Effects of Motivation on the Learning Activity

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Abstract: A concept with a broad resonance in the history of human behavior, motivation expresses the fact that “the basis of human behavior – either by knowledge or by practice and actions – is always a set of incentives – needs, attractions, emotions, actions, deeds, attitudes”. A product of the encounter between the biologic and the social, motivation operates as a dynamic and plastic system providing the social-adaptive program of the subject. Genetically, this program exists in primal forms and at pre-human levels. By learning and education, some of these mechanisms are enhanced and reconstructed, others are suspended and therefore, at a certain level of subject’s development, they bear the mark of high subjectivity, uniqueness and originality. Having relative autonomy, these are capable to mobilize, to interrupt, to actively transform the external causes, to mediate the infinite variability of the relationships of human with the environment, with him/herself and to provide the energy and the constellation of meanings which he or she gives to reality. The general objective of this study is to investigate the motivation of pre-university students from the perspective of self/determination. Since this perspective is very broad, we focused only on the analysis of the relationship between the evaluation (self-evaluation) of school related tasks and the types of motivation (according to a specific typology). The emphasis will be on the intrinsic motivation taking also into account the debates in recent times according to which we are witnessing a constant decrease of this type of motivation.

Keywords: *motivation; extrinsic motivation; intrinsic motivation; amotivation; evaluation.*

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Introduction

The meanings of the term “to be motivated for learning” correlates and expresses at behavioral level a present stimulant, mobilizing and directed disposition in order to achieve some goals. We are talking about those stimulating elements that often the educators call them desires. It is logical to accept the idea that on such motivational routes, the student will be very much involved in the learning tasks, he/she will be inclined towards finalities that are aware to him/her in a great extent. He/she transfers in learning, relatively and constantly for a certain period of time, his/her cognitive potential, affective and cognitive-actional states, life experience etc.

Together with motivation, engagement is viewed in the literature as very important for enhanced learning outcomes of all students (Woolfolk & Margetts, 2007). Motivation is seen as a pre-requisite of and a necessary element for student engagement in learning. Student engagement in learning is not only an end in itself but it is also a means to the end of students achieving sound academic outcomes. This is important because authentic engagement may lead to higher academic achievement throughout student life (Zyngier, 2008). If educators want to know and resolve the young students’ issues and to make schools engaging places, then they actually have to listen to what students are saying about their classes and teachers (Mitra, & Serriere, 2012).

On the other extreme, the state of “not being motivated for learning” is identifiable by the absence of “absorption”, by passivity, inactivity, very slow focus in relation to a learning task, lack of spontaneity and even anxiety moods. The subjective transposition of the student in the designed action is full of reluctance and, therefore, without the desired performance.

To really research educational motivations means to capture not only the internal or external incentive triggering desire, an attraction, an immediate interest of learning, but mainly the mobilization and driving character of the psychic potential in solving or adapting to the finalities of education as well as the involvement, organizational and internal self-regulation character of the student’s personality.

Researchers (Dunn, 1984; Guo, 1987; Hassard, 1992; Herrmann, 1990; Riding & Rayner, 1998) show individual’s learning style would influence his/her perception of the learning environment, interaction, responsive ability and achievement. Therefore, students with different learning styles might need different instructional approaches to help them become scientifically literate people.

Motivation is one of the most psychological topics of this science. It constitutes the very nature of what psychology is about — namely, how people regulate multiple interactions within the world, including themselves (Tuan, Chin, Tsai, & Cheng, 2005). Motivation was and is interpreted very differently, depending on the various theoretical and methodological positions. In this paper the perspective of the so-called socio-cultural or cultural-historical school which was founded by Vygotsky, Lurya, Leontyev and their co-workers will be described with the aim to reveal a number of ideas that might be useful even for research on motivation in our days.

Of all the rewards given, grades are the most common reward (Seoane & Smink, 1991). These good intentions, though, are missing the mark. When rewards are given, children don't perceive themselves in control of learning, they approach and complete tasks differently than when rewards are not given, and their work is judged as less creative (Amabile & Gitomer, 1984; Condry, 1977; Ryan & Grolnick, 1986). Specifically, students do not see the cause/effect link between the actions they take and the things that happen to them. Repeated failures in school cause them to build barriers to protect themselves, and therefore they become uninvolved in school (Long & Bowen, 1995).

A common goal should be to have the student's interest be at the center of their learning, not a reward. Students who are taught to perceive themselves as causal agents in the classroom engage in more risk-taking behavior, and increase their achievement (DeCharms, 1972). Also, students who perceive themselves as more in control of learning have better self-esteem (Ryan & Grolnick, 1986).

Researchers were rejecting the idea that man is motivated by drives and instincts alone, and accepting the idea that man is motivated by sources both inside the body and outside in the world (Festinger & Carlsmith, 1959; White, 1959). In the 1970's, Deci (1971; 1972) defined the different kinds of motivation as intrinsic motivation and extrinsic motivation. In research conducted during the last 50 years, it has been found that intrinsic and extrinsic motivation have different effects on education. The presence of intrinsic motivation produces many behaviors that result in school success like sustained interest in tasks, risk taking, and the conquering of new challenges (Adelman & Taylor, 1990; Amabile & Gitomer, 1984; Spaulding, 1992). Children with learning disabilities have even been shown to perform at levels higher than what was expected by psychological tests (Harter, 1983). External rewards, however, tend to have negative effects in school.

All classrooms, then should be using strategies to foster the development of intrinsic motivation. In order to do this, there first needs to

be an autonomous classroom climate. "The students need to be given options, the opportunity to make decisions, and to feel that they have some control over the environment and their learning (Adelman, 1989; Amabile & Gitomer, 1984; Baranek, 1996; Kohn, 1993; Ryan & Grolnick, 1986)." Students also need to receive instruction in self-reliant behaviors such as goal setting (DeCharms, 1972; Fewell, 1984).

1. Research objectives

Specifically, this study aims to investigate the way in which specific aspects of motivation and perception of tasks are different depending on age (different school years) for the students that are starting or ending secondary school. The main objective is this:

O1. Exploration of the structure of extrinsic motivation (identified and introjected) among the students

Secondary goals are:

O2. Identification of the level of amotivation among the students

O3. Exploration of the structure of intrinsic motivation among the students

O4. Exploration of structuring the task on specific scales and sub-scales

O5. Identification of differences depending on grade and gender regarding the structure of motivation from the perspective of the self/determination theory in pre-university students

2. Hypotheses

The current study begins from the evaluation of tasks by specific differences depending on age (grade) and gender. Considering these specifications, we elaborated the following working hypotheses in several specific groups as we predicted:

A1. It is assumed that the 5th grade students have a level of identified extrinsic motivation (*extrinsic motivation-identified regulation*) (EMIR 1) higher than the 8th grade students.

A2. It is assumed that the 8th grade students have a level of amotivation (A) higher than the 5th grade students.

A3. It is assumed that the 8th grade students have a level of EMIR 2 higher than the students of 5th grade students.

A4. . It is assumed that the 5th grade students have a level of MI higher than the 8th grade students.

A5. It is assumed that girls have a level of intrinsic motivation higher to boys irrespective of grade.

B1. It is assumed that the 5th grade students have a level of interest (interest/enjoyment /ES) higher than the 8th grade students.

B2. It is assumed that the 5th grade students have a level of perceived competence (perceived competence/PC1) higher than the 8th grade students.

B3. It is assumed that the 5th grade students have a level of perceived choice (perceived choice/PC2) higher than the 8th grade students.

B4. It is assumed that the 5th grade students have a level of perceived pressure (pressure-tension/PT) higher than the 8th grade students.

B5. It is expected that girls will have a level of task evaluation higher than boys irrespective of grade.

C.1. It is expected that the dimensions of student's motivation to correlate with the perception of competence for learning

3. Research model

The analysis proposed in this paperwork combines two types of research: descriptive and correlational (Babbie, 2010; Stangor, 2007). The techniques used are specific to psychological research: evaluation scales.

4. Used variables

Considering the above, we can easily identify the research variables:

1. Independent variables: grades and gender of students

2. Dependent variables:

1. Identified extrinsic motivation [*extrinsic motivation-identified*] shortened as EMIR1

2. Amotivation [*amotivation*] shortened as A

3. Introjected extrinsic motivation [*extrinsic motivation-introjected*] shortened as EMIR2

4. Intrinsic motivation [*intrinsic motivation*] shortened as IM

5. Interest [*interest-enjoyment*] shortened as IE

6. Perception of competence for learning [*perceived competence*] shortened as PC1

7. Perception of choice [*perceived choice*] shortened as PC2

8. Perception of pressure-tension [*pressure-tension*] shortened as PT.

5. Research sample

The practical research was carried out at the General School no. 11. This education unit has 1700 students grouped in 60 grades (31 of 1st-4th

grades and 29 of 5th-8th grades). The reference population for the present research was represented by the students of the 5th and 8th grade, i.e. an approximate number of 435 students. Out of this population, we randomly selected two 5th grades and two 8th grades and we obtained a sample of 100 students. These students were given several specific instruments: a motivational questionnaire followed by a questionnaire regarding task evaluation which had to be filled in by them.

The sample had the following characteristics:

	Total	Percentage
Volume	100 students	100%
	Girls - 58	58%
	Boys - 42	42%
Grades	5 th grade - 50 students	
	8 th grade - 50 students	

6. Investigation methods

The investigation methods were based on self-evaluation scales. These scales have a variable number of Lickert items or sub-scales that are filled in automatically. The instruments were previously tested in regard with internal consistency and validity in order to set out the confidence level that they are measuring what they are supposed to. (Clocotici, & Stan, 2000; Popa, 2008). The instruments used were the following:

6.1. Motivational questionnaire

The applied motivational questionnaire is an instrument adapted after Deci (1991). The questionnaire had 12 items and, at the same time, followed a typology on four levels of representation, meaning that it had 4 sub-scales according to the following typology:

6.2. Task Evaluation Questionnaire

This questionnaire had 22 items grouped on four sub-scales: interest-enjoyment, perceived competence, perceived choice and pressure/tension. This instrument was widely used in psychological research. Its detailed description is found in the article of Vallerand, Gagné, Senécal, & Pelletier (1994).

7. Research results

7.1. Descriptive statistical analysis regarding the motivation scales

The scales did not need operations of value reversing and the calculated fidelity coefficient was high ($\alpha=0.69$). In conclusion, there was no need in eliminating any item. The descriptive matrix of scales was the following:

Table no. 1. Descriptive indexes of motivation

Item	N	Min	Max	Mean	Dev
<i>A.</i>	<i>Motivation to do homework</i>				
1	100	1	5	3,56	1,305
2	100	1	5	1,88	1,113
3	100	1	5	3,80	1,271
4	100	1	5	2,86	1,414
<i>B</i>	<i>Motivation to go to school</i>				
1	100	1	5	3,88	1,313
2	100	1	5	1,75	1,290
3	100	1	5	3,90	1,345
4	100	1	5	3,25	1,366
<i>C</i>	<i>Motivation to follow the guidelines of the teachers</i>				
1	100	1	5	3,56	1,409
2	100	1	5	2,01	1,337
3	100	1	5	3,83	1,295
4	100	1	5	3,27	1,434

We may build for testing the hypotheses the four sub-scales by addition and calculation of means as follows:

$$\text{EMIR 1} = [(a1+b1+c1)/3]$$

$$\text{EMIR 2} = [(a3+b3+c3)/3]$$

$$A = [(a2+b2+c2)/3]$$

$$MI = [(a4+b4+c4)/3]$$

As we may notice, the average values for EMIR 1, EMIR2 and MI were higher than the values for the A sub-scale (amotivation). Obviously, the MI variable is of maximum interest in order to see in what extent the

average values are the highest. As we know, the high values of MI lead to an increased *productivity* in any social action. (Bogathy, 2007; Zamfir, 1982).

The fidelity coefficients for the four sub-scales were: $\alpha=0.61$ [EMIR1], $\alpha=0.79$ [A], $\alpha=0.69$ [EMIR2], $\alpha=0.69$ [MI].

7.2. Descriptive statistical analysis regarding the task evaluation questionnaire

This questionnaire had 22 items grouped on four main topics: interest-enjoyment, perceived competence, perceived choice and pressure/tension. This instrument was widely used in psychological research. Its detailed description is found in the article Vallerand et al. (1994).

Table no. 2. Descriptive indexes of task evaluation

Item	N	Min	Max	Mean	Dev
1	100	1	5	3.05	1.336171
2	100	1	5	3.32	1.549715
3	100	1	5	3.25	1.351206
4	100	1	5	3.74	1.168786
5	100	1	5	3.05	1.486471
6	100	1	5	2.34	1.451018
7	100	1	5	3.2	1.189177
8	100	1	5	2.51	1.445963
9	100	1	5	3.03	1.572844
10	100	1	5	2.92	1.419062
11	100	1	5	2.82	1.610446
12	100	1	5	3.47	1.336776
13	100	1	5	2.1	1.396243
14	100	1	5	2.66	1.464875
15	100	1	5	2.74	1.411497
16	100	1	5	3.37	1.160416
17	100	1	5	2.87	1.425985
18	100	1	5	1.95	1.209182
19	100	1	5	2.42	1.457686
20	100	1	5	2.93	1.465116
21	100	1	5	2.72	1.627292
22	100	1	5	3.55	1.37345

The means of the table must be interpreted with caution considering that 2, 9, 11, 14, 19, 21 items must be reversed. Based on the items, we created sub-scales visible on rows in the following section.

7.3. Testing of hypotheses

The assumption that the 5th students have a level of identified extrinsic motivation (EMIR 1) higher than the 8th grade students (*A1 hypothesis*) was tested by the t test for the independent samples.

The obtained scores were the following:

Table No. 3. Average scores of the extrinsic motivation scale (EMIR 1) identified depending on grades

Group Statistics

	Grade	N	Mean	Std. Deviation	Std. Error Mean
EMIR1	5 th grade	50	3,9600	1,01829	,14401
	8 th grade	50	3,3733	,79864	,11294

We deduce from this table the values of the EMIR 1 level close to “often for this reason” of the Likert scale in 5 steps. These scores were compared by the T test in order to check the first hypothesis according to which there would be significant differences between the students of the two grades.

The T coefficients are those of the following table:

Table No. 4 The T coefficients for the differences between the average scores of the identified extrinsic motivation scale (EMIR 1) depending the grade

Independent Samples Test					
	Levene's Test for Equality of Variances		t-test for Equality of Means		
	F	Sig.	t	df	Sig. (2-tailed)
Equal variances assumed	2,087	,152	3,206	98	,002
Equal variances not assumed			3,206	92,734	,002

In this table, F represents the value of the Levene test which evaluates the equality of variances. Since the significance threshold for F (98) is higher than 0.05, we will accept the hypothesis of equal variances. The value of t (98)=3.2 as well as the significance threshold determines us to reject the null hypothesis and to accept the working hypothesis according to

which there are significant differences on grades regarding the EMIR 1 level in the way that the 5th grade students have a higher level than the 8th grade students regarding the identified extrinsic motivation (EMIR1)

These data confirm the first research hypothesis.

The assumption that the 8th grade students have a level of amotivation higher than the 5th grade students (*A2 hypothesis*) was also tested by differential analysis. The obtained scores were the following:

Table No. 5. Average scores of the amotivation scale (A) identified depending on grades

Group Statistics					
		Grade	Mean	Std. Deviation	Std. Error Mean
A	clasa	5th grade			
	clasa a 5-	8th grade			
	clasa a 8-a	50	1,9533	1,12084	,15851
		50	1,8067	,98766	,13968

We deduce from this table modest values of the amotivation level close to “rarely for this reason” of the Likert scale for both grades. We can check the second hypothesis according to which there would be significant differences between the students of both grades. The obtained results were the following:

Table no. 6 The T coefficients for the differences between the average scores of the motivation scale (A) identified depending on grade:

Independent Samples Test						
		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
A	Equal variances assumed	3,420	,067	,694	98	,489
	Equal variances not assumed			,694	96,473	,489

In this table, F represents the value of the Levene test which evaluates the equality of variances. Since the significance threshold for F (98)

is higher than 0.05, we will accept the hypothesis of equal variances. The value of $t(98)=0.69$ as well as the significance threshold determines us to accept the null hypothesis and to reject the working hypothesis according to which there are significant differences on grades regarding the amotivation level.

These data do not confirm the starting hypothesis: there are not significant differences between the two educational collectives.

The assumption that the 8th grade students have an EMIR 2 level higher than the 5th grade students (A3 hypothesis) was also tested by differential analysis. The obtained scores were the following:

Table No. 7. The average scores of the amotivation (A) scale identified depending on grades

Group Statistics					
	Grade	N	Mean	Std. Deviation	Std. Error Mean
EMR2	5th grade	50	3,7600	1,18387	,16742
	8th grade	50	3,9267	,84994	,12020

We deduce from this table high values of the EMIR 2 level close to the level “often for this reason” for both grades. From the obtained average values, it is obvious that the null hypothesis is confirmed. Therefore, there are no differences between the students of the two grades.

The assumption that the 5th grade students have a MI level higher than the 8th grade students (A4 hypothesis) was also tested by differential analysis. The obtained scores were the following:

Table No. 8. Average scores of the intrinsic motivation (IM) scale identified depending on grades

Group Statistics					
	clasa	Grade	Mean	Std. Deviation	Std. Error Mean
MI	clasa a 5-a	5th grade	3,5667	,97648	,13810
	clasa a 8-a	8th grade	2,6867	1,06354	,15041

We deduce from this table different values of the level of intrinsic motivation for both grades. We check the fourth hypothesis according to

which there would be significant differences between the students of both grades. The results are those of the following table:

Table no. 9 The T coefficients for the differences between the average scores of the intrinsic motivation (IM) scale identified depending on grade:

Independent Samples Test						
		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
MI	Equal variances assumed	,291	,591	4,310	98	,000
	Equal variances not assumed			4,310	97,294	,000

The significance threshold for the F test determines us to accept the hypothesis of equal variances and the value of $t(98)=4.2$ as well as the significance threshold for it $p=-.0000$ determines us to reject the null hypothesis and to accept the working hypothesis according to which there are significant differences on grades regarding the level of intrinsic motivation. Therefore, the starting hypothesis is confirmed: there are significant differences between the two educational collectives from this point of view.

The assumption that girls have a level of intrinsic motivation higher than boys irrespective of the grade (*A5 hypothesis*) was also tested by differential analysis. The obtained scores were the following:

Table No.10. Average scores of the intrinsic motivation (IM) scale identified according to the gender of respondents:

Group Statistics					
gen		Gender	Mean	Std. Deviation	Std. Error Mean
MI	feminin	Girls	3,2874	1,02303	,13433
	masculin	Boys	2,9048	1,19231	,18398

We deduce from this table higher values in the case of girls regarding the motivation level irrespective of grades. We can also check the hypothesis

according to which there would be significant differences between the respective values on genders. The obtained results were the following:

Table no.11 The T coefficients for the differences between the average scores of the intrinsic motivation (IM) scale identified depending on the gender of students:

Independent Samples Test						
		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
MI	Equal variances assumed	3,163	,078	1,721	98	,088
	Equal variances not assumed			1,680	80,011	,097

In this case, we will also read the first row of the table where $t(98)=1.72$, however the significance threshold is slightly higher to 0.05. In conclusion, we will accept the null hypothesis according to which there are no significant differences between intrinsic motivation of the two genders. Therefore, the starting hypothesis is not confirmed: there are no significant differences between the two genders.

The assumption that the 5th grade students have a level of interest/enjoyment (IE) higher than the 8th grade students (*B hypothesis*) was also tested by differential analysis. The obtained scores were the following:

Table No.12. The average scores of the interest/enjoyment (IE) scale identified according to the grade of respondents:

Group Statistics						
	clasa	Grade	N	Mean	Std. Deviation	Std. Error Mean
IE	clasa a 5	5th grade	50	3,1771	,92517	,13084
	clasa a 8	8th grade	50	2,7286	,98774	,13969

We deduce from this table different values of the IE level for both grades. We check the hypothesis according to which there would be

significant differences between the students of the two grades. The results are those of the following table:

Table no.13 The T coefficients for the differences between the average scores of the interest/enjoyment (IE) scores identified depending on the grades of the students:

Independent Samples Test						
		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
IE	Equal variances assumed	,401	,528	2,344	98	,021
	Equal variances not assumed			2,344	97,583	,021

The values of this table with $t=2.3$ for $p=0.02$ determine us to accept the working hypothesis according to which there is a significant difference between the IE according to grades. The B1 hypothesis was confirmed.

The assumption that the 5th grade students have a level of perceived competence (PC1) higher than the 8th grade students (*B2 hypothesis*) was tested after we calculated the sub-scale values for the students of the 5th and 8th grade. The obtained scores were the following:

Table No. 14. Average scores of the PC1 scale identified according to the grades of respondents:

Group Statistics						
	clasa	Grade	N	Mean	Std. Deviation	Std. Error Mean
PC1	clasa a	5th grade	50	3,5040	,86684	,12259
	clasa a	8th grade	50	3,4280	,69987	,09898

We deduce from this table values very close for PC1. When we obtained these indexes, we can check the hypothesis according to which there would be significant differences between the students of the two

grades. The result was obtained with the help of the Independent Sample T Test (Levene) and the scores are those from the following table:

Table no.15 The T coefficients for the differences between the average scores of the PC1 E) scale identified depending on grades:

Independent Samples Test						
		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
PC1	Equal variances assumed	1,918	,169	,482	98	,631
	Equal variances not assumed			,482	93,832	,631

The value of t (98) as well as the significance threshold determines us to reject the working hypothesis and to accept the null hypothesis according to which there are no significant differences on grades regarding the level of PC1. Therefore, the starting hypothesis is not confirmed: the PC1 level is sensibly equal for the two grades.

The assumption according to which the 5th grade students have a level of perceived choice (PC2) higher than the 8th grade students (*B3 hypothesis*) was tested after we calculated the values of the subscale for the 5th and 8th grade students. The obtained scores were the following:

Table No. 16. The average scores of the PC2 scales identified according to the grade of the respondents:

Group Statistics						
	clasa	Grade	N	Mean	Std. Deviation	Std. Error Mean
PC2	clasa a 5	5th grade	50	3,3880	,94537	,13370
	clasa a 8	8th grade	50	3,0240	1,08319	,15319

We deduce from this table values very close for PC2 between the two grades. When we obtained these indexes, we can check the hypothesis according to which there would be significant differences between the

students of the two grades. The result was obtained with the help of the Independent Sample T Test and the scores are those of the following table:

Table no. 17 T coefficients for the differences between the average scores of the PC2 scale identified depending on the grades:

Independent Samples Test						
		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
PC2	Equal variances assumed	2,004	,160	1,790	98	,077
	Equal variances not assumed			1,790	96,240	,077

In this case we will also reject the working hypothesis and we will accept the null hypothesis. In other words, there are no significant differences between the students of the two grades. Therefore, the hypothesis does not check out.

The assumption according to which the 5th grade students have a pressure-tension (PT) level higher than the 8th grade students (*B4 hypothesis*) was tested after we calculated the subscale values for the 5th and 8th grade students. The obtained scores were the following:

Table No. 18. Average scores of the PT scale identified according to the grade of the respondents:

Group Statistics						
	clasa	Grade	N	Mean	Std. Deviation	Std. Error Mean
PT	clasa a	5th grade	50	2,3960	,87364	,12355
	clasa a	8th grade	50	2,4200	,78376	,11084

We deduce from this table values very close for PT. When we obtained these indexes, we can check the hypothesis according to which there would be significant differences between the students of the two grades. Without repeating the calculations, the starting hypothesis is not

confirmed: the level of perceived pressure when carrying out tasks is sensibly equal for the two grades.

The assumption according to which girls have a level of task evaluation higher than boys irrespective of the grade (*B5 hypothesis*) was tested by the T test for independent samples.

The obtained scores were the following:

Table No. 19. Average scores of the task evaluation scale identified according to the grade of respondents:

Group Statistics					
gen		Gender	Mean	Std. Deviation	Std. Error Mean
TOTAL	feminin	Girls	3,0155	,45318	,05951
	masculin	Boys	2,9981	,51869	,08004

We deduce from this table values very close for task evaluation in general. When we obtained these indexes, we can check the hypothesis according to which there would be significant differences between the students based on their genders. The result was obtained with the help of the Independent Sample T Test and the scores were those of the following table:

Table no. 20 The T coefficients for the differences between the average scores of the task evaluation scale identified depending on the gender of the students:

Independent Samples Test						
		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
TOTAL	Equal variances assumed	,240	,625	,178	98	,859
	Equal variances not assumed			,174	81,044	,862

We deduce from this table values very close to the value of the task evaluation index. The statistical analysis proved that there is no significant

difference and, consequently, we accept the null hypothesis. Therefore, the B5 hypothesis is not confirmed.

It is expected that the motivation of the students to be correlated positively with the perception of competence for learning (*C1 hypothesis*).

Here, our purpose is to check the correlation between MI (intrinsic motivation) and PC1 (level of perception of competences). We will check if the results of the above authors are the same. In our case, we obtained the following:

Correlations			
		MI	PC1
MI	Pearson Correlation	1	,313**
	Sig. (2-tailed)	.	,002
	N	100	100
PC1	Pearson Correlation	,313**	1
	Sig. (2-tailed)	,002	.
	N	100	100

**. Correlation is significant at the 0.01 level

As we may notice, the correlation is statistically significant for $r=0.31$ and $p<0.01$. If, in the research of Vallerand et al. (1994), higher values were obtained, however, in this case, the correlation is significant. In other words, a high level of intrinsic motivation is correlated with a high level of perception of competences. Obviously, we can continue the correlational analysis depending on the needs of future research.

We can reiterate the results in order to put them in a table and we will have the following:

Hypothesis	Statistical confirmation
A1. 5 th grade students have an EMIR 1 level higher than the 8 th grade students.	Yes
A2. 8 th grade students have a level of amotivation (A) higher than the 5 th grade students.	No
A3. 8 th grade students have an EMIR 2 level higher than the 5 th grade students.	No
A4. 5 th grade students have a MI level higher than the 8 th grade	Yes

students.	
A5. Girls have a level of intrinsic motivation higher than boys irrespective of the grade.	No
B1. 5 th grade students have a level of interest/enjoyment (ES) higher than the 8 th grade students.	Yes
B2. 5 th grade students have a level of perceived competence (PC1) higher than the 8 th grade students.	No
B3. 5 th grade students have a level of perceived choice (PC2) higher than 8 th grade students.	No
B4. 5 th grade students have a level of pressure-tension (PT) higher than 8 th grade students.	No
B5. Girls have a level of task evaluation higher than boys irrespective of the grade.	No

The obtained results can be very useful in the pair comparisons between the types of grades or between the subjects evaluated according to gender. For our case, we may conclude that although apparently the great majority of hypothesis was expected to be confirmed, however, in their great majority they were not confirmed.

8. Conclusions

The values obtained for MI confirm that for the lower grades the intrinsic motivation has generally higher values compared to the higher grades. This finding is valid only for the sample of this research and should be extended through a research on each grade within the 5th-8th interval and then in the 9th-12th interval. By these analyses, we may find explanations for the lack of performances for the final grades including the difficulties encountered in taking the final exam of baccalaureate. The decrease of intrinsic motivation must be also related to other external variables related to family, openness for new media, social values of peer-groups etc. This fact can be connected with the theory of self-determination (Ryan, 2000). The authors mentioned also reiterate the social context as well as the individual differences on which the achievement of goals depends but also in the presence of a natural growth process: a high level of intrinsic motivation as well as an acceptable level of integration/internalization of extrinsic motivation. On the other extreme, there are those with a low level of motivation due to a weak task evaluation plus a lower level of life satisfaction. E. Deci and R. Ryian recommend another analysis direction by including the theory of attachment in the study of self-determination. We

consider that this direction can also be approached regarding the analysis of the motivation of students.

Regarding the correlation between perception of competences and intrinsic motivation, this confirms the trend of the structural analysis of academic motivation (Fortier, Vallerand, & Guay, 1995). In this regard, perception of competences is added with what the authors called “academic self-determination”. The two variables significantly influence motivation which, in turn, influences school performances. For the current research, we did not carry out such an approach for the simple reason that we considered it as inadequate. For example, academic “self-determination” is based on items that, in our opinion, should be redesigned for a future research in Romania. An example of this item is “At school, I feel like in a prison” etc.

Another suggestion begins from school performances and this is the reason why it is advised to separately analyze the talented children and the normal children – with a starting point in the results obtained by Vallerand et al. (1994). However, at this stage, those instruments discerning between these two categories of children had to be discovered leaving no room for subjective interpretations or discrimination.

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