journal of Physical Activity and Health, 19,* 786-808. https://pubmed.ncbi.nlm.nih.gov/36288789

https://doi.org/10.1123/jpah.2022-0084

Kienngam, N., Maneeton, N., Maneeton, B., Pojanapotha, P., Manomaivibul, J., Kawilapat, S., & Damrongpanit, S. (2022). Psychological Factors Influencing Achievement of Senior High School Students. *Healthcare, 10,* 1163.
https://www.mdpi.com/2227-9032/10/7/1163
https://doi.org/10.3390/healthcare10071163

Kolayiş, H., Sarı, I., & Çelik, N. (2017). Parent-Initiated Motivational Climate and Self-Determined Motivation in Youth Sport: How Should Parents Behave to Keep Their Child in Sport? *Journal Kinesiology, 49,* 217-224.
https://hrcak.srce.hr/ojs/index.php/kinesiology/article/view/5685
https://doi.org/10.26582/k.49.2.4

Li, J., Ma, C., Lu, Q., & Hesketh, T. (2022). A Social Emotional Learning Training Programme in a Poor Rural Primary School in Central China: A Pre-Post Intervention Study. *Journal Healthcare, 10,* 2332. https://www.mdpi.com/2227-9032/10/11/2332
https://doi.org/10.3390/healthcare10112332

Lim, S., Min, H., & Kim, Y. (2022). The Structural Relationship on Nostalgia Recognition Effect, Attachment, Resilience, and Psychological Well-Being of Dance for All Participants during the COVID-19 Pandemic. *Journal Healthcare, 10,* 1793.
https://www.mdpi.com/2227-9032/10/9/1793
https://doi.org/10.3390/healthcare10091793

Macias, R. M., Robles, M. T. A., & Fuentes-Guarra, F. J. G. (2021). Effects of Sport Teaching on Students' Enjoyment and Fun: A Systematic Review and Meta-Analysis. *Frontiers in Psychology, 12,* Article ID: 708155.
https://www.frontiersin.org/articles/10.3389/fpsyg.2021.708155/full

Marcinkowski, T. J., & Rehring, L. (1995). *The Secondary School Report: A Final Report on the Development, Pilot Testing, Validation, and Field Testing of the Secondary School Environmental Literacy Assessment Instrument*. Office of Research and Development, US Environmental Protection Agency.

MEN (2009). *Legea educatiei nationale.*
https://www.cdep.ro/proiecte/2009/300/90/3/pl393.pdf

Mihețiu, M., & Mihăilescu, L. (2022). The Bio-Dynamic Level of 9-10-Year-Old Children—An Objective Factor in the Design of Dynamic Activities for the Afterschool Program. *Journal of Physical Education and Sport® (JPES), 22,* 1974-1981.
http://efsupit.ro/images/stories/august2022/Art%20251.pdf

Mitić, P., Nedeljković, J., Takšić, V., Sporiš, G., Stojiljković, N., & Milčić, L. (2020). Sports Performance as a Moderator of the Relationship between Coping Strategy and Emotional Intelligence. *Journal Kinesiology, 52,* 281-289.
https://hrcak.srce.hr/ojs/index.php/kinesiology/article/view/10765
https://doi.org/10.26582/k.52.2.15

Neagu, N. (2010). *Teoria și practica activității motrice umane.* Editura University Press.

Paccaud, A., Keller, R., Luder, R., Pastore, G., & Kunz, A. (2021). Satisfaction with the Collaboration between Families and Schools—The Parent's View. *Frontier in Education, 6,* Article ID: 646878. https://doi.org/10.3389/feduc.2021.646878
https://www.frontiersin.org/articles/10.3389/feduc.2021.646878/full

Pedišić, Z., Dumuid, D., & Olds, T. (2017). Integrating Sleep, Sedentary Behaviour and Physical Activity Research in the Emerging Field of Time-Use Epidemiology; Definition, Concepts, Statistical Methods, Theoretical Framework and Future Directions. *Kinesiology, 49,* 252-269.
https://hrcak.srce.hr/ojs/index.php/kinesiology/article/view/5401

Pop, R. M., & Grosu, E, F. (2022). Physical Activity of Middle School Students from Cluj-Napoca during the Covid-19 Pandemic. *Revista Românească Pentru Educație Multidimensională, 14,* 524-537. https://doi.org/10.18662/rrem/14.4/655

Richardson, D. (2008). *Infant & Toddler Development, Part 5: Early Brain Development, Learning, & Mental Health, Oklahoma Cooperative Extension Service Core In-Service November*. https://dokumen.tips/documents/infant-toddler-development-part-5-early-brain-development-learning-mental.html?page=5

Șchiopu, U., & Varză, E. (1997). *Psihologia vârstelor-ciclurile vieți Ediția a III—A revizuită.* Editura didactică și pedagogic.

Schmidt, F. (2012). *Culegere de jocuri de motricitate-Aspecte teoretice și practice*. Vasile Goldiș University Press, Arad.

Shernoff, D. J. (2010). *Engagement in After-School Programs as a Predictor of Social Competence and Academic Performance*. Wiley Online Library. https://doi.org/10.1007/s10464-010-9314-0

Sorensen, M., Roberts, G., & Farholm, A. (2021). Motivational Climate in the Home: Implications for Physical Activity, Psychosocial Outcomes and Family Relations. *International Journal of Sport Psychology, 52,* 71-89. http://www.ijsp-online.com/download/52/int.j.sport.psychol.2021.52.71-89.pdf

Tudor, V. (2005). *Măsurare și evaluare în cultură fizică și sport*. Editura Alpha, București la. https://www.academia.edu/9278632/M%C4%82SURARE_%C5%9EI_EVALUARE_%C3%8EN_CULTUR%C4%82_FIZIC%C4%82_%C5%9EI_SPORT

Vandell, D. L., Simpkins, S. D., & Liu, Y. (2020). From Early Care and Education to Adult Problem Behaviors: A Prevention Pathway through After-School Organized Activities. *Development and Psychopathology, 33,* 658-669. https://www.cambridge.org/core/journals/development-and-psychopathology/article/from-early-care-and-education-to-adult-problem-behaviors-a-prevention-pathway-through-afterschool-organized-activities/71AC59B2D00E399B53EBA19F39A3C598

Wikman, J. M., Elsborg, P., Nielsen, G., Seidelin, K., Nyberg, M., Bangsbo, J., Hellsten, Y., & Elbe, A. (2018). Are Team Sport Games More Motivating than Individual Exercises for Middle-Aged Women? A Comparison of Level of Motivation Associated with Participating in Floorball and Spinning. *Journal Kinesiology, 50,* 34-42. https://saxo.ku.dk/ansatte/?pure=en%2Fpublications%2Fare-team-sport-games-more-motivating-than-individual-exercise-for-middleaged-women-a-comparison-of-levels-of-motivation-associated-with-participating-in-floorball-and-spinning(24c5f186-0973-4718-b3e6-6b3cde3ec08f)%2Fexport.html

Xu, F., Xu, J., Zhou, D., & Xie, H. (2022). A Bibliometric and Visualization Analysis of Motor Learning in Preschoolers and Children over the Last 15 Years. *Journal Healthcare, 10,* 1415. https://doi.org/10.3390/healthcare10081415