Computers Use and Abuse in Romanian Children and Teenagers: Social, Psychological and Academic Consequences

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Abstract - The need for information regarding the effects of computers on their users is increasing continously. Do teenagers become socially isolated or connected when they use the computer? Does academic performance suffer or improve?

First, we directed our attention toward computer related behaviors among Romanian children and adolescents. The second focus of this study is to explore the beneficial and harmful effects of computer use on adolescent's psychological and social life. The studied group of samples comprised 650 subjects, aged between 11 and 18 years, who answered to a questionnaire including 36 questions related to computer activities. These were aimed at highlighting: 1. The frequency of computer use by the students; 2. The interference of excessive use with academic performance, psychological aspects and social life; 3. The identification of a possible pathological use.

The results obtained concerned the use of computer and the identification of pathological use. Some of the teenagers spent much in front of computer, 6% more than five hours/day. We found approximately 6.5% of cases with possible pathological use.

Key-words: computer, beneficial, harmful effects, teenagers, psychological, social life.

1 Introduction

With the increased role of home computers in children's lives has come increased concern about how children may be affected. Time spent on home computers may displace other activities that have more developmental value, and the merit of the computer-based activities has also been questioned. Initial research suggests, for example, that access to computers increases the total amount of time children spend in front of a television or computer screen at the expense of other activities, thereby putting them at risk for obesity. At the same time, cognitive research suggests that playing computer games can be an important building block to computer literacy because it enhances children's ability to read and visualize images in three-dimensional space and track multiple images simultaneously [1].

British psychologist, Mark Griffiths is studying "Internet addiction" by comparing clinical examples with established definitions of addiction. He defines "technological addictions" as "non-chemical (behavioral) addictions which involve human-machine interactions" [2].

Maressa Hecht Orzack a clinician from Massachusetts and also researcher estimates that between 5% and 10% of American computer users are experiencing some level of addiction [3].

Victor Brenner studied Internet use through a World Wide Web survey. His preliminary results were published in Psychological Reports in 1997. He presented further results at American Psychiatric Association that were consistent with the earlier results. Brenner's subjects reported an average of 19 hours per week of Internet use. Many reported up to 10 signs of interference in role functioning (primarily failure to manage time, missing sleep, missing meals, etc.) [4].

Recent survey data show that increased use of the Internet may be linked to increases in loneliness, till alienation and depression. Of most concern are the findings that playing violent computer games may increase aggressiveness and desensitizes these child

to suffering, and that the use of computers may blur a child's ability to distinguish real life from simulation [5].

Other studies suggest that the effects of computer use on children's activities and development interfere in four broad areas: 1) physical well-being; 2) cognitive and academic skill development; 3) social development and relationships, and 4) perception of reality [6].

In addition, research focusing on the physical risk of extended computer use may be liked to an increased risk of obesity, seizures, and hand injuries. [7]

Surveys of parents suggest that they buy home computers and subscribe to Internet access to provide educational opportunities for their children and to prepare them for future. [8]

2 Methods

2.1 Design

This is a one phase, transversal study. For collecting the data concerning this issue we used a questionnaire applicable to the students. Its items were aimed at highlighting: 1. Frequency of computer use; 2. Interference of excessive use with school performance and social life; 3. Identification of a possible computer addiction. The data were processed using the SPSS statistics software, 13.0 version.

2.2 Participants

The researchers recruited all 7th grade students, all 9th and 11th grade students in 8 gymnasium schools and 9 high schools in Iasi, Romania. The total sample cohort consisted of 650 school students. Among the 11 to 18 years old students, 58.3% were boys and 41.7% were girls (N=650).

2.3 Materials and procedure

The students answered to a questionnaire comprising 36 questions about computer related activities.

Most questions were supposed to rate on a scale the frequency of occurrence of a certain event or issue; some questions solicited an open-answer or to choose an answer from a list.

The questions addressed self-appreciation behavior, cognition, opinions, and the attitude toward social life of the respondents.

The themes were chosen according to the objectives of the study and were based on the previous research concerning students' interests and needs at this age.

3. Results

More than 72% of students have a computer at home, and, of those, over 65% are connected to the Internet (see Fig. 1).

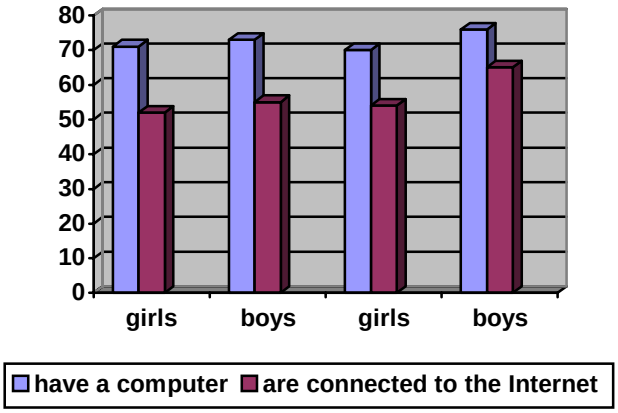

Fig. 1: Students having a computer and being connected to the Internet

Students were divided into three group users: minimal users (53%, until 3h/day), moderate users (32.5% between 3-5h/day) and excessive users (6.5% more 5h/day). We have evaluated differences among the three group users using the chi-square test for categorical data, analysis of variance for continuous data (see Fig.2).

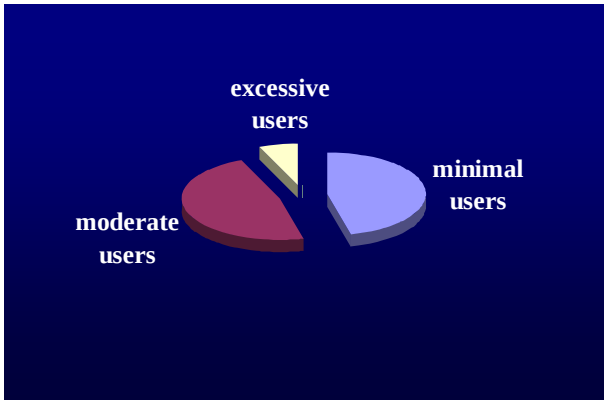

Fig. 2: Group's computer users.

Compared to time spent in using the computer, the overall results show that adolescents spend a considerable amount of time at the computer, on average more than three hours per day (Fig. 3).

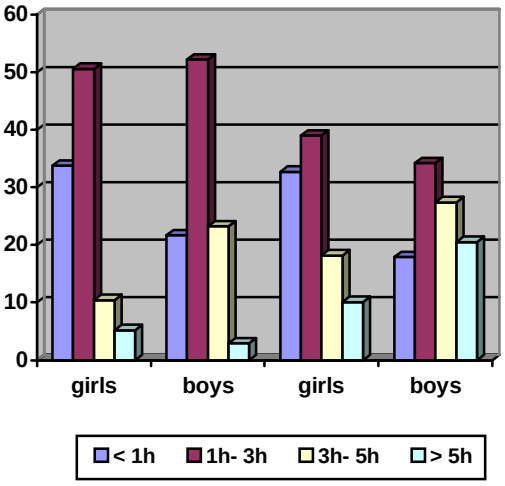

Fig. 3: Time spent on computer per day

Results show that over 72% of the prestigious gymnasium and high school students have home computers, while others go to Internet Cafés. Only few of them, less than 28%, report they use computers at school.

Regarding favorite spare time activities, computer use ranks at the top, while sport activities, are favored to a smaller extent. Preferred free-time activities are computer use, meeting friends, sports, films, and other activities.

More than 82% of subjects admit about they do *not* or only *occasionally* discuss computer use with their parents. This indicates the fact that, although they bought a computer for their children they do not supervise the way it is used.

In addition, they admit that their parents do not even try to reduce the time they spend in front of the computer, although the results (see Fig. 3) indicate a considerable percentage of students use their computer for more than three hours every day.

We could not say that the family is not present when 11 to 14 year-olds and 15 to 18 year-olds use their computers, but this is rather a passive presence, vaguely responsible and lacking involvement.

Students aged between 11 and 14 prefer to use their computer 6 pm and 9 pm (62.3% of the girls and 68.8% of the boys). Students aged between 15 and 18, prefer to use the computer very late, after 11 pm.

The subject's perception is that early computer use is related to better academic performance. Home computer use has been linked to improvements in general academic performance as well.

This survey tried also to identify aspects of computer addiction in gymnasium and high school students. Empirical research into 'Internet addiction' can roughly be divided into five areas: (1) survey studies that compare excessive Internet users with non-excessive users, (2) survey studies that have examined vulnerable groups of excessive Internet use, most notably students, (3) studies that examine the psychometric properties of excessive Internet use, (4) case studies of excessive Internet users and treatment case studies, and (5) correlational studies examining the relationship of excessive Internet use with other behaviors (e.g., psychiatric problems, depression, self-esteem low, etc.) [9], [10].

Results show a high tendency of students to spend more time alone with their computer, giving up their social or family duties; the survey also identified some situations close to school abandonment by students.

Although, 56% of subjects report that often and very often it happens to stay longer in front of the computer than initially expected, while 23% state this occurs occasionally; 21.9% consider that they rarely lose control of the time spent on computer. The results within the groups show a tendency of the 15-18 years old students to lose control more often of the time spent on the computer (see Fig.4).

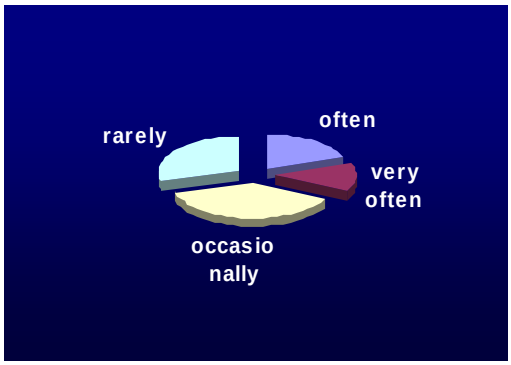

Fig.4. Percentage of students by age group reporting that they stay longer than expected in front of their computer

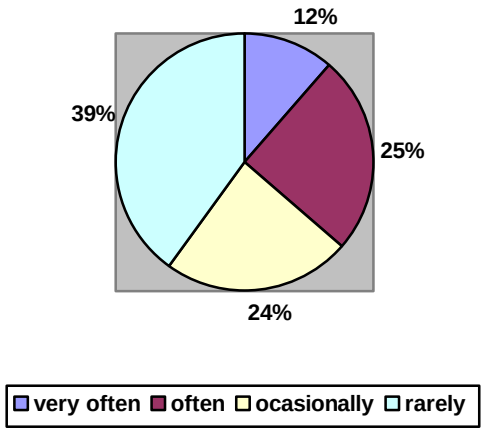

Fig.5. Preoccupation for computer when they are not using the computer

The feeling of being often and very often their preoccupied by using computer during another activity the rest of the day, it is reported by 37% from subjects. There are no significant differences between the two age groups (11-14 and 15-18 years old); the overall results are presented in the Fig.5

A total of 29.6% of student's state that they are often and very often using the computer in order to avoid unpleasant moods or feeling (Fig. 6).

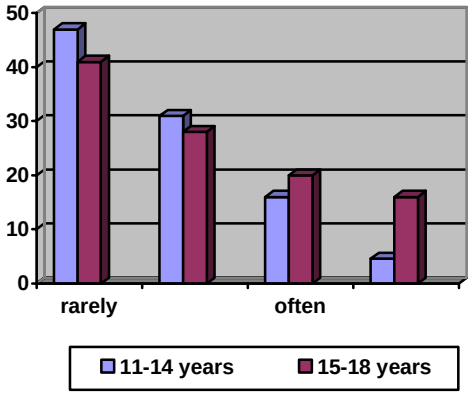

Fig.6. Computer use reported as avoiding unpleasant moods.

In order to use the computer, they easily cancel a meeting with friends or other activities including time spent with family, time for learning and for fun; still, 46.7% consider that this did not affect personal relationships and only 4.3% consider they refused important opportunities for staying longer on computer.

4. Discussion

Technology can influence psychological and social processes [12]. Computer use might be related to developing and maintaining behavior addiction. The continuing rise in popularity of Internet in order to facilitate communication, education, and also entertainment [13]. We make see became a necessity to explore relationship between addiction and use of technology.

In addition, studies of the effects of one "computer-based after-school program" show that children who participated in this program have had greater advances in reading, mathematics, computer knowledge, grammar and high scores on school achievement tests compared with children who did not participate [14].

Although little evidence indicates that the moderate use of computers to play games has a negative impact on children's friendships and family relationships, recent survey data show that increased use of Internet can be linked to increases in loneliness, till alienation and depression [15].

Like addiction to drugs, alcohol, cigarettes, or caffeine, computer addiction is marked by symptoms of increasing tolerance, withdrawal, mood changes, and interruption of social relationships. Children and adolescents who have become addicted to the computer will require increasing amounts of time in order to feel satisfied. When they do not have access to the computer, they can develops symptoms of withdrawal, including anxiety, depression, irritability, trembling hands, restlessness and obsessive ideas, compulsive behavior and phantasms inside of virtual life. Relationships in the real world may be neglected as those in the virtual world increase in importance. Academic performance is likely to suffer [16].

The DSM-IV TR and the ICD-10 (the diagnostic manuals of mental disorders) do not yet identifies a proper definition in the family of substance abuse disorders [17]. Till now it is considered a compulsive behavior although based on chemical mechanism similar for substance abuse. Further the perspective will be including in to the class of addiction.

The time alone cannot be an indicator of being addicted or engaging in compulsive behavior. Time must be correlated with other factors, such as whether the subject is a school student (who, as a whole, proportionally spends a greater amount of time online), whether he/she has any pre-existing conditions (such as mental disorder a depressive person or personality disorders more likely to spend more time online than someone who doesn't have this disorder), whether the subject has problems or issues in his life which may be causing him/ her to spend more time online (e.g., using it to "get away" from life's problems, a bad relationship, difficult social relations), etc. So is useless talking about whether children or teenagers are spending too much time online without this important context is useless.

It would appear that "socialization in virtual life" is what makes the Internet so "addicting" [18].

Being a social person is just a novelty, a phase that people go through. Critics say that it can't be compared to real relationships - and if some people prefer communicating with others via wires and circuits, there must be something wrong with them. They must be addicted. They must fear the challenging intimacy of real relationships [19].

A long other aspects of controlling the development of children, it may be necessary to develop a set of rules regarding the use of computer and the access to Internet [20].

5. Conclusion

Rates of computer and Internet use by children and adolescents have rapidly increased. Now day, there are no differences between sexes in overall computer

use rates. One interesting finding of this study is that 6.5% of participants with possible pathological computer use.

The parents may protect their children by advising and teaching them appropriate conducts toward computer.

This study is just a preliminary examination of many issues concerning children and computer use. The research findings are more mixed regarding the effects on children's social and psychological development and academic performance.

But overall, technology can be considered a positive enhancement to growth.

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