

# EXTRACURRICULAR SPORT ACTIVITIES AND THEIR IMPORTANCE IN CHILDREN SOCIALIZATION AND INTEGRATION PROCESS

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## ABSTRACT

The importance of sports activities nowadays is showing their effects on the future development of children, extracurricular activities come in the help of the physical education teacher with benefits on children's development. Our study focuses on revealing the importance of extracurricular sports activities in the process of children's socialization and integration. The research sample was formed from two different groups, the experimental group was formed by 25 students (age  $10 \pm 2.1$  years, 13 boys, and 12 girls), that practiced 2 hours a week physical education and other 2 hours a week extracurricular activities like basketball and volleyball; and the sample group formed by 24 students (age  $10 \pm 1.8$  years, 12 boys and 12 girls), that practiced 2 hours a week classic physical education. The results showed us that extracurricular activities have a good impact on children's socialization and integration, the experimental group improved their coefficient of group cohesion from 0.04 at the initial testing to 0.06 at the final test, and the index of cohesion from 0.02 at the initial test to 0.05 at the final testing. Significant differences were found within the experimental group both at the initial and in the final tests ( $p < 0.05$ ), also significant differences were discovered between the experimental and the sample group in the final measurement ( $p < 0.05$ ). Conclusions of this research presented that the experimental group had good improvements of cohesion and social integration of children, showing that extracurricular sport activities have a positive impact on improving socialization, developing cohesion and integrate the marginalized children in the social group.

## KEYWORDS:

Socialization, extracurricular activities, cohesion, social integration process

## 1. Introduction

The systematic and regular practice of sports activities contributes to eliminating or reducing some deficiencies related to the somatic profile at the functional level of the body, supporting motivation for moving, controlling emotions, stress reduction, planning and organizing the work and leisure time activities, development of relationships, intra-group communication, and socialization improvement. Socialization through sport is a process of social integration through communication, understanding, and cooperation, an interactive role for conflict resolution. Therefore, it is structured on cognitive constructions, affective, and motivational, as well as representation, behaviours and performance of sports groups (Sopa & Pomohaci, 2014c).

Also, sports activities develop communication, intergroup relationships, and group cohesion. We can demonstrate that motor activities can develop group cohesion positive intergroup relationships development, the discovery of group leader and most importantly integrate and reintegrate children into the social group. Group cohesion is very important in the evolution of school performance as a group, therefore in groups where we can find positive relationships as sympathy, friendships and cooperation the work efficiency is greater (Sopa & Pomohaci, 2014a).

Related to physical education and its effects on socialization and cohesion, of the groups, experts say the following: physical education can also improve the cohesion of groups having a good cohesion of the group is considered important and may lead to better performance of the group. The relationship between cohesion and performance has been studied by many researchers, the majority concluded that "the connection between performance and cohesion is mutual (Sopa & Pomohaci,

2014b). Also, successful groups and teams are built around strong leaders and the importance of this role is growing in nowadays sport in all categories (Sopa & Pomohaci, 2015a).

Another important contribution of the motor activities is their socializing role, demonstrated by many researchers from different fields saying that these activities represent the perfect framework in the social development of young people (Sopa & Pomohaci, 2014e).

Many skills are learned by young people with the help of team sports, one of these is even the competition. Nowadays we meet competition every day and in every area. As adults we meet competition when looking for a job or trying to find better jobs, students meet competition for better grades (Sopa & Pomohaci, 2015b).

Situational factors are important for the cohesion of the group like living close to each another, sharing the same hobbies and activities, the same uniforms or clothing, group rituals etc. (Sopa & Szabo, 2014).

Besides family, the first and most important social group, other groups contribute to the socialization of individuals: schoolmates, friends group and later professional staff. One of the ways that socialization within the group of friends or colleagues is performed is sports. Individuals learn through sport to work together, to assume certain roles within the group and to define themselves within the group (Sopa, 2014).

Socialization through sport is a complex process in which individuals learn skills, attitudes, values and ways of behaviour that allows functioning in a particular culture. These modes of behaviour are learned in institutions like school or family (Sopa & Pomohaci, 2014d)

An overview of various aspects of socialization in sport is presented to us by the specialist Epuran M.:

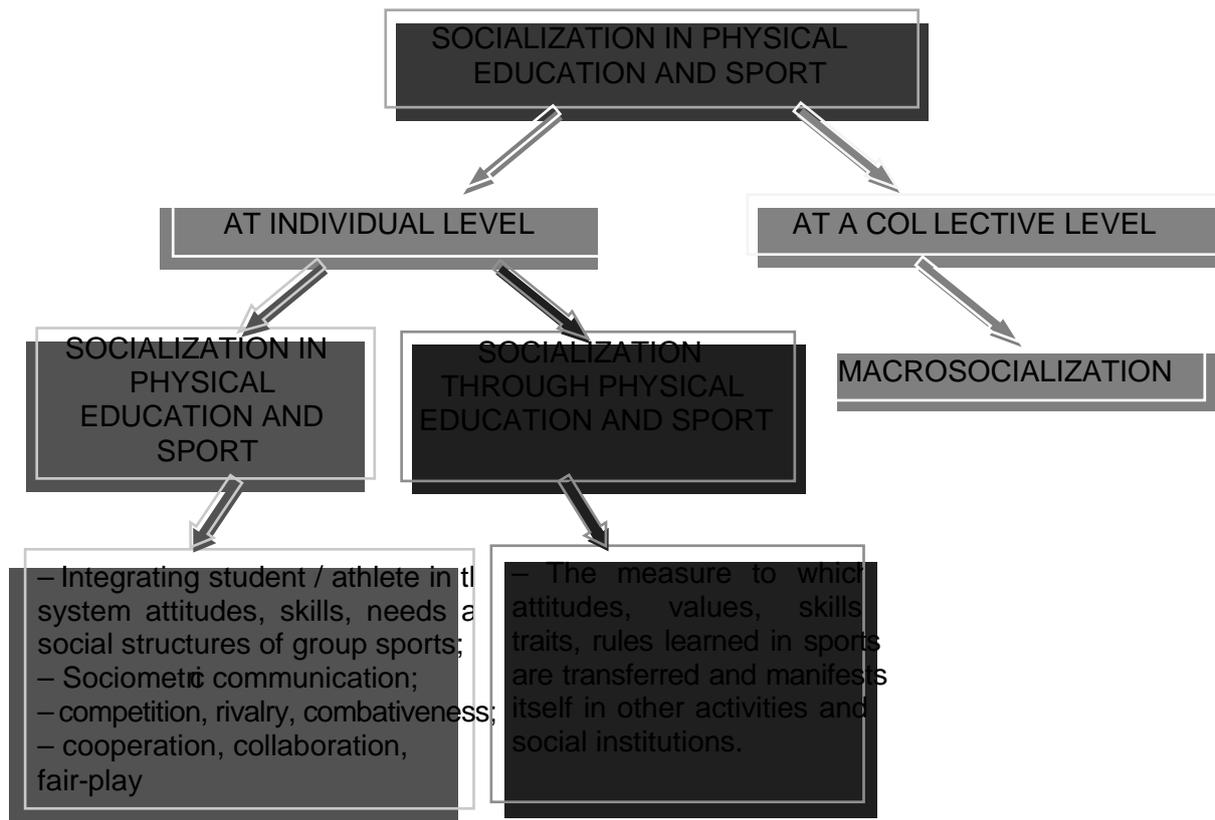


Figure no. 1 Socialization, aspects of socialisation process in motor activities (after Epuran, 1998)

So we find that physical exercise adjacent to the physical benefits have strong influences on the psychological and social sphere over the practitioners, and we remark the following benefits: improving emotional stability, development of moral values, development of interpersonal relationships, acquiring a right self-image. In conclusion, we can say that the practice of motor activities lead to favouring social integration of the practitioners at the following levels (Dragnea, 2000):

- Physical integration of the participants through conscious and active participation in motor activities, conditioned by a state of health;
- Functional integration that involves engaging in the activity, to achieve this goal one must have a good level of physical development, in order to cope with the specific request;
- Social integration that requires the individual to be able to assume a certain status and role.

Seen as a social institution, sport has its own base in society, it has rules, laws specific ways of sanctioning, binding friendships (both social and cultural) and communication systems, principles and ideologies (Sopa & Pomohaci, 2014f).

The categories of factors that influence the socialization process and their specifics in the motor activities.

The socialization process is influenced by the existence of three broad categories of factors that lead to learning the social role

- Socialization agents: family members, peers, teachers, sports coaches;
- Social situations: motor activities, lessons, sports games;
- Personal attributes: attitudes, skills;

Conscious and active involvement of the motor activities practitioners leads to socialization through sport, which is conditioned by three main factors:

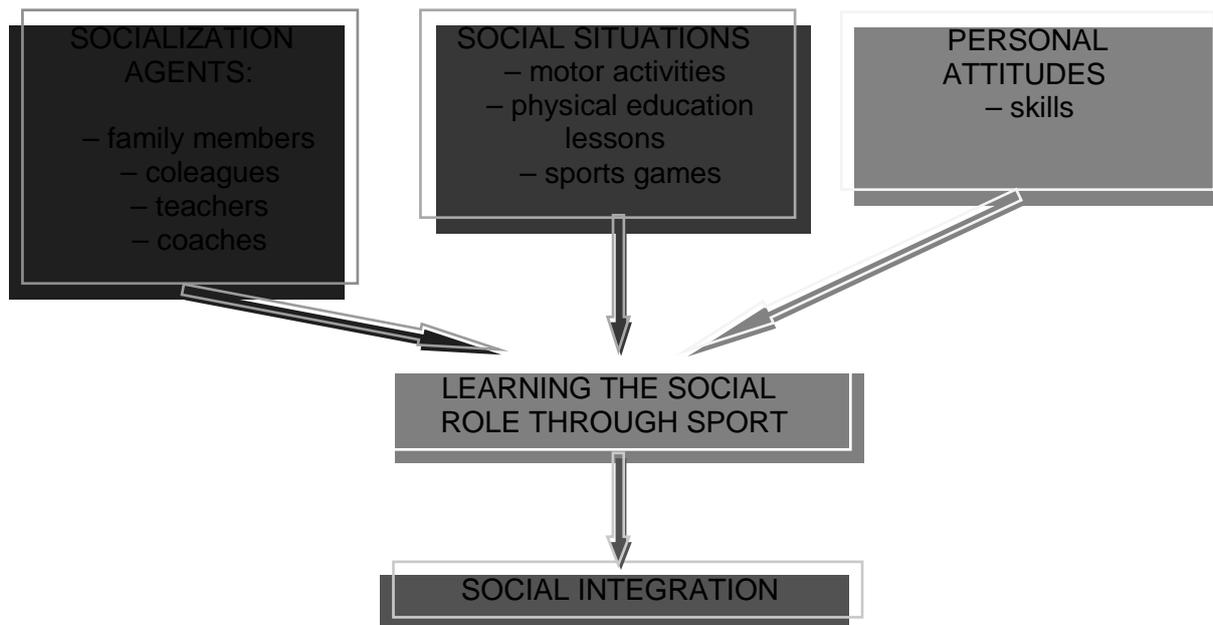


Figure no. 2 Factors of the socialization process (after Haywood, 2001)

Scientific studies have shown that social group has a large influence on the practice of team sports at an early age, after finishing junior level or studies lots of individuals are leaving the sports domain remaining in contact with the sports group that he was a part.

The sociologist Morgan and his collaborators concluded that physical exercise made within the motor activities have a real contribution adjacent to the physical part, in the affective and emotional development of the practitioners and Sonstroem associates sports with the ability to self-improve and facilitation of social contacts.

Starting from the definition of sport that says "lucid competition determined with certainty pleasure, but above all moral developing through training the body, helping to shape a healthy lifestyle" continuing later with another definition that "the game that compels the individual to a triple struggle: against himself, against other individuals and fighting nature, under precise rules and conventional obligations sports activities were highlighted different aspects that contribute in describing the phenomenon.

Therefore, most experts believe that sports represent the leisure activity which dominant characteristic is exercise, practiced in a competitive manner, entailing specific rules and institutions and susceptible to transform into professional activity".

## 2. Objectives

Structuring a strategy for action to improve the situations and restore a collegial environment by promoting optimal motor systems that require teamwork from the motor activities content the race or game type in a pedagogical experiment.

Increasing school group cohesion by promoting collaborative relationships to develop common teaching motor type loads.

## 3. Materials and Methods

Research methods used in the experimental research, in order to develop the entire theoretical, practical and experimental approach, we used specific scientific research methods unanimously known in our field: bibliographic study, observation method, sociometric survey method.

#### 4. The Research Hypothesis

The structure of the group of students can highlight the existence of a bivalent relationship between the development of motor capacity and the degree of social inclusion at primary school children.

#### 5. Research Sample

The research subjects are from the Secondary School Nr. 179 in Sector 1, Bucharest, representing two Classes of IV present in the school in the 2015-2016 school year.

We divided the two classes in: an experiment group (Class IV A or Group A) and a control group (Class IV B or Group B).

The experiment group A was formed by:

– 25 students with the age between 10 and 12 years old, 13 boys and 12 girls;

The control group B was formed by:  
– 25 students with the age between 10 and 12 years old, 13 boys and 11 girls.

Table no. 1

*The distribution of the experimental and control group*

Group	Number of children		Age	Experiment/Control
	Girls	Boys		
A	12	13	10 ± 1.2 years	experiment group
B	11	14	10 ± 1.5 years	control group

Figure no. 3 The distribution of research samples on sex

Extracurricular activities at the experimental group

The control group performed two hours of physical education a week in which we followed the classic physical education and sports program. Instead, at the experiment group adjacent to the classic two hours of physical education and sport in the program, we used training programs with playful and agonistic games, with dynamic games, races, applicative trails, we also included two hours of playing team

sports, boys basketball and girls volleyball, this group also participated in numerous cups and school competitions.

Training programs with agonistic and playful specific, included:

– Dynamic games for developing motor skills or for developing basic and specific motor skills;

– Relays and sports competitions that followed the correct and harmonious development;

– Applicative trails on teams following the physical and basic motor skills development;

– Team sports which aimed to develop team spirit and improve group cohesion.

The training programs followed primarily to develop motor skills and basic and specific skills, and especially to develop teamwork, socialization, communication, and cooperation, successfully expressing formative – educational values – of the motor activities.

## 6. Results

Presentation of the results of the sociometric test applied to the research samples

### *“Spending free time with colleagues” criterion*

A (+) With which one of your colleagues do you want to spend your free time?

B (-) With which one of your colleagues do you want to spend less your free time?

Experiment group – criterion A (+) and B (-) „Spending free time with colleagues”

Table no. 2

### *The elections and rejections at the “spending free time with colleagues” criterion Experiment group*

INITIAL TEST							FINAL TEST						
Subjects	+3	+2	+1	-3	-2	-1	Subjects	+3	+2	+1	-3	-2	-1
BM (1)	11	19	13	20	7	5	BM (1)	19	11	13	7	5	20
BC (2)	11	8	17	9	12	6	BC (2)	11	17	8	12	6	9
BS (3)	17	7	5	14	19	20	BS (3)	5	7	17	20	15	19
CI (4)	20	19	11	17	3	2	CI (4)	19	11	7	2	3	17
CN (5)	4	7	6	10	9	11	CN (5)	4	6	7	10	9	11
CR (6)	9	15	18	4	14	13	CR (6)	18	15	9	4	13	14
DA (7)	9	6	4	20	19	10	DA (7)	4	6	3	20	10	19
FC (8)	14	15	4	17	5	7	FC (8)	14	5	15	17	11	6
GM (9)	6	15	20	17	7	3	GM (9)	13	15	20	3	12	7
IA (10)	11	12	19	20	2	17	IA (10)	12	11	19	20	2	17
IS (11)	20	13	19	3	17	7	IS (11)	20	13	19	16	1	4
ID (12)	11	1	20	5	17	7	ID (12)	11	21	5	17	14	7
LL (13)	11	9	6	7	5	20	LL (13)	9	11	6	20	7	2
MI (14)	8	20	11	5	17	3	MI (14)	8	7	20	3	5	17
MC (15)	9	6	14	17	3	5	MC (15)	9	14	6	3	17	5
MA (16)	13	11	18	7	17	19	MA (16)	11	2	18	17	7	19
PN (17)	13	19	4	3	7	11	PN (17)	11	13	19	3	7	4
SM (18)	13	16	11	4	14	20	SM (18)	7	16	13	14	4	20
SA (19)	20	1	12	18	3	7	SA (19)	20	12	11	3	7	18
SE (20)	11	19	13	5	17	3	SE (20)	11	9	19	3	5	17
SS (21)	22	24	25	3	5	7	SS (21)	11	22	25	7	5	17
TA (22)	23	24	25	5	7	3	TA (22)	23	7	13	3	7	17
TD (23)	1	11	13	3	7	5	TD (23)	10	22	25	24	14	15
VA (24)	13	11	1	7	3	5	VA (24)	25	14	16	18	8	22
VO (25)	11	1	13	5	7	3	VO (25)	24	1	11	15	21	23

The first step in analysing the results of the sociometric test was to build the election and rejection cast table (Table 2), in which we placed the answers of the students at the criterion A (+) and B) (“With which one of your colleagues do you want to spend your free time?” and “With which one of your colleagues do you want to spend less your free time”, from the research sample depending on everyone’s options.

Table no. 2 contains the students answers from the experimental group at the first test, initial test, and at the second test,

final test, that was done before the experiment group trained with the special programs that included mainly ludic and agonistic training systems.

On the first column we placed every student in the alphabetic order, putting them just the initials of the name and giving them a number in brackets, on the following columns we placed the students options depending on the order in which they were elected or rejected (the order being from +3, the first chosen, then +2 and +1, followed by the ones rejected -3, -2, -1)

Table no. 3

*The Social Status Index (I<sub>ss</sub>) and the Preferential Status Index (I<sub>sp</sub>) at the A (+) B(-) “spending free time with colleagues” criterion – at the Experiment Group*

INITIAL TEST			FINAL TEST		
Subjects	I <sub>ss</sub> (1)	I <sub>sp</sub> (2)	Subjects	I <sub>ss</sub> (1)	I <sub>sp</sub> (2)
BM (1)	5/25 = 0,20	5/25 = 0,20	BM (1)	1/25 = 0,04	0
BC (2)	0	-2/25 = -0,08	BC (2)	1/25 = 0,04	-3/25 = -0,12
BS (3)	0	-13/25 = -0,52	BS (3)	0	-7/25 = -0,28
CI (4)	4/25 = 0,16	2/25 = 0,08	CI (4)	1/25 = 0,04	-1/25 = -0,04
CN (5)	1/25 = 0,04	-11/25 = -0,44	CN (5)	3/25 = 0,12	-2/25 = -0,08
CR (6)	5/25 = 0,20	4/25 = 0,16	CR (6)	4/25 = 0,16	-4/25 = -0,16
DA (7)	2/25 = 0,08	-12/25 = -0,48	DA (7)	6/25 = 0,24	-3/25 = -0,12
FC (8)	2/25 = 0,08	2/25 = 0,08	FC (8)	2/25 = 0,08	-1/25 = -0,04
GM (9)	4/25 = 0,16	2/25 = 0,08	GM (9)	5/25 = 0,20	-3/25 = -0,12
IA (10)	0	-2/25 = -0,08	IA (10)	1/25 = 0,04	-2/25 = -0,08
IS (11)	13/25 = 0,52	11/25 = 0,44	IS (11)	10/25 = 0,40	9/25 = 0,36
ID (12)	2/25 = 0,08	1/25 = 0,04	ID (12)	2/25 = 0,08	0
LL (13)	9/25 = 0,36	8/25 = 0,32	LL (13)	8/25 = 0,32	7/25 = 0,28
MI (14)	2/25 = 0,08	-1/25 = -0,04	MI (14)	3/25 = 0,12	-1/25 = -0,04
MC (15)	3/25 = 0,12	3/25 = 0,12	MC (15)	3/25 = 0,12	0
MA (16)	1/25 = 0,04	1/25 = 0,04	MA (16)	2/25 = 0,08	1/25 = 0,04
PN (17)	2/25 = 0,08	-10/25 = -0,40	PN (17)	2/25 = 0,08	-8/25 = -0,32
SM (18)	2/25 = 0,08	1/25 = 0,04	SM (18)	2/25 = 0,08	0
SA (19)	6/25 = 0,24	3/25 = 0,12	SA (19)	6/25 = 0,24	3/25 = 0,12
SE (20)	6/25 = 0,24	0	SE (20)	4/25 = 0,16	-2/25 = -0,08
SS (21)	0	0	SS (21)	1/25 = 0,04	-1/25 = -0,04
TA (22)	1/25 = 0,04	1/25 = 0,04	TA (22)	2/25 = 0,08	1/25 = 0,04
TD (23)	1/25 = 0,04	1/25 = 0,04	TD (23)	1/25 = 0,04	0
VA (24)	2/25 = 0,08	2/25 = 0,08	VA (24)	1/25 = 0,04	0
VO (25)	2/25 = 0,08	2/25 = 0,08	VO (25)	2/25 = 0,08	2/25 = 0,08

After preparing the table of elections and rejections (Table no. 2), we prepared a second table (Table no. 3), in which we

calculated the index of social status (I<sub>ss</sub>), which shows the position of each student in the group and the acceptability in a group,

and the preferential status Index (Isp), according to the formulas above mentioned (1) and (2).

At the first testing, in the Index of social status case (Iss), we noticed that the subject IS (11) obtained the best results with an index of social status of 0.52, being the most appreciated between colleagues, (13) with 0.32 and CR (6) with 0.16 points. also good scores obtained students LL (13) with 0.36 index, SA (19) and (20) with 0.24 points, so we can say that if they were to spend free time likely the majority of colleagues would choose those four colleagues, on the other hand, students who were not elected by anyone in the group with poor results were BC (2), BS (3), IA (10) and SS (21), this doesn't mean that they are rejected they have a less important role in the development of the group.

Regarding the Preferential Status Index (Isp), at the criterion A and B “spending free time with colleagues” at the first test (T1 –initial testing in 2015) we find that among the preferred students at the first test the leader was IS (11) with a score of 0.44 points, seconded by LL (13) with 0.32 and CR (6) with 0.16 points. At the opposite part regarding the preferential status, students that were rejected by the collectively were: BS (3) with a score of –0.52, DA (7) of –0.48 and also CN (5) with –0.44.

The control group – criterion A (+) and B (–) “spending free time with colleagues”– Initial test

Table no. 4

***The elections and rejections at the “spending free time with colleagues” criterion – Control group***

INITIAL TEST							FINAL TEST						
Subjects	+3	+2	+1	-3	-2	-1	Subjects	+3	+2	+1	-3	-2	-1
AI (1)	20	12	11	9	13	6	AI (1)	20	15	12	6	9	13
AN (2)	14	5	18	17	20	16	AN (2)	18	5	14	20	11	16
BA (3)	16	7	2	4	6	8	BA (3)	23	15	16	6	8	24
CM (4)	5	12	13	19	11	9	CM (4)	12	5	16	11	24	19
CS (5)	2	24	25	8	17	4	CS (5)	2	10	21	4	6	17
DI (6)	21	12	5	11	4	13	DI (6)	11	12	5	4	23	13
DO (7)	16	10	2	18	13	1	DO (7)	2	16	20	1	4	18
DT (8)	12	4	16	6	19	14	DT (8)	16	4	15	24	14	6
FA (9)	2	5	14	22	4	13	FA (9)	5	15	2	4	13	22
FD (10)	15	5	20	9	1	6	FD (10)	20	6	16	9	7	1
FM (11)	14	8	2	13	6	4	FM (11)	22	2	14	13	18	6
GI (12)	21	23	14	1	19	13	GI (12)	2	14	23	13	1	19
GN (13)	2	5	17	9	6	11	GN (13)	15	2	5	10	9	17
IA (14)	16	12	2	6	8	9	IA (14)	12	2	9	16	6	8
ID (15)	8	20	12	4	6	17	ID (15)	3	19	4	8	13	24
IM (16)	8	20	3	9	2	1	IM (16)	8	19	10	1	20	2
MM (17)	15	2	14	18	19	4	MM (17)	2	12	15	4	19	18
MN (18)	2	21	17	11	7	6	MN (18)	2	20	23	6	7	24
NI (19)	14	1	2	4	9	17	NI (19)	2	14	1	4	16	9
OP (20)	16	18	21	2	4	1	OP (20)	21	7	18	8	2	9
SI (21)	2	20	4	17	13	8	SI (21)	7	20	2	13	17	8
ST (22)	21	12	6	1	9	4	ST (22)	25	12	6	1	4	9
TA (23)	12	5	1	8	20	17	TA (23)	5	19	12	8	17	20
TI (24)	5	9	20	13	11	1	TI (24)	20	5	9	1	13	11
TM (25)	3	15	18	8	23	1	TM (25)	3	21	10	4	7	18

In Table no. 4 we can see the students a number in brackets, on the following responses from the control group at the columns we placed the students options initial and final test at criterion A (+) and (B) depending on the order in which they were “spending free time with colleagues”. elected or rejected (the order being from +3, the first chosen then +2 and +1, followed by the ones rejected -3, -2, -1)

On the first column we placed every student in the alphabetic order, putting them just the initials of the name and giving them

Table no. 5

***The Social Status Index (Iss) and the Preferential Status Index (Isp) at the A (+) B(-) “spending free time with colleagues” criterion – at the Control group***

INITIAL TEST			FINAL TEST		
Subjects	Iss (1)	Isp (2)	Subjects	Iss (1)	Isp (2)
AI (1)	2/25 = 0.08	-6/25 = -0.24	AI (1)	1/25 = 0.04	-5/25 = -0.20
AN (2)	11/25 = 0.44	9/25 = 0.36	AN (2)	12/25 = 0.48	10/25 = 0.40
BA (3)	2/25 = 0.08	2/25 = 0.08	BA (3)	2/25 = 0.08	2/25 = 0.08
CM (4)	2/25 = 0.08	-7/25 = -0.28	CM (4)	2/25 = 0.08	-6/25 = -0.24
CS (5)	8/25 = 0.32	8/25 = 0.32	CS (5)	7/25 = 0.28	7/25 = 0.28
DI (6)	1/25 = 0.04	-8/25 = -0.32	DI (6)	2/25 = 0.08	-5/25 = -0.20
DO (7)	1/25 = 0.04	0	DO (7)	2/25 = 0.08	-1/25 = -0.04
DT (8)	3/25 = 0.12	-3/25 = -0.12	DT (8)	1/25 = 0.04	-5/25 = -0.20
FA (9)	1/25 = 0.04	-7/25 = -0.28	FA (9)	2/25 = 0.08	-4/25 = -0.16
FD (10)	1/25 = 0.04	1/25 = 0.04	FD (10)	3/25 = 0.12	2/25 = 0.08
FM (11)	1/25 = 0.04	-4/25 = -0.16	FM (11)	1/25 = 0.04	-2/25 = -0.08
GI (12)	8/25 = 0.32	8/25 = 0.32	GI (12)	7/25 = 0.28	7/25 = 0.28
GN (13)	1/25 = 0.04	-7/25 = -0.28	GN (13)	0	-8/25 = -0.32
IA (14)	6/25 = 0.24	5/25 = 0.20	IA (14)	4/25 = 0.16	3/25 = 0.12
ID (15)	3/25 = 0.12	3/25 = 0.12	ID (15)	6/25 = 0.24	6/25 = 0.24
IM (16)	5/25 = 0.20	4/25 = 0.16	IM (16)	5/25 = 0.20	2/25 = -0.08
MM (17)	2/25 = 0.08	-5/25 = -0.20	MM (17)	0	-4/25 = -0.16
MN (18)	3/25 = 0.12	2/25 = 0.08	MN (18)	2/25 = 0.08	-2/25 = -0.08
NI (19)	0	-4/25 = -0.16	NI (19)	3/25 = 0.12	0
OP (20)	6/25 = 0.24	4/25 = 0.16	OP (20)	6/25 = 0.24	3/25 = 0.12
SI (21)	5/25 = 0.20	5/25 = 0.20	SI (21)	3/25 = 0.12	3/25 = 0.12
ST (22)	0	-1/25 = -0.04	ST (22)	1/25 = 0.04	0
TA (23)	1/25 = 0.04	0	TA (23)	3/25 = 0.12	2/25 = 0.08
TI (24)	1/25 = 0.04	1/25 = 0.04	TI (24)	0	-5/25 = -0.20
TM (25)	1/25 = 0.04	1/25 = 0.04	TM (25)	1/25 = 0.04	0

Next step was calculating the Social Status Index (Iss) and Preferential Status Index (Isp) at the control group at initial and final testing. So in Table no. 5, on the first column we calculated the Social Status Index (Iss) with the formula (1). The calculation showed that student AN (2) had the biggest social status index of 0.44 being the leader of the group, also good scores had students CS (5) and GI (12) with an index of 0.32 and IA (14) and OP (20) with 0.24 points. At the other pole, students NI (19) and ST (22) were not elected by any of the colleagues.

Regarding the Preferential Status Index (Isp), calculated with the formula (2), we found that the most preferred student from the control group, at the initial test

was AN (2) with an index of 0.36, at their free time. The least preferred students second place student CS (5) and GI (12) from the control group at the initial test with an index of 0.32 being the leaders of the group or the students with which the majority of the colleagues would spend with an index of -0.28.

The election and rejection sociogram at the criterion A (+) and B (-) "spending free time with colleagues", The experiment group

INITIAL TEST	FINAL TEST

Figure no. 4 The sociogram of elections and rejections at the criterion A (+) and B (-) "spending free time with the colleagues", the experiment group

After presenting the data and the mathematical calculation of the social status index and the preferential status index, we chose to present graphically the dynamics regarding the indicator of spending free time with colleagues at the initial testing at the experiment and control group. We placed the students on the "orbit" starting from the centre the elected students, then the rejected or isolated, increasingly distant from the centre. We also represented graphically the mutual elections (in blue) and rejections (with red) expressed in the group.

Therefore at the initial testing, in the experimental group, we can see that subjects IS (11), LL (13), SE (19), CR (6) are in the middle of the attention being appreciated as leaders, children wanting to

spend their free time in their company, while isolated students are on the last rows BC (3), PN (17), A (10).

Calculating the Cohesion Index at the criterion A (+) and B (-) "spending free time with colleagues", the experiment group – Initial Test:

In the next stage we counted the mutual elections and mutual rejection resulting the following:

Mutual elections at the Experiment group – at the Initial Test = 9

1 – 19 6 – 9 6 – 15 8 – 14 9 – 15  
11 – 13 11 – 20 16 – 18 19 – 20

Mutual rejections at the Experiment group – at the Initial Test = 5

3 – 14 3 – 19 3 – 20 7 – 19 11 – 17

The cohesion coefficient at the Experiment Group at the Initial Test:

We calculated then one of the most important index, the cohesion index and the cohesion coefficient, which express mathematic how cohesive and united is the group regarding the chosen criterion.

$$C_c = \frac{2 * \sum A_R}{N(N-1)} = 0.03$$

The cohesion index of the experiment group at the initial testing:

$$I_c = \frac{2 * (\sum A_R - \sum R_R)}{N(N-1)} = 0.01$$

So we can say that as conclusions from the analysis of the first criterion at the sociometric test applied to the experiment

group at the initial testing, that the effective of students, having some disagreements and mutual rejection, are groups poorly cohesive, partially united despite having numerous isolated individuals or rejected we can find plenty of choice and mutual relations and cooperation. At first look we can say that the leaders of the experimental group are: IS (11), LL (13) and CR (6), they manage to gather with them most of his colleagues, with many mutual elections, and we can say that chosen as formal leaders these students have a big influence on other group members, communication, and socialization takes place around them.

The experiment group recorded a 0.03 coefficient of cohesion and a 0.01 cohesion index, with a number of mutual elections and 5 mutual rejections, the group being weak cohesive group.

The election and rejection sociogram at the criterion A (+) and B ( ) “spending free time with colleagues”, the control group

INITIAL TEST	FINAL TEST

Figure no. 5 The sociogram of elections and rejections at the criterion A (+) and B ( ) “spending free time with the colleagues”, the control group

Regarding the control group, at the initial testing, we can observe that students AN (2), CS (5), GI (12), are placed on the centre of the graphic representation being the leaders of the group and the most preferred for spending free time. At the

other pole, on the last rows at the ranking we find students DI (6), CM (4), FA (9), GN (13).

Calculating the Cohesion Index at the criterion A (+) and B (-) "spending free time with colleagues", the control group – Initial Test:

In the next stage we count the mutual elections and mutual rejections resulting the following:

Mutual elections at the control group – initial testing = 10

2 – 5	2 – 14	2 – 18	5 – 10	5
– 24	8 – 16	12 – 14	12 – 23	18 –
20	20 – 21			

Mutual rejections at the control group – initial testing = 8

2 – 20	2 – 16	4 – 19	4 – 10
7 – 18	8 – 14	9 – 13	9 – 22

The cohesion coefficient at the Control Group at the Initial Test:

We calculated then one of the most important index, the cohesion index and the cohesion coefficient, which express mathematic how cohesive and united is the group regarding the chosen criterion.

$$C_c = \frac{2 * \sum A_R}{N(N-1)} = 0.03$$

The cohesion index of the Control Group – Initial Test

$$I_c = \frac{2 * (\sum A_R - \sum R_R)}{N(N-1)} = 0.01$$

Regarding the control group, the leaders of the group were NA(2), CS (5), GI (12), being chosen by the majority of the colleagues. The number of the mutual elections and rejections in the control group was of 10 mutual elections and 8 mutual rejections.

Figure no. 6 The mutual elections and mutual rejections regarding the criterion A (+) and B (-) "spending free time with colleagues", at the experiment group and the control group initial testing

The two groups, the experiment and control group, had registered the same coefficient of cohesion of 0.03 and the same index of cohesion 0.01, although the number of mutual elections and mutual rejection from the group was bigger at the control group, 10 mutual elections and 8 mutual rejections, comparing with 9 mutual elections and 5 mutual rejections at the experiment group. We can say that both groups have the same degree of cohesion at the beginning of the experiment regarding the criterion of spending free time with colleagues.

## 7. Conclusions

At the criterion A (+) and B -) "spending free time with colleagues at the experiment group, we see an increase in the coefficient of cohesion of the group from 0.03 at the initial testing, to 0.05 in the final testing and also an increase of the mutual elections, in the first test 9, and in the second test 16 mutual elections, and regarding the mutual rejections we managed to reduce them from five rejections in the first test, to 4 rejection in the second test.

In terms of group cohesion index at the initial testing, we recorded a value of 0.01, so that at the final testing to grow at a rate of 0.04. The leaders of the group were students IS (11), LL (13), CR (6), which managed to raise with them most of their colleagues, with many mutual elections, they were elected as formal leaders, these students have a big influence to the other group members. So we can confirm the hypothesis and say that training programs had positive effects on the experiment group.

In comparison, in the control group, we obtained a coefficient of cohesion, at the initial testing, of 0.03, and at the final testing, we obtained a coefficient of 0.04. Regarding the index of group cohesion, at the control group, we recorded the same values both at the initial testing and the final, an index of 0.01. Thus we can conclude that training programs were more effective than the traditional teaching methods in the experimental group, the group cohesion coefficients were better from a test to another indicating their desire to spend more time together.

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