A new perspective regarding the significance of: computer addiction - dependence and the importance of physical activity in this context

Elena Lupu[a]

Corresponding Author: Elena Lupu

[a] *Petroleum-Gas University, Bucharest Bvd., no. 39, Ploieşti, 100520 Romania, 0040722718827; fax: 0040 0344103270;*
lupu_lln@yahoo.com

Abstract

Problem Statement: We all blame computers, which, although improperly used, bring benefits and do not lead users straight to addictions from the first use, not being contagious in the viral manner, especially where the life of a child, of a young person is sustained by a family enriched with the experiences and abilities gained by each individual in the presence of weekly motric activities, and motric motion, in general.

Purpose of Study: This research started from the hypothesis according to which between addiction and dependence, when we refer to notions, and actions, there is a difference and that in the absence of a compensating physical activity which determines socialization and communication and to produce pleasure in the excessive use of the computer, shall transform individuals from their normal state to a transit state named dependence, consuming them up to the final addiction state, from which they can hardly be recovered.

Research Methods: The bibliographic study method; the observation method; the enquiry method; the pedagogical experiment method; the statistical-mathematical method; the graphical method.

Findings: Computer, used rationally, brings benefits and does not lead straight to dependence, does not make individuals addictive, especially where youngsters are sustained by their families and their lives are enriched with experiences in the presence of motric activities.

Conclusions: There is a difference between addiction and dependence, as these are different notions describing different situations. In the absence of a compensating physical activity which can determine socialization and communication and to calm them down when they are depressed, negative transformations occur in the young people's souls and in their personalities, thus making them vulnerable.

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Keywords: Dependence; addiction; computer; motion.

1. Introduction

My aim is that this study shall bring a new exemplifying perspective regarding **the significance of the two notions: PC dependence – addiction in students, because we state that these are different concepts, with different meanings, which describe different phenomena and are connected to physical activity, the latter being important in this context.**

It is true that, in equal measure, we all blame computer games, and all that is related to computers, without thinking that basically the generation in question is the "Net Generation"(years between 1996-1997) different from the "baby boom" generation (years between 1987-1988), as noticed by Tapascott D., (2011) in his book "Grown Up Digital", and worse than the so different generation pertaining to their parents, born in 1960's – 1970's, when the access to a personal computer (PC), without mentioning the internet, represented a facility for a small number of people.

We blame certain habits, behaviours, tendencies, without thinking and without realizing that, maybe, "the unhappy adolescent finds his/her comfort in front of the display … which … fuels his/her self-esteem … calms him/her, helps him/her to overcome a phase, as from there he/she receives encouraging messages … congratulating … and a possibility of feeling appreciated, not as an average or mediocre student, … who is constantly warned that he/she shall become nothing in life" (Tisseron, S., 2010).

Properly used, it appears that the PC could bring benefits and do not lead users straight to addictions from the first use, not being contagious in the viral manner, especially where the life of a child, of a young person is sustained by a family enriched with the experiences and abilities gained by each individual in the presence of weekly motric activities, and motric motion, in general.

2. Problem Statement

The aspect approached in this study is a new perspective regarding the significance of two notions: PC dependence – addiction in students and the importance of motion in this context. These two notions are often confused, or taken together, as they are considered to be synonyms. We, on the contrary, consider that they are different and describe different situations and notions.

3. Research Questions

Are the two notions, PC dependence – addiction, different when they describe what happens with the research subjects?

4. Hypothesis

This research started from the hypothesis according to which between addiction and dependence, when we refer to notions, there is a difference and that in the absence of a compensating physical activity which determines socialization and communication and to produce pleasure in the excessive use of the computer, transforms individuals from their normal state to a transit state named dependence, consuming them up to the final addiction state, from which they can hardly be recovered.

5. Research Methods

5.1. Subjects
The group of subjects involved in the researched was composed of 120 students (males and females), aged between 18 and 24 years, all enrolled in the Petroleum-Gas University from Ploiești, the Letters and

Sciences Faculty - 58 students from Informatics Specialty , 62 students from the Mechanical and Electric Engineering Faculty, the Electro-mechanics, Applied Electro-mechanics, Automatics and Applied Informatics Specialties. Their selection was random, and we only considered their preoccupation for the use of the computer and the direct participation in Physical Education lessons or other physical leisure time activities.

*5.2. Research methods***:**
- The bibliographic study method;
- The observation method;
- The enquiry method (questionnaire, discussion, enquiry, etc.);
- The pedagogical experiment method;
- The statistical-mathematical method;
- The graphical method.

5.3. Research purpose

The purpose of this research was to prove that there is a difference between the notions of addiction and dependence, therefore the approach of characterization, classification and categorization of students has to be different, taking into account this aspect, due to the fact that an excessive use of the computer would have different effects according to the category of each subject (dependence or addiction), when implementing the questionnaire, because we emphasized that the present study has an observation purpose.

After the status in which each individual was at the moment of the study, we shall observe his/her transformation in time, thus bringing him/her from a state of normality to a transit state named dependence, consuming them up to the final addiction state, from which they can hardly be recovered, or they cannot be recovered at all.

6. Research tasks

- Selecting the group of subject on a random basis, on who the questionnaire entitled "Computer between addiction and dependence" shall be implemented;
- Implementing the questionnaire entitled "Computer between addiction and dependence" on both groups of students;
- Registering indicators after the application of the questionnaire entitled "Computer between addiction and dependence" and interpreting the importance of the PC and of motric acts for the education and life of students;
  - Conceiving an observation protocol and a diagram regarding the proposed theme;
  - Arranging the recorded data in tables, accompanied by their analysis and interpretation.

7. Research content

I undertook the present research starting from the observation which determined me to look thoroughly at two words which give a sentence regarding the state of people who operate the computer – addiction and dependence, two notions which can be confused, which appear to intertwine, but which are different in essence, drawing distances between a computer dependent and a person addicted to the P.C.

In the opinion of specialists, the dependence of the P.C., and internet is an independent **psychiatric disorder "**manifested through the lack of initiatives, through the total attachment for some people" (DEX, 2012, p. 291) "…with a vulnerable pre-morbid personality…" (Popa C., 2013, p. 14), while **addiction** "…is not just a social, moral or criminal issue,… **is a chronic affection of the brain,** and not a simple behavioural issue involving alcohol, drugs, gambling, or sex…. Is a cerebral issue which has manifestations

spreading throughout these areas", according to Dr. Michael Miller (Internet, *totb.ro/o-noua-definitie-a-adictiei-tulburare-a-creierului-nu-problema-co...*16 Aug. 2011, p. 1).

As a consequence, we consider that the use of the two different notions has to be approached with care, and should not be considered as equal, due to the fact that these two notions talk about separate groups affected differently by the use of the computer.

8. Data analysis and interpretation

The computer is a performing machine which has positive effects in the development of the studying process for students, as it develops their insight, offers needed information in a rapid and secure manner, when it is utilized rationally. Before starting our data interpretation and analysis, though, I wish to bring to the forth certain details.

Important! – The paper "A new perspective regarding the significance of: computer addiction - dependence and the importance of physical activity in this context" aims to be an observation research, this being the reason for which the objectives mentioned are not numerous, as they represent a first step for a larger study in the future, taking into consideration the spatial restrains for publishing, we do not have many tables and graphs, except for the questions which are important for the study undertaken, emphasizing that this aspect does not imply that all other questions are of a lesser importance.

I intended to mention the aspect above for an informative purpose, preceding our analysis and interpretation, but not before emphasizing that we are discussing notions which we consider that it is important to be classified and approached separately when we characterize a group, as following:

1. Dependence;
2. Addiction.

We further describe these two notions in order to better understand them: dependence – addiction from the point of view of specialists who state that a condition for declaring a dependence is for the individual to navigate on the internet from the PC for over four hours per day, for a purpose other than a professional one, and others mention a condition of six hours, while we believe that it is not until the time spent in front of the computer reaches eight to ten hours or more, with deprivation regarding sleeping hours, than we can discuss about addiction, and receives a negative meaning for human existence.

We want to describe first the beneficial effects of the personal computer, as we mentioned above that the computer offers many advantages and positive aspects, when it is used in a positive manner, due to the fact that it creates a series of abilities, stimulates attention, quick thinking and offers in a short time all information required, without losing time.

This represents the reason which determines us to believe that there are two types of dependence, fundamentally different from addiction, and which, when described, present two, even three different symptoms, for the same case and for the same diagnosis.

In this situation, dependent is classified, in our belief, in two types of dependencies, addiction being the third notion which describes another category of subjects and another understanding. The two types of dependency are:

• A positive-stimulating dependence named – **positive dependence (4 hours per day for a professional purpose);**

• A negative-detrimental dependence named – **negative dependence (over 4-6 hours per day for an extra-professional purpose).**

We shall now expose the manner in which the research was undertaken. The present research was undertaken on a number of 120 subjects (male and female students), all of them enrolled in the Petroleum-Gas University from Ploieşti. From the Letters and Sciences/Informatics Faculty (L.S./INFO)* we had the participation of 58 students from the Informatics Specialty, and from the Faculty of Mechanical and

Electric Engineering (I.M.E.)* we had the participation of 62 students, from the specialties of Electro-mechanics, Applied Electro-mechanics, Automatics and Applied Informatics.

The group was randomly chosen and had the purpose of emphasizing the existence or lack of dependence/addiction for the computer of students with ages between 18 and 24 years, and the importance of physical activities in their lives.

In order to analyze these aspects, we used the questionnaire entitled "Computer between dependence and addiction", composed of 10 items, each of them having between three and ten choices of answer. Items were with multiple choices, items with filling in, items with closed answers, items with open answers and items with semantic differences. Knowing all these aspects we can analyze and interpret the data from the questionnaires, according to the protocol below:

1. **Which was the age when you first used a computer?**

For this question, answers were included in Table and Graph number 1 as following:

Table1. Statistical indicators regarding the age of the first use of a computer

Recognition/domain codification/number of students	5-6 years old	7-10 years old	After this age
Letters and Sciences/Informatics Faculty (L.S./INFO)* - 58 Students	86.20% (a number of 50 students)	-	13.80% (8 students)
Faculty of Mechanical and Electric Engineering (I.M.E.)* - 62 Students	-	83.87% (a number of 52 students)	16.13 % (10 students)

Graph 1. Graph of statistical indicators regarding the age of the first use of a computer
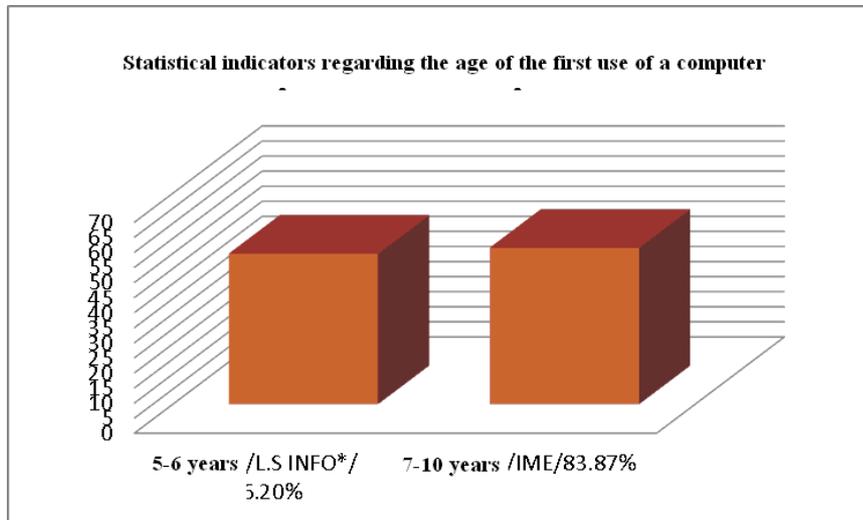
The age when they started to use a computer (according to the Table and Graph no. 1), was of 5-6 years for the students from Letters and Sciences/Informatics Faculty (L.S./INFO)*, meaning a proportion

of 86.20% (namely a number of 50 students) and 83.87% (namely a number of 52 students) from the engineers enrolled at the Faculty of Mechanical and Electric Engineering (I.M.E.)* stated that they first used a computer between 7-10 years, the percentage being lower for the other choices and insignificant for our research, therefore not mentioned.

Observing answers given for questions no. 1, 2 we observe that the age when they started using a computer and the age when they started practicing sport marked them in time, taking into consideration the researched subject and the fact that "...Working Memory (WM) refers to the temporary storage and manipulation of the information. In order to perform complex tasks, having a cognitive basis, one must maintain access to a large quantity of information." (Vasile C., 2012, 781)

2. At what age did you first enter a sports gym to perform physical exercise?

The age when subjects started to exercise varies, for students enrolled in the Letters and Sciences/Informatics Faculty, a proportion of 20.68% (namely a number of 12 students) started to perform sports between 7-8 years, and 77.41% (a number of 48 students) from the Faculty of Mechanical and Electric Engineering (I.M.E.)* started to perform a sport game between 5-6 years, and the rest of them stated that they started to make physical exercises much later, when they started attending school (see Table and Graph no. 2).

Table 2. Statistical indicators regarding the age of the first entrance in a sports gym to perform physical exercises

Recognition/domain codification/number of students	5-6 years old	7-8 years old	When I started school.
Letters and Sciences/Informatics Faculty (L.S./INFO)* - 58 Students	-	20.68% (12 students)	79.32% (46 students)
Faculty of Mechanical and Electric Engineering (I.M.E.)* - 62 Students	77.41% (48 students)	-	22.59 %(14 students)

Graph.2 Graph with the statistical indicators regarding the age of the first entrance in a sports gym to perform physical exercises
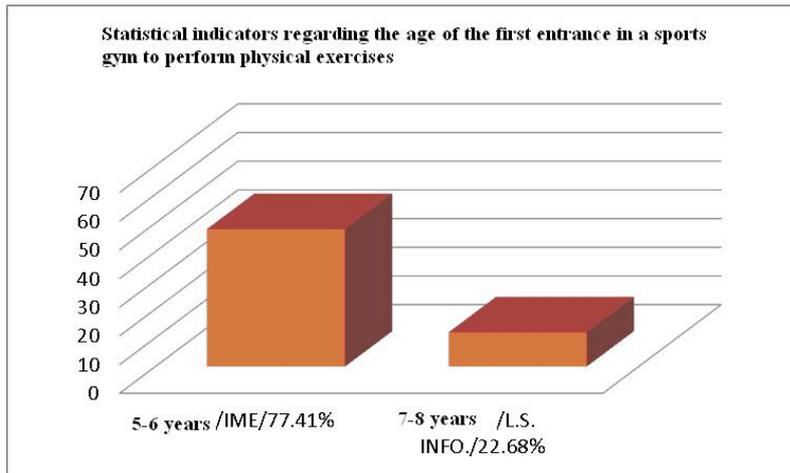
3. How do you spend your leisure time? (answers have not been suggested, as it was an open question).

In the case of this question, results are rather similar, but different, and the leisure time preoccupations of youngsters being approximately the same, and the proportion different, according to data in Table no. 3.

Table 3. Statistical indicators regarding the leisure time and the type of transformation suffered as a consequence of the time granted to the computer.

Recognition/domain codification/number of students	Sports activities, walks in the open air, trips	Computer games and navigating the internet	Reading a book or another activity (TV)
Letters and Sciences/Informatics Faculty (L.S./INFO)* - 58 Students	17.24 % (10 students)	72.42% (42 students)	10.35%(6 students)
Faculty of Mechanical and Electric Engineering (I.M.E.)* - 62 Students	64.52%(40 students)	19,35% %(12 students)	16.13 %(10 students)

In the case of engineers, sports activities are on the first place, in a proportion of 64.52% (40 students); on the second place, computer games and navigating the internet 19,35% (12 students); on the third place is reading a book or other activities (TV) with 16.13 %. In the case of students from L.S., on the first place we have navigating on the internet, playing on the computer in a proportion of 72.42% from the total, meaning a total of 42 students, 10.35% watch TV and only 17.24 % have walks in the open air, trips and other sports activities.

4. What is the average time spent in front of the computer?
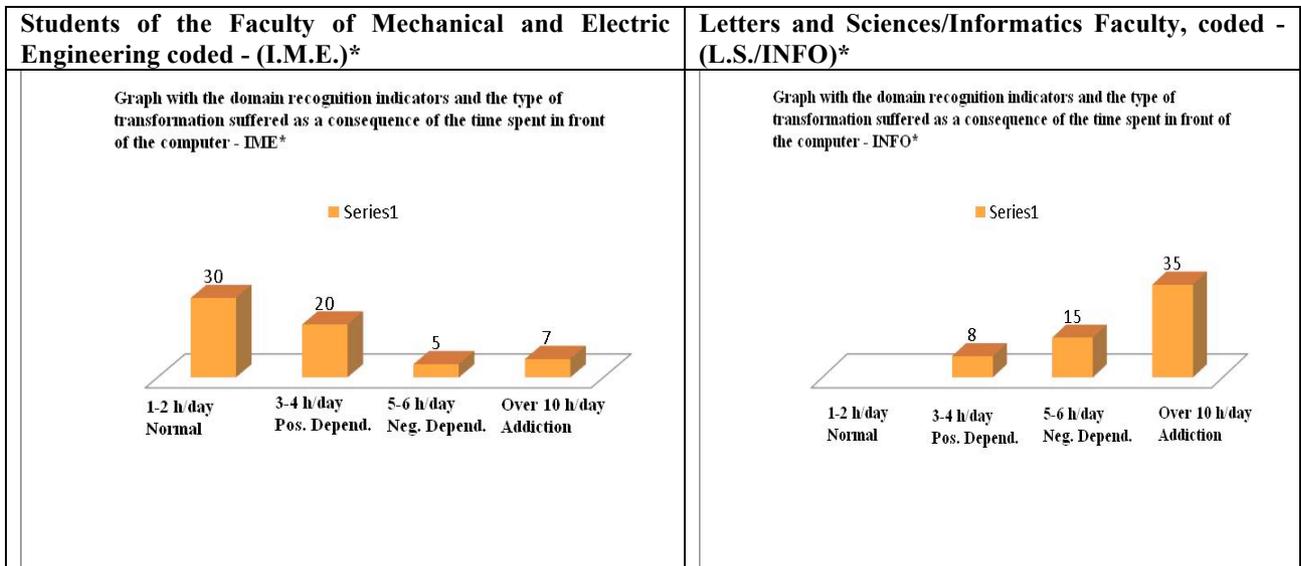
For this question, in order to better observe what happens, we shall offer the recorded data in a table and in a graph:

Table 4. Statistical indicators regarding the categorization of students in a type, as a consequence of the time spent in front of the P.C.

Table no. 1. Indicators of	Time at the	Time at the P.C.	Time at the P.C. –	Time at the P.C. –

recognition/domain codification*		P.C. – 1-2 h/day	– 3-4 h/day	5-6 h/day	over 10 h/day
Letters and Sciences/Informatics Faculty (L.S./INFO)* - 58 Students		-	8 students	15 students	35 students
Type of transformation	Professional	-	13.79%		
	Extraprofessional	-		25.86%	60.35%
Addiction or dependence		**Normal**	**Positive dependence**	**Negative dependence**	**Addiction**
Faculty of Mechanical and Electric Engineering (I.M.E.)* - 62 Students		30 students / 48.39%	20 students / 32.25%	5 students	7 students /
Type of transformation	Professional	20 students/ 32.26%	15 students / 24.19%	-	-
	Extraprofessional	10 students / 16.13%	5 students / 8.06%	8.06%	11.29%
Addiction or dependence		**Normal**	**Positive dependence**	**Negative dependence**	**Addiction**

Graph 3. Graph with the domain recognition indicators and the type of transformation suffered as a consequence of the time spent in front of the computer

Students of the Faculty of Mechanical and Electric Engineering coded - (I.M.E.)*	Letters and Sciences/Informatics Faculty, coded - (L.S./INFO)*

The statistical indicators regarding the categorization of students in a type as a consequence of the time spent in front of the P.C. leads us to the hypothesis and to the idea stated by Popa C., in his book *New Addictive behaviours*, namely that "To be dependent, a person has to spend on the internet over 4 hours per day, for other than professional purposes, according to some inventories; according to others, we can speak about dependent at over 6 hours per day." (Popa C., 2013, p. 14).

If we observe Table no. 4 and Graph no. 3, then we observe that 58 students enrolled in the Letters and Sciences/Informatics Faculty (L.S./INFO)**, part of our research, recorded the following aspects:

• 8 students, a percentage of 13.79% spend **3-4 h/day** in front of the P.C., for a normal purpose, thus being in the area of **Positive Dependence**;

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- 15 students, a percentage of 25.86% spend **5-6 h/day** in front of the P.C., for an extraprofessional purpose, thus being in the area of **Negative Dependence;**
- 35 students, a percentage of 60.35% spend **over 10 h/ day** in front of the P.C., for an extraprofessional purpose, thus being in the area of **Addiction;**

And other 62 students Faculty of Mechanical and Electric Engineering (I.M.E.)* registered the following aspects:

- 30 students, a percentage of 48.39% spent 1-2 h/**day** in front of the P.C., for a professional purpose, thus being in the area of **Normal;**
- 20 students, a percentage of 32.25%, spent **3-4 h/day** in front of the P.C., for a professional purpose, thus being in the area of **Positive Dependence;**
- 5 students, a percentage of 8.06% spent **5-6 h/day** in front of the P.C., for an extraprofessional purpose, thus being in the area of **Negative Dependence;**
- 7 students, a percentage of 11.29% spend **over 10 h/ day** in front of the P.C., for an extraprofessional purpose, thus being in the area of **Addiction;**

Taking into consideration the fact that the dependence, according to the aspects explained above, also has positive effects, the computer is a useful instrument, as long as it does not "steal" one's leisure time, and does not transform into an addiction.

We can conclude that addiction, in exchange, is not only devastating for the human being, as "it is not only a social problem, …is a chronic affection of the brain", in all areas, as stated by Dr. Michael Miller (Internet, 16 August 2011, p. 1) with serious consequences.

Results from Table no. 4 and Graph no. 3 give us the possibility to sustain our hypothesis according to which, between addiction and dependence, when we refer to them as notions, there is a difference, and that in the absence of a compensating physical activity to determine socialization, communication, to produce pleasure, the excessive use of the computer transforms individuals from their normal state to a transit state named dependence, consuming them up to the final addiction state, from which they can hardly be recovered.

5. **Physical Education lessons are part of your schedule. Do you participate at these lessons?**

Following answers given for question number 5, we had the result of 100&, as all students answered affirmative.

6. **Which is the number of lessons you attend?**

In spite of this fact, we experienced a difference for question number 6, in which the number of Physical Education hours attended were different, the percentages being the following: 79.04% of the engineers and 18,97 % of the computer experts attend 5-7 Physical Education hours per semester, 16,12% the engineers and 68,97 % of the computer experts attend 3-4 Physical Education hours per semester, and for 4.84% of the engineers and 12.06% of the computer experts the number of the Physical Education hours attended is not important.

Table 5. Statistical indicators regarding the number of Physical Education lessons attended and the type of transformation occurred as a consequence of the time spent in front of the P.C.

Recognition/domain codification/number of students	5-7 modules of Physical Education attended	3-4 modules of Physical Education attended	modules of Physical Education attended
Letters and Sciences/Informatics Faculty (L.S./INFO)* - 58 Students	18,97 %	68,97 %	12.06% The number is not important
Faculty of Mechanical and Electric Engineering (I.M.E.)* - 62 Students	79.04%	16,12%	4.84% The number is not important

7. What are the things that captivate you?

Preferences for leisure time activities differ from one person to another, as following: 51.72% (30 students L.S./Info.) were captivated by a computer game and 77.41 % of the engineers, namely 48 students are rather tempted by physical activities for their leisure time, and for the rest a good movie or reading a book were preferred.

8. Do you have the preoccupation of practicing sports in your leisure time?

For this question, answers were obvious, according to data in Table no. 6. The majority, namely 64.52%, (40 students), among engineers/I.M.E , had affirmative answers, and only 17.24 % from the student at L.S., the rest to 100% said that they do not practice sports as a leisure time activity, meaning 82.76 % – 48 students - **L.S./INFO***) and 35.48 % – 22 students – engineers/I.M.E*.

The obtained results shown interesting percentage regarding the leisure time activity of youngsters and proved that only a small number of students enrolled in the Letters and Sciences/Informatics Faculty (L.S./INFO)* are preoccupied by sports as a leisure time activity, and the rest of subjects, in a notable amount of 82.76 %, as compared to students from the I.M.E.*, spend their leisure time in front of the computer.

Table 6. Statistical indicators regarding the preoccupation for sports as leisure time activity

Recognition/domain codification/number of students	Yes, I practice sports in my leisure time!	No, I do not practice sports in my leisure time!, I prefer the P.C.
Letters and Sciences/Informatics Faculty (L.S./INFO)* - 58 Students	17.24 %(10 Students)	82.76 %(48 Students)
Faculty of Mechanical and Electric Engineering (I.M.E.)* - 62 Students	64.52%, (40 Students)	35.48 %(22 Students)

9. What do you think that are the advantages brought by the use of the IT technologies?

In the students' view, the main advantages brought by the IT technology, are:
• Information, with 77, 41 % (48 students) for engineers and 51, 72 % (30 students) for computer experts;

- Communication, with 35, 7% for engineers and 10, 35 % (6 students) for computer experts;
- Relaxation, with 14, 28 % for engineers and 34, 48 % (20 students) for computer experts;
- Speed/efficiency, with 7, 14 % for engineers and 18, 75 % for computer experts.

10. **In what measure do you agree with the following statements? (Important: measuring answers shall be made on a scale from 1-5 – we grade the scale with 1, 2, 3, 4, 5 where 1 is total disagreement and 5 is total agreement):**

a. The study with the help of new technologies (Internet, computer, educational software) is more efficient; (1, 2, 3, 4, 5)
b. Internet is a major source of wasting time and distraction from the daily activities; (1, 2, 3, 4, 5)
c. Internet, the computer reduces from the time of discussion and socialization with parents or friends; (1, 2, 3, 4, 5)
d. In the absence of the computer or the internet, I am more apathetic and less communicative; (1, 2, 3, 4, 5)
e. The first thing I do in the morning is open the computer; (1, 2, 3, 4, 5)
f. The computer and the internet are for me, my only communication source and only leisure time activity; (1, 2, 3, 4, 5)
g. Six hours on the internet are not enough**;** (1, 2, 3, 4, 5)
h. Internet helps people get in contact, no matter where they are; (1, 2, 3, 4, 5)
i. I cannot survive without the computer! ; (1, 2, 3, 4, 5)
j. I need at least 7-8 hours spent in front of the P.C. to satisfy my need of adrenaline. (1, 2, 3, 4, 5)

For this question, the percentage was as following:

a. **In the case of students enrolled in the Letters and Sciences/Informatics Faculty (L.S./INFO)*:**
- For choice a : 86.20% from the students gave 5 points and 13.80% gave 4 points;
- For choice b: 12.24% from the students gave 3 points 13.80% gave 2 points, and 68,96% gave 1 point;
- For choice c: 31.04% from the students gave 4 points, and 68.96% gave 1 point;
- For choice d: 72.42% from the students gave 5 points, 24.14% gave 4 points, 3.44 % gave 1 point;
- For choice e: 86.20% from the students gave5 points, and 13.80% from the students gave 3 points;
- For choice f : 51.72% from the students gave 5 points and 25.86% gave 4 points, 8.62% gave 3 points, 3.44% gave 2 points, and only 10.35 % gave 1 point;
- For choice g : 72,42% from the students gave 5 points and 27.58 % gave 4 points;
- For choice h : 86.20% from the students gave 5 points and 13.80% gave 4 points;
- For choice i : 96.56% from the students gave 5 points and 3.44% gave only 2 points;
- For choice j : 68.96% from the students gave 5 points, 15.52% gave 4 points and 15.52% from the students gave 1 point;

Table 7. Statistical indicators regarding the computer addiction versus dependence and the type of transformation suffered as a consequence of the time spent in front of the P.C.

Evaluation scale, points granted, specialization, recognition indicators					
Indic.	5	4	3	2	1	Total
	Totally Agree	Agree	Partially Agree	Disagree	Totally	%

											disagree	
	L.S. %	IME %	L.S. %	IME %	L.S. %	IME %	L.S. %	IME %	L.S. %	IME %	L.S. %	IME %
a	86.20	83.87	13.8	16.13	-	-	-	-	-	-	100	100
b	-	80.65	-	-	12.24	-	13.80	19.35	68.96	-	100	100
c	-	32.26	31.04	32.26	-	35.48	-	-	68.96	-	100	100
d	72.42	-	24.14	-	-	-	-	51.62	3.44	48.38	100	100
e	86.20	-	-	16.13	13.80	33.87	-	50.00	-	-	100	100
f	51,72	-	25.86	-	8.62	24.20	3.44	75.80	10.35	-	100	100
g	72.42	-	27.58	-	-	22.58	-	77.42	-	-	100	100
h	86.20	-	13.80	83.87	-	16.13	-	-	-	-	100	100
i	96.56	-	-	-	-	-	3.44%	41.66	-	33.88	100	100
j	68.96	-	15.52	-	-	-	-	22.58	15.52	77.42	100	100

b. **In the case of students from the Faculty of Mechanical and Electric Engineering (I.M.E.)***:

- For choice a : 83.87% from the students gave 5 points and 16.13% gave 4 points;
- For choice b: 80.65% from the students gave 5 points, 19.35% gave 2 points;
- For choice c: 32.26% from the students gave 5 points, 32.26% gave 4 points and 35.48% from the students gave 3 points;
- For choice d: 51.62% from the students gave 2 points, 48.38 % gave 1 points;
- For choice e: 16.13% gave 4 points, 33.87% from the students gave 3 points and 50.00 % gave 2 points;;
- For choice f : 24.20% from the students gave 5 points and 75.80% gave only 2 points;
- For choice g : 22.58% from the students gave 3 points and 77.42 % gave 2 points;
- For choice h : 83.87% from the students gave 5 points and 13.80% gave 4 points;
- For choice i : 41.66% from the students gave only 2 points and 33.88 % gave 1 point;
- For choice j : 22.58% from the students gave 2 points, 77.42% gave only 1 point;

As a result of the research we had the fact that young students enrolled in the **Letters and Sciences/Informatics Faculty (L.S./INFO)*** have an inclination towards addiction as regarding the excessive use of the computer (according to answers given and percentages recorded for question no. 10, points a, b, d, e, f, g and j), as compared to students enrolled in the **Faculty of Mechanical and Electric Engineering (I.M.E.)*,** who, although use the computer long enough, do not transform a necessity into a dependence, do not use the computer for more than 6 hours, to transform it into an addiction.

The great majority of these latter students use the P.C. as long as it is needed, do not exceed the 6 hours which modify the borders and transform an individual from a person with a positive dependence into one with a negative dependence, even addictive, who harms himself/herself from an emotional and social point of view, through the excessively long time spent in front of the computer.

Only a percentage of 22.58 from the students enrolled in the **Faculty of Mechanical and Electric Engineering (I.M.E.)*** have a partial agreement regarding the use of the computer for 6 or more hours, and the rest of 77.42 expressed their disapproval regarding the time spent in front of the computer.

 "The conclusion of the research was that young people have the tendency of overusing the computer, aspect which can be rooted into childhood, where "physical activities, sports as a leisure time activity are being replaced with game play as a comfortable method, silent, quiet, bringing the unconscious destruction

of a child's life, thus becoming a shadow without future or past, anchored until a given moment in a computer network" (Lupu, E**.**, Gevat C., Sabău E., Niculescu G., 2014, p. 283-287).

Observing these aspects and being intrigued by answers, we returned with our study at the first questions, in order to observe given answers and possible similarities or differences.

Therefore, we observed an interesting aspect, while studying answers given for question no. 1, that students from the **Letters and Sciences/Informatics Faculty (L.S./INFO)*** used the computer at the age of 5-6 years in a percentage of 86.20%, while students from the **Faculty of Mechanical and Electric Engineering (I.M.E.)*** started using the computer at the ages of 7-10 years, in a proportion of 83.87 %, approximately with two years later than their colleagues from the **Letters and Sciences/Informatics Faculty (L.S./INFO)*.**

In exchange, question no. 2 brought a relevant factor for our research: a percentage of   77.41 % from the students enrolled in the **Faculty of Mechanical and Electric Engineering (I.M.E.)*** have first entered a sports gym and performed physical activities with a specialized trainer around 5-6 years, when their colleagues first used the computer as a leisure time activity, entering the sports gym for the first time to perform physical exercise around 7-8 years and later (at school).

We believe that this is the vulnerable point, the moment when the child starts to become "a friend of the computer?!" And what does occupy his/her time in the phase of 5-7 years (sitting a lot in front of the computer?, practicing a sports game as a leisure time activity?).

If, due to convenience or weakness the child is left in an uncontrolled manner in front of the computer, instead of teaching him/her how to know his body, to know how to relate to it, the child in time shall become dependent on the computer, and later this dependence shall be transfromed into an addiction (see answers to questions 1, 2, 10, and the rest of the questionnaire).

In exchange, through the care and attention we offer for the education and emotional disposition of the child, if we change priorities, and we leave aside convenience, we begin the change through offering the child first the possibility of practicing a sport and then to know the benefits of a computer, allowing him to grow up to understand the significance of each step for his personal development.

In the child's mind shall thus exist a clear structure of priorities, shall choose the correct use of the computer for the thirst of knowledge, and not in the disadvantage of physical, emotional health, for amusement, without becoming a custom or addiction (see answers to questions no. 1, 2, 10).

This thing we will have the possibility to do through the choice of a sports game (phase 5-7 years), commonly agreed with the child, so as to like it and practice it as a leisure time activity, in the next life step (7-8 years) we shall allow him/her access to the computer, therefore in this manner the computer becomes a positive dependence without being blames and identified with negative phenomena, which affect the physical and emotional health of the child.

As a consequence, the aspects described above, investigated on the basis of the proposed questionnaire, prove a painful side for the physical and emotional part of the children who were left unsupervised properly, who anchored in a virtual world and who reach dependence, isolation from the ones around them, thus confirming the research hypothesis, according to which between addiction and dependence, when we refer to notions and manifestations, there is a difference. In the absence of a compensating physical activity which determines socialization and communication and to produce pleasure in the excessive use of the computer, transforms individuals from their normal state to a transit state named dependence, consuming them up to the final addiction.

Conclusions

•   There is a difference between the notions of addiction and dependence, and for this reason the approach for the characterisation, clasification and categorization of students has to be different;

- The excessive use of the computer has different effects, according to the category of each subject (dependence or addiction), at the implementation phase of the questionnaire;
- An important role for controlling dependence is held by the family and both home and school education;
- The moment in which the child starts to become "a friend of the computer?!" And what does occupy his/her time in the phase of 5-7 years (sitting a lot in front of the computer?, practicing a sports game as a leisure time activity?), we believe to be a vulnerable phase.
- If the child is left in an uncontrolled manner in front of the computer, instead of teaching him/her how to know his body, to know how to relate to it, the child in time shall become dependent on the computer, and later this dependence shall be transfromed into an addiction (see answers to questions 1, 2, 10, and the rest of the questionnaire).
- There is a difference between addiction and dependence, these being different notions describing different situations, in the opinion of specialists, the dependence of the PC, and internet is an independent psychiatric disorder, while addiction "…is not just a social, moral or criminal issue,… is a chronic affection of the brain, and not a simple behavioural issue".
- From the research undertaken we have observed that the aspects described above, investigated based on the proposed questionnaire confirm the hypothesis according to which between addiction and dependence, when we refer to notions, but also to manifestations, there is a difference.
- In the absence of a compensating physical activity which determines socialization and communication and to produce pleasure in the excessive use of the computer, shall transform individuals from their normal state to a transit state named dependence, consuming them up to the final addiction state.
- Computer addiction or dependence are subjects representing a real interes for the disproof of the social phobia and it represents, we believe, a theme of interes which remains open for field specialists.

References

Coman, Ghe., (2013), *Quantic Psychology*, Editura PIM , Iasi, 209-205, https://books.google.ro/books?id=PgoZBAAAQBAJ&pg=PA225&dq=psihologie+dependenta+de+calculat or&hl=ro&sa=X&ei=eW4SVYJM0-Nqp8OAI&ved=0CCwQ6AEwAA#v=onepage&q=psihologie%20dependenta%20de%20calculator&f=fals e.http://www.elearning.ro/resurse/Intel_2009_studiu_studenti_Hermes.pdf

DEX., (2012), *Explanatory Dictionary of the Romanian Language*, The Romanian Academy, the "Iorgu Iordan –Al., Rosetti" Linguistics Institute, The Gold Encyclopaedia Universe Publishing House, Bucharest, 291

Gardner H., (2005), *Disciplined Mind*, SIGMA, Bucharest, Chapters I-III.

Internet, Miller, M., (2011), *A new definition of addiction: brain disorder, not a behavioural problem, Dr. Michael Miller,* (Internet, *totb.ro/o-noua-definitie-a-**adictie**i-tulburare-a-creierului-nu-problema-co...*16 Aug. 2011, 1).

Lupu, E**.,** Gevat C., Sabău E., Niculescu G., *Education Regarding Addictions and the Impact of Leisure Time Physical Activities Upon the Control of the Addictive Behaviour.*Original Research Article**.** Published by Elsevier Ltd. This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/3.0/). Peer-review under responsibility of the Academic World Education and Research Center. *Procedia - Social and Behavioral Sciences*, *Volume 159*, *23 December 2014*, *Pages 283-287***.** 1877-0428 © 2014 doi:10.1016/j.sbspro.2014.12.373, 283-287 .

Popa C., (2013), *New Addictive Behaviour, the Pathologic Internet, SMS and TV.,* University Publishing House, Bucharest, p. 11, 14, 12, 24-35

Robu,V.,(2013) *Predictors of the Suicidal Risk among Adolescents.* Psychology Magazine 59(3), Academy Publishing House, Bucharest

Tapascott, D. (2011), *Digitally Born*, Translated from English by Ioan Calen, Public Publishing House, Bucharest, 22-33

Tisseron, S.(2010), *Psychology of Video Games*, translation from French by Dragoş Jipa, Trei Publishing House, Bucharest, p. 11-15, 17-27, 44, 109-111

Vasile C.,(2012) *Working memory and the feeling of success in students*, http://dx.doi.org/10.1016/j.sbspro.2012.01.228, How to Cite or Link Using DOI Procedia - Social and Behavioral Sciences-Elsevier. 33 (2012) 781–785