Measuring the problem use of internet – internal structures and dependences

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Abstract. The purpose of this article is to find some of the most important dimensions of the term “problem use of internet”. A questionnaire based survey among 579 students at secondary schools in Varna is conducted. The main examined dimensions are: time spent in internet, individual and emotional life, social life, home and school obligations. This paper raises the question of whether the students can be grouped based upon their internet experience. A clustering procedure is completed with variables of frequency of eight internet activities. Several cycles of hierarchal clustering are applied using the method of between-groups linkage with applied metrics for Squared Euclidian Distance. The F-test from the ANOVA table shows that the three most important indicators for the results of the clustering are: the frequency of game play; the frequency of socializing with other people online; and the frequency of shopping on the internet. Six clusters of people are defined.

Key words: internet addiction, internet dependency, hierarchal clustering.

1. Introduction

Focusing attention on the problems connected with the use of internet is influenced by two foundational tendencies:

- Internet has become an inseparable part of people’s daily lives (Statistics 2015);
- Several studies (Valsamidis et al. 2012, Young 1999, Zhang & Xin 2013, Tsai & Lin 2001, Saville et al. 2010, Lopez-Fernandez et al. 2013, Azadi et al. 2014) have proven that it is an actual problem and has a harmful influence on people’s lives, especially the under-aged.

The article uses the concept „problem use of internet“. It means: condition, which lead to damaging use of internet (extended time on the internet; withdrawing from other activities connected to the life of an individual such as work, educational, social or family responsibilities; focusing on internet based activities), which on their part lead to negative personal consequences (Kehayova-Stoycheva et al. 2017). The current research is a part of a research project, financed by the Program of the Ministry of Education for supporting research in higher education institutions (NP-155/2015). This research is its empirical phase.

The aim of this article is to identify models of internet use of school age children through an empirical way and through a system of assessment and judgment indicators of online behaviour in order to discover internal structures and dependencies.

The subject of the study is school age children. The focus on school age children has been dictated by the personal understanding of the authors that the future behaviour of children as active members of society and in social groups is of great importance.

The object of the research is the understanding and judgments of the students associated with their daily behaviour when using internet.

2. Methodological frame of the study

The psychometric approach is used to measure the problem use of internet. In combination with various statistical methods, the psychometric approach provides a good foundation for assessing the differences between the young people's self-evaluation of their internet use and its influence upon different aspects of their lives.

The applied research instrument contains 28 indicators, directly connected with determining the problem use of internet, as well as one multi-point indicator for determining activities completed on the internet and 3 basic demographic characteristics. The research instrument is tested for reliability and validity (overall validity; content, competitive and convergent validity) (Kehayova-Stoycheva et al. 2017). The fundamental indicators, included in the research instrument, are based upon four basic dimensions of observed phenomenon: time spent on the internet; individual and emotional life; social life; and home and school obligations (table 1).

Table 1.

Content of basic dimensions of problem use of internet measurement

Dimension (code)	Number of indicators in dimension	Indicator's code
Time spent in internet (T)	5	T1 ÷ T5
Individual and emotional life (IEL)	8	IEL1 ÷ IEL8
Social life (SL)	9	SL1 ÷ SL9
Home and school obligations (HSCO)	6	HSCO1 ÷ HSCO6
Total number of indicators for identification of problem use of internet (PUI)	28	

Almost all the (26) indicators are measured using an ordinal scale, two of which are with intervals. Two types of ordinal scales are used in order to achieve greater accuracy in assessing actual behaviour when gathering the initial data (table 2). All the scales have seven degrees.

Table 2.

Indicator's measurement scales – basic characteristics

Scale type	Range of Values	Number of degrees	Indicators measured by the scale
Interval	From “More than 10 days” to “0 days”	7	T1
Interval	From “0 Times” to “More than 10 times a day”	7	T2
Interval	From “0 Hours Daily” to “More than 10 Hours Daily”	7	T3
Ordinal	From “Never” to “Always”	7	T4, IEL1 ÷ IEL5; SL1÷SL6
Ordinal	From “Categorically Yes” to Categorically “No”	7	IEL 6 ÷ 8; SL7, SL8; HSCO4÷6

For the purpose of obtaining an overall final result from the whole sample, as well as intermediate results from the initial dimensions of the problem use of internet, all answers by variables are interpreted through the interval “Existence of a problem when using internet – The absence of a problem when using internet”, categorized into 7 degrees. In this way, the necessary conditions are created for the application of analysis techniques for more exact categorization of internal structures and dependencies between the dimensions and measures of the problem use of internet.

Table 3.

Transformational Meanings of the Scales

Scale type	Range of Values	Transformed meaning of the scale	Number of degrees	Indicators measured by the scale
Interval	From “More than 10 days” to “0 days”	From “Absence of a problem” to “Existence of a problem”	7	T1
Interval	From “0 Times” to “More than 10 times a day”		7	T2
Interval	From “0 Hours Daily” to “More than 10 Hours Daily”		7	T3
Ordinal	From “Never” to “Always”		7	T4, IEL1÷ IEL5; SL1÷SL6
Ordinal	From “Categorically Yes” to “Categorically No”		7	IEL 6 ÷ 8; SL7, SL8; HSCO4÷ 6

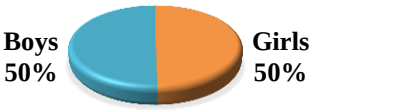
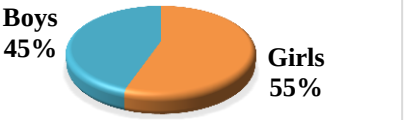
The primary data is gathered in educational institutions using group surveys. 579 eighth grade students to eleventh grade students from Varna, Bulgaria took part in the study. Twelfth graders are excluded from the observation because the period of data-gathering took place from the end of April to the middle of June in 2016.

The basic structures of the respondents and their experience using internet

The age of those observed is between 14 and 18 years old. The age of respondents is not registered directly. Instead of direct observation, the observed person’s grade is registered. The other basic demographic characteristic observed is the person’s sex (table 4).

Table 4.

Distribution of Respondents by Grade and Sex

Grade	Distribution of Students by Sex
Eighth 26,4% of the Respondents	
Ninth 29,9% of the Respondents	
Tenth 21,4% of the Respondents	
Eleventh 22,3% of the Respondents	

Source: Own calculations

Concerning the diversity of students included in the survey, it can be said that there are present from both criteria – sex and grade. Therefore, the research can be used to formulate some theoretical hypotheses, which can be the foundation for future quantitative research projects.

Internet experience is observed by measuring the frequency of doing some (altogether 8) primary activities: playing games; listening to music, watching films and programs; searching for information not related to school; searching for school-related information; using email; interacting with others online; shopping; and online training. The frequency is measured on a 7-point scale from “1 – never does this activity” to “7 – always does this activity”. Two criteria are applied, in order to categorize the respondents, to understand whether the participants meet the required experience with internet. The first criterion is that the subject did more than a 5 of the various activities on internet. The second criterion is that the subject did at least half of these activities often. Concerning the first criteria, 95.4% of the studied students indicated that they have done at least 6 of the 8 activities. In connection with the second criteria, an index is calculated for the frequency of total experience of the number of activities carried out on internet and the number of activities frequently performed. The index values range between 0 and 1. The closer the value came to 1 meant that the internet activity of the respondent is more frequent. The limit of the value for the frequency of internet activity, which would meet the conditions of the second criterion, is 0.5. Only 41.6% of the students are doing more than 4 of the activities which met this condition. Also included in the category frequent internet use are respondents, who have an index less than 0.5, but who have acknowledged that they have spent more than 3 hours daily on the internet (Liu & Kuo 2007). This condition is accepted as normal, because a person might not do many of the observed internet activities but

instead only does one activity often and thus spends much time on internet. The share of those meeting the second criteria for frequency of internet activity was 89.9%.

As a result of the completed categorization procedure, three levels of activity were identified through the above-mentioned criteria (fig. 1).

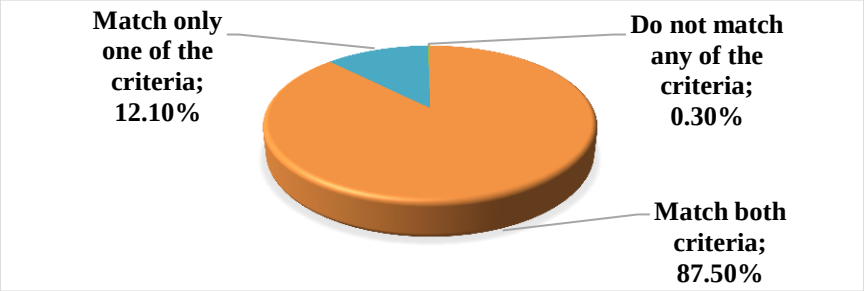


Figure 1. Structure of respondents according to whether they fall within/without the criteria for internet experience

Source: Own calculation

From the group of respondents that only met one of the purposed criteria of categorization of internet activity, 88.4% of them only met the criteria for various internet activities, and the other 11.6% – the criteria for frequency of internet activity. The data indicates that internet experience can be categorized in 3 groups: (1) great experience (students who do many activities and frequently); (2) little experience (students, who do many activities but rarely and students who do few activities but often) and (3) lack of experience (students, who do little activity and rarely).

The research raises the question of whether the students can be grouped based upon their internet experience. Such a grouping provides the opportunity to gain richer pictures of the students' internet activity. For this purpose, a clustering procedure is completed with variables of frequency of eight internet activities. Initially, several cycles of hierarchal clustering are applied using the method of between-groups linkage with applied metrics for Squared Euclidian Distance. Initially, between 2 and 10 clusters are set. Because of the large number of cases, it is difficult to use the agglomeration table and dendrogram. The analysis of the frequencies of the cluster affiliations (Appendix 1) clearly shows that in every situation between 85% and 99% of the cases are classified in one of the cluster groups. This aggregation is much too large, which forced the creation of a greater number of clusters in order to verify whether subgroups exist within the identified clusters of the previous cycle. A second clustering procedure is done with the same characteristics, which can only be differentiated from the first by the initial number of possible clusters – between 2 and 30. The analysis of the frequencies shows that in clusters 26 to 30 are formed 6 groups with more than 20 cases, 4 groups with between 10 and 19 cases and several independent clusters. No other researches on the issue are identified to further validation of the decision on the possible number of clusters. A reasonable number of clusters (based upon the number of captured values and the expected clarity of the profile of the clusters) is 6. Another clustering procedure is applied used the K-means method. The F-test from the ANOVA table (Appendix 2) shows that the three most important indicators for the results of the clustering are: the frequency of game play; the frequency of socializing with other people online; and the frequency of shopping on the internet (table 5).

Table 5.

Profile of cluster groups according to frequency of completion of observed internet activity (6 clusters)

Cluster Groups	Profile of people	Size of the cluster
Cluster 1	Play games **from time to time; often** enjoy music, films and programs; **very often** search for non-school related information; **from time to time** search for school-related information; **from time to time** use email; **from time to time** interact with others online; **very rarely** shop online; **rarely** study online	11,7%
Cluster 2	Play games **from time to time; often** enjoy music, films and programs; **often** search for non-school related information; **often** search for school-related information; **from time to time** use email; **always** interact with others online; **rarely** shop online; **very rarely** study online	20,2%

Cluster 3	Play games **from time to time; often** enjoy music, films and programs; **very often** search for non-school related information; **rarely** search for school-related information; **rarely** use email; **very often** interact with others online; **very rarely** shop online; **very rarely** study online	22,8%
Cluster 4	Play games **often; very often** enjoy music, films and programs; **very often** search for non-school related information; **often** search for school-related information; **often** use email; **always** interact with others online; **from time to time** shop online; **from time to time** study online	11,9%
Cluster 5	Play games **from time to time; often** enjoy music, films and programs; **often** search for non-school related information; **rarely** search for school-related information; **very rarely** use email; **very often** interact with others online; **often** shop online; **rarely** study online	16,5%
Cluster 6	Play games **rarely; from time to time** enjoy music, films and programs; **rarely** search for non-school related information; **rarely** search for school-related information; **very rarely** use email; **often** interact with others online; **very rarely** shop online; **very rarely** study online	16,9%

Source: Own calculation

It is difficult to tell whether it is possible to get a clear enough profile (clear inner similarity and a clear external difference) with only 6 clusters. One possible explanation is that almost all of the observed students did more than 6 of the observed internet activities. Despite that it is can be said that:

• in cluster 1 are students, who very often search for non-related school information and who enjoy music, films and programs – “seekers of general information and entertainment”;

• in cluster 2 – when they are on internet, they are always interacting with others online, enjoying films, music and programs, and searching for other information (school related and non-school related) – “chatters and searchers of entertainment and information”;

• in cluster 3 – quite often interact with other people online, search for non-school related information, and often enjoy music, films and programs – “communicators and searchers for general information and entertainment”;

• in cluster 4 are grouped students, whose activity is of a high frequency, but whose most distinctive feature is that this cluster is the only one, whose members often use email and play games – “Postal workers and gamers”;

• cluster 5 also contains students, whose activity is of a high frequency, but their only distinctive feature is that they are a grouping of people, who often shop online – “shoppers”;

• in cluster 6 are grouped students, whose activity is infrequent. The only activity which they do often is interacting with others online – “communicators”.

It can be quite reasonable to assume that it is possible to search and find not more than 6 clusters (in the group of students) according to the internet activities. We recommend conducting a quantitative study to see if the profile is "cleared" to a greater extent by reducing the number of cluster groups to 5, 4 or 3.

Intellectual curiosity raises the questions of whether the profile of the identified groups would be clearer, if there is observed a difference in behaviour while using internet? In order to identify types of behaviour on internet some of the indicators for time in the research instrument may be used: how many times a day internet is accessed; how many hours daily are spent on internet; and how many days could one go without internet. Several cluster procedures are completed upon the observed subjects using these three indicators. This grouping is done individually without combining it with the indicators of frequency of activity, so that “watered-down” profiles are not produced. The same steps are taken, such as initially completing a hierarchal cluster using the between-groups linkage method applying the metric of Squared Euclidian Distance, which initially produced between 2 and 10 clusters. The analysis of the frequencies of cluster affiliations of the respondents showed that big enough groups can be obtained with 2, 3, 4 and 5 clusters. The application of the K-means method revealed an interesting differentiation from the view of the evaluation of time that one could “go without” the internet and because of that 4 cluster groups will be examined here from that point of view of internet behaviour (table 6).

Table 6.

Profile of Cluster Groups by the type of internet behaviour (4 clusters)

Cluster Groups	Profile	Size of the cluster
Cluster 1 “Spend an inordinately long time and are consciously attached to internet”	Access internet more than 10 times day and spend 5 to 6 hours online; they claim that they cannot go a day without internet.	24,2%
Cluster 2 “Spend an inordinate amount of time, but admit that they can go without internet”	Access the internet more than 10 times a day and spend 5 to 6 hours online; they claim that they can go 9-10 days without internet.	39,4%
Cluster 3 “Spend a moderate amount of time on internet and realize they are consciously attached to internet”	Access the internet 3-4 times a day and spend 3 to 4 hours online; they claim that they cannot go a day without internet.	17,7%
Cluster 4 “Spend much time, but admit that they can go without internet”	Access internet 3-4 times a day and spend 5 to 6 hours online; they claim that they can go 9-10 days without internet.	18,7%

Source: Own calculation

It can clearly be seen according to the frequency of accessing internet and time spent on it that two main groups can be observed. It is interesting that both of these groups can be further divided into two sub-groups – one contains respondents who cannot go without internet for a day and the other, those who can go without internet for several day. This result is interesting for the consequent findings that can be taken from the data for problem internet use. Almost all authors of the examined articles on this topic are categorical that when problematic behaviour exists, there is a propensity of those affected to ignore the problem and deny its existence. In the current study, it is not possible to categorically state whether the same situation exists here. The clustering results, however, can serve in forming problem areas, which can be studied more in depth through modification and inclusion of additional research instruments and methods.

A cross-cluster analysis is done across the members of the cluster groups based upon the types of internet behaviour in order to enrich the profile of the 6 identified groups of persons according to the frequency of different internet activities (table 7).

Table 7.

Distribution of cluster affiliations based upon the frequency of different internet activities and according to the type of internet behaviour

Cluster affiliations based upon the frequency of different internet activities	Cluster affiliations according to the type of internet behavior			
	“Spend an inordinately long time and realization of consciously attached to internet”	**“Spend an inordinate amount of time, but admit that they can go without internet”**	**“Spend a moderate amount of time on the internet and realize they are consciously attached to internet”**	**“Spend much time, but admit that they can go without the internet”**
“Seekers of general information and entertainment”	25.0%	17.2%	34.4%	23.4%
“Chatters and seekers of entertainment and information”	24.5%	39.1%	16.4%	20.0%
“Communicators and seekers of general information and entertainment”	23.1%	47.1%	14.9%	14.9%
“E-mailers and gamers”	28.1%	50.0%	10.9%	10.9%
“Shoppers”	22.5%	49.4%	7.9%	20.2%
“Communicators”	22.5%	27.0%	27.0%	23.6%

Note: a statistically significant relationship is identified at a level of significance of 0.01.

Source: Own calculation

Several problems can be formed from the distribution, but they need to be verified through quantitative research projects:

• The majority of the group “Seekers of general information and entertainment” spent 3 to 6 hours daily on the net. Half of them know that they could “go without” the internet for several days.

• The groups “Chatters and seekers of entertainment and information”, “Communicators and seekers of general information and entertainment”, “E-mailers and gamers”, and “Shoppers” spend quite a lot of time on internet (more than 10 hours daily – according to the respondents). More than half of them, however, admit that they can go without internet for more than 10 days.

Internal structures and dependencies found in the measurements of problem internet use

In the course of testing and validation of the research instrument (Kehayova-Stoycheva et al. 2017) several tests are executed in search of other internal factor structures of variables, that would form measurable differences from the conceptually defined ones (table 1). From this view point, the results of the applied exploratory factor analysis (EFA) do not give any satisfactory results. For this reason, the first task at this study is to verify again the conceptually defined structure of dimensions of problem use of internet. For that purpose, a confirmatory factor analysis (CFA) is applied using IBM SPSS AMOS 18.0 (fig. 2).

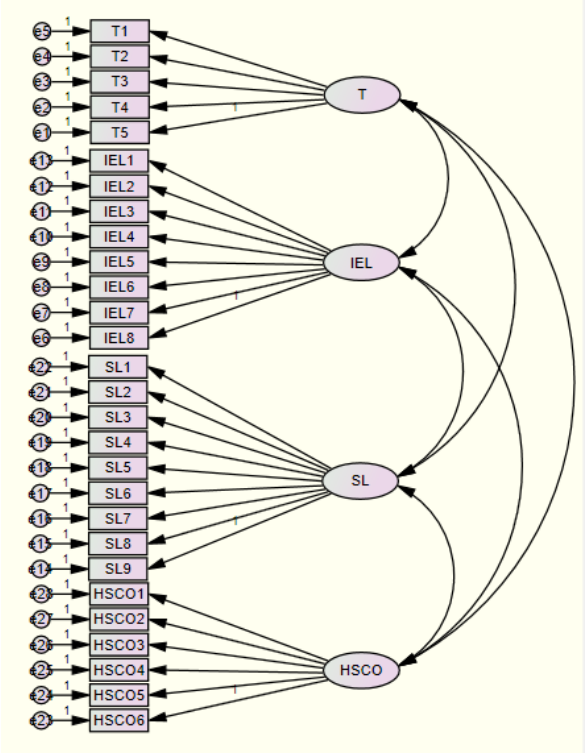


Figure 2. Path diagram for conducting a confirmatory factor analysis of the conceptual defined dimensions of problem use of internet (28 unique factors)
Source: Screenshot in AMOS

Conceptual factors structure did not produce an identifiable model in AMOS. An analysis of the data for multi-variant normal distribution of variables (completed automatically, because one of the important conditions of completing a confirmatory factor analysis is for observable variables to be distributed normally (Albright 2008; Ahmad 2005)) shows that 6 of the variables do not meet the conditions for asymmetry and excess (see Appendix 3).

Table 8.

Variables that do not meet the conditions for normal distribution

Code and Name of the Variables	**Affiliation with the conceptual dimension of problem use of internet**	**Mo and Mean for 7 point scale (1-absence of a problem – 7 – presence of a problem**	**Share of the total of Mo (%)**
SL3 – How often would you prefer to spend time on internet instead of with your favorite girl/boy?	Social Life	1 1.82	67.5
SL5 – Do you happen to prefer contact with your internet friends instead of contacting with your real friends?		1 1.92	61.2
SL8 – Do you think that internet relationships are more valuable and fulfilling in comparison with your real-life relationships?		1 1.59	78.0
SL9 – Do you perceive the internet as a “friend” that can take the place of your real friends?		1 1.77	79.4
IEL7 – Do you think that the real world is not as exciting as the activities that you take part in on the internet?	Intellectual and Emotional Life	1 1.45	68.1
IEL 8 – Do you think that internet gives you an emotional experience that you cannot find in real life?		1 1.37	61.8

Source: Own calculations

All of the indicated variables are connected to important human values – love, friendship, life and way of life. Thus, they are connected with some very important beliefs. Beliefs, which are widely held and disseminated to all levels of society especially to the level of reference group of respondents. It is possible to observe a “damaged authenticity” in the way that the students have consciously answered these questions. It is difficult to expect that a person (even one of school-age) to consciously say that they often ignore their love, because of their activities in internet. The same is true of the remaining variables in this group. Results from other studies (Children International 2006; Azadi et al. 2014; Balkan & Adalıer 2012; Jahanian & Seifury 2013) indicate that few people consciously admit a problem with their internet behaviour. Using the current research methodology, applied to this situation, however, it is impossible to prove whether the question has been consciously answered “correctly”, and if yes, to understand for which of the study subjects it is true.

It is important to clarify that between 0.9% and 5.3% of the respondents have categorically shared that: the real world is not as exciting as the activities that they take part in internet; internet provides them with emotional experiences, which they cannot find in real life; quite often they prefer internet to their loved one, boy/girl; they prefer their internet friends to their real friends; their relationships on internet are more valuable in comparison to their relationships in real life and that they accept internet as a “friend”, which can take the place of their real friends. Since this current research is not representative, no more generalizations can be made. It is necessary to track this group of students or other groups of students through other quantitative research projects in order to determine the real size of the group of people with “problem use of internet”. However, the fact remains that such a group exists.

The aforementioned 6 variables, from the tests conducted to this point concerning the content of the measurement of problem use of internet, generate noise which interferes with extracting additional internal structures. At this point, the decision is made to repeat the confirmatory factor analysis but excluding the variables from table 8.

The second attempt is successful because of the identifiability of the proposed structure (see fig. 3). Aside from that, however, the conceptual defining dimensions did not “fit” well with the empirical data, which can be seen from the data of the initial indicators for the adequacy of the model in table 9.

Table 9.

Initial indicators for the model’s adequacy (Albright 2008; Hafiz et al. 2013)

Indicators	Reference Values	Value of the Model	Conclusion
χ^2 (CMIN) – chi squared	The closer to 0 the better	1689,934	
df – degree of freedom	-	203	
P - probability	≥ 0,05	,000	Not covered
χ^2/df	≤ 2 - 5	8,325	Not covered
GFI (Goodness of fit index) – Index of matching data	≥ 0,90	0,786	Close, but not satisfactory
AGFI (Adjusted goodness of fit index) – Adjusted index of matching data	≥ 0,90	0,734	Close, but not satisfactory
CFI (Comparative fit index) – Comparable Match Index	≥ 0,95	0,631	Not covered
RMSEA (Root mean squared error of approximation) – Mean root square of covariant remnants	≤ 0,08	0,113	Not covered

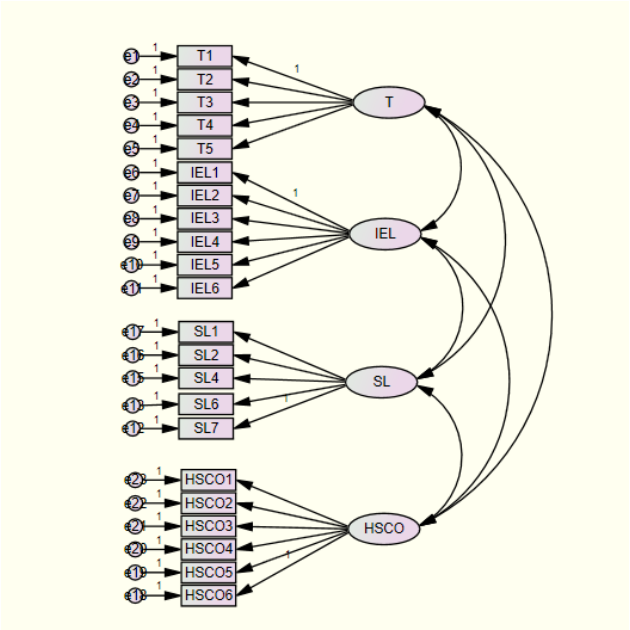


Figure 3. Path diagram for conducting a confirmatory factor analysis of the conceptual defined dimensions of problem use of internet (22 unique factors)
Source: Screenshot in AMOS

At this point in the study, it is necessary to accept an alternative hypothesis that the applied covariant matrix is not equivalent to the observed one. Practically, that means that the conceptual defining factor groups (T – Time spent on the internet; IEL – Individual and Emotional Life; SL – Social Life; and HSCO – Home and School Obligations) can have different content of the observed variables. In order to test this, an exploratory factor analysis (EFA) is conducted with 22 variables (KMO = 0.865; Bartlett’s Test of Sphericity = 3351.931). 5 factors are initially extracted using the method of principal components and Varimax rotation (see all the initial data from the factor analysis with 5 factors in Appendix 4). A quick overview of the rotated component matrix shows that two indicators are found in the fifth factor. As a fact that is not an actual problem, but the results still need to be checked using the previously used four factors (see all the initial data from the factor analysis with 4 factors in Appendix 5). Comparison of the internal consistency of the newly produced factor groups (Table 10) shows that all of the groups have acceptable results (executable and close to the admissible value of 0.700) of the Cronbach α coefficient. Determining the number and contents of the factor groups is decided by the next run of the Confirmatory Factor Analysis (CFA).

Table 10.

Comparison of results from internal consistency test of factor groups with the 4th and 5th factor

Factor and included variables	Value of Cronbach's α
Factor 1: T2, T3, T4, IEL1, IEL4, IEL5, SL4	0,758
Factor 2: Sl1, SL6, IEL2, IEL3, SL1, SL6	0,774
Factor 3: HSCO4, HSCO5, HSCO6	0,863
Factor 4: SL2, SL7, IEL6	0,558
Factor 5: T1, T5	0,513

Factor and included variables	Value of Cronbach's α
Factor 1: T1, T2, T3, T4, IEl1, IEL3, IEL4, IEL5, SL4	0,667
Factor 2: T5, SL1, SL6, HSCO1, HSCO2, HSCO3	0,536
Factor 3: HSCO4, HSCO5, HSCO6	0,863
Factor 4: SL2, SL7, IEL2, IEL6	0,690

Source: Own calculations

The factor structure of the extracted five factors obtained from the running of the Confirmatory Factor Analysis does not provide an identifiable model. In contrast, the four factor structure not only provides an identifiable model, but also most of the initial adequate indicators approach referential values (fig. 4). From this data a decision can be made that the four-factor structure is the most appropriate for the variables with which the current study is working.

All standardized regression coefficients fulfilled the requirement to be equal or greater than 0.4 (Joreskog & Sorbom 1996). Factor 1 combines nine variables, which the standardized regression coefficients move within the range of between 0.68 and 0.38 (see Appendix 6). Between 15-47% is the explainable variation of variables of this factor (see the data for R2 in Appendix 6). Looking at content relationships, the grouped variables refer to time spent on internet; frequency of getting on internet; hours of activity during the day; preference of internet to other interesting activities; “getting trapped” on internet (staying up late; longer than expected; getting on the internet while with friends); online advice from friends more often than getting advice from friends “live”; assessment of ability to go without internet; emotional condition of the subject when internet activity is interrupted (fig.4).

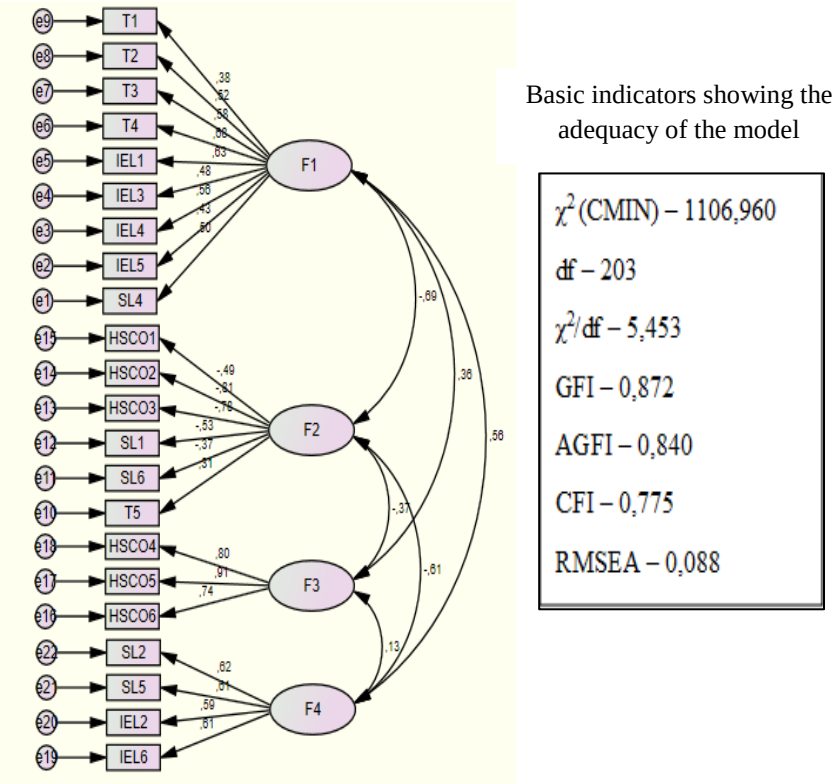


Figure 4. Path diagram with the results of a confirmatory factor analysis with four factor structures (22 unique factors)
Source: Screenshot in AMOS

From this point of view, these factors are called “Time, Involvement, and Attachment”. Involvement here means, when a person so obsessed in his internet activity that he does not meet his primary needs (sleep and longer time spent on internet that initially planned). Attachment, because the internet active person, in important situations (meetings with friends, consulting on important questions), gets online, and when it comes to important decisions, he prefers to consult others online. The most often indicated answer (Mo) based upon the measured indicators “time, involvement, and attachment” from the level of the respondents are presented in table 11.

Table 11.

Mo by indicators of the dimension “Time, Involvement, and Attachment” for the whole sample, according to sex and grade

Question	***For the whole sample***	***Sex***		***Grade***			
		Boys	***Girls***	***8th***	***9th***	***10th***	***11th***
T1.Do you spend more time than expected on internet?	Often	From time to time	Often	Often	Often	Very Often	From time to time
IEL1.Do you happen to stay up late on the internet instead of going to bed?	Very Often	From time to time	Often	From time to time	Very Often	Often	Very Often
T3.How hours a day do you usually spend on internet?	3-4	3-4	3-4	3-4	3-4	3-4	3-4
IEL4.Do you happen to get on internet even when you have other interesting activities you could be doing?	Very rarely	Very rarely	Very rarely	Very rarely	Very rarely	Very rarely	Very rarely
T2.How many times a day do you usually get on internet?	More than 10 times	More than 10 times	More than 10 times	More than 10 times	More than 10 times	More than 10 times	More than 10 times
SL4.Do you happen to get on internet while you are with friends?	From time to time	From time to time	From time to time	Often	From time to time	From time to time	From time to time
IEL3.Do you happen to be annoyed, angered, or feel some other such emotion, if for some reason your internet activities are interrupted?	Very rarely	Very rarely	Very rarely	Very rarely	Very rarely	From time to time	Very rarely
IEL5.When you are making an important decision, do you seek counsel from online friends?	Very rarely	Very rarely	From time to time	Very rarely	Never	Very rarely	Very rarely
T1. How many days can you go without the internet?	0	0	0	0	0	9 - 10	0

Source: Own calculations

The data shows that differences (according to the sex and grade they are in) in students’ attitude concerning the indicators in the first dimension may be found in 3 of the indicators: whether they spend more time on internet than expected; staying up late on the computer rather than sleeping; and consulting primarily with online friends about important decisions. The other 6 indicators in this dimension mostly develop in the same way no matter whether they are girls or boys and it also did not depend on the grade the child is in.

Another comparison is completed on the indicators of the dimension. An index of problematic behaviour is calculated – indicator PBI (table 12), which reflects a ratio between the proportion of individuals with problematic behaviour and the proportion of individuals without problematic behaviour in the respective indicator. Values of an indicator < 1 show that a larger part of the researched individuals have problematic behaviour for that indicator, and values of an indicator > 1 – the opposite.

Table 12.

Values of the Problem Behavior Index according to the indicators measured for “Time, Involvement, and Attachment”

Indicator	T4	IEL1	T3	IEL4	T2	SL4	IEL3	IEL5	T1
Value of the PBI	0,27	0,53	2,66	2,69	0,17	1,02	1,31	2,6	1,19

Problem behavior at the aggregate level is observed with the indicators for: staying on internet longer than originally planned; frequency of getting on internet during the day and staying on internet until late at night instead of sleeping. For three of the indicators (whether they get on the internet while with friends; how many days they can go without the internet and do they have a negative emotional attitude, if something interrupts their internet activities), the aggregates, showing problem behavior and those that do not, are almost equal (index values are around 1).

Six indicators are grouped in factor 2. All the absolute values fulfill to a satisfactory degree the requirement to be around 0.4 (they are found in the area between 0.31 and 0.81 – Appendix 6). Almost all values have a negative impact on the factor. Between 9-61% is the accepted variation of the variables for this factor (Appendix 6). In terms of content, here are grouped indicators, which refer to ignoring various tasks or delaying to do these tasks in order to stay on the internet, as well as the assessment of the ability to reduce the use of the Internet. For this reason, this factor is called “neglecting activities and refusal to take part in other activities and readiness to decrease use of the internet”. Among the respondents, no differences in student behavior can be found with regard to the dimension composite indicators (table 13).

Table 13.

Mo by indicators of the dimension “neglecting activities and refusal to take part in other activities and readiness to decrease use of the internet” for the whole sample according to sex and grade

Question	***For the whole sample***	***Sex***		***Grade***			
		Boys	***Girls***	***8th***	***9th***	***10th***	***11th***
HSCO2. Have you ever put off other engagements because of internet?	From time to time	Often	From time to time	Very rarely	From time to time	From time to time	Often
HSCO3. Have you ever completely ignored other engagements because of internet?	Never	Never	Never	Never	Never	Never	Never
SL1. Have you ever ignored members of your family?	Never	Never	Very rarely	Never	Very rarely	Very rarely	Very rarely
HSCO1. When you go home, is the first thing to do to turn on your computer?	Very rarely	Never	Very rarely	Very rarely	Very rarely	Very rarely	Very rarely
SL6. Would you refuse to go interesting school events because you prefer to stay on the net?	Never	Never	Never	Never	Never	Never	Never
T5. Do you think that if you decide to decrease your internet use, you would be able to do it?	Categorically No	Categorically No	Categorically No	Categorically No	Categorically No	Categorically No	Categorically No

Source: Own calculation

The only variable which has a low index of problem behaviour (0.48) is the variable connected to the will to decrease internet use. 32.4% of the students are categorical that they cannot achieve a decrease in their internet activities, even if they decide that they need to. Concerning the variable that students procrastinate in fulfilling their home and school commitments because of the internet, there is almost an equal proportion of students with problematic behaviour and those without. Concerning the rest of the variables in the factor group, a greater proportion of the students are without problem behaviour (table 14).

Table 14.

Values of the Problem Behavior Index of the dimension “neglecting activities and refusal to take part in other activities and readiness to decrease use of internet”

Indicator	HSCO2	HSCO3	SL1	HSCO1	SL6	T5
Value of the PBI	0,93	2,84	7,43	1,51	5,33	0,48

Source: Own calculations

Factor 3 has a clear and clean content. And the three variables grouped here are related to school commitments. It is called “school performance” (Appendix 6). And the three indicators have a very high value of the regression coefficients. All the regression coefficients are positive. The proportion of the explained variation of variables of the factor is within 55 – 83%. Independent of the student’s sex or grade in which they study, the structure of the answers for the indicators is identical. According to this assessment, the students are almost equally divided about whether internet interferes with their studies or not. The value of the index of problem behaviour according to the indicator (PBI_{HSCOS}) is 1.25. The fact that 19.2% of the respondents are categorical that internet interfered with their studies should not be ignored. Almost more than half of the students do not share the opinion that internet does not cause a lack of concentration in school (PBI_{HSCOS} = 1.65). A great number of students do not share the opinion that internet has a negative impact on their grades in school (PBI_{HSCOS}=1.89). The number of students who are categorical that internet has a negative impact are almost 15%.

The last factor, factor 4, combines the four variables, which are related to a preference for being on the internet instead of meeting with friends or eating, with the belief that internet provides a better place for getting acquainted with people than in “real” life, and with a feeling of greater comfort with the virtual world in comparison with the real world. This factor is called “Social Comfort”. All the values for the regression coefficients exceed 0.4 and the portion of explainable variation of variables of this factor is within the range of 13-39% (Appendix 6). Also with this factor no difference is registered in the structure of the behaviour concerning sex or the grade in which they study. And the four variables, which constitute the dimension of “Social Comfort”, have values in the index of problem behaviour (PBI) greater than 5.

Confirmatory Factor Analysis (CFA) shows interdependencies between the four configured dimensions (factors) (table 15).

Table 15.

Interdependencies between the dimensions for Problem Internet Use (Correlation coefficients)

Dimensions	“Time, Involvement, and Attachment”	“Neglecting activities and refusal to take part in other activities and readiness to decrease use of the internet”	“School Results”	“Social Comfort”
“Time, Involvement, and Attachment”	-	-0,698	0,356	0,623
“Neglecting activities and refusal to take part in other activities and readiness to decrease use of the internet”	-0,698	-	-0,373	-0,692
“School Results”	0,356	-0,373	-	0,148
“Social Comfort”	0,623	-0,692	0,148	-

The dimension “Time, Involvement, and Attachment” and “Neglect and Withdrawal from other activities and readiness to decrease internet use” have a moderately high and inverse proportionality, just as with the dimension “Neglect and Withdrawal from other activities and readiness to decrease internet use” and “Social Comfort”. Moderately high, but direct proportionality also exists between “Time, Involvement, and Attachment” and “Social Comfort”.

The research instrument is verified to see whether it “catches” problem behaviour on an individual level. For this purpose, five additional variables are calculated for each respondent:

• F1, which represents a total sum of the responses of the dimension indicators “Time, Involvement, and Attachment”;

• F2 – a total sum of the responses of the indicators in dimension “Neglect and withdrawal from other activities and readiness to decrease internet use”;

- F3 – a total sum of the responses of the indicators in dimension “School performance”;
- F4 – a total sum of the responses of the indicators in dimension “Social comfort”;
- PUI –total sum of the responses for all 22 variables used to measure problem use of internet.

The results of each of the new variables allow each individual to be categorized according to each variable into three categories: lack of a problem with respective variable; likelihood of problem behaviour with the respective variable; existence of a problem with the respective variable (table 16).

Table 16.

Range of intervals for categorizing the respondents based on the variables for assessing problem internet behaviour

Variables	***F1***	***F2***	***F3***	***F4***	***PUI***
Categories of respondents	***9 ÷ 63***	***6 ÷ 42***	***3 ÷21***	***4 ÷ 28***	***22÷ 154***
Lack of a problem with this variable	9 ÷ 26	6 ÷ 17	3 ÷ 9	4 ÷ 11	22 ÷ 65
More likely to exhibit problem behavior with this variable	27 ÷ 44	18 ÷ 30	10 ÷ 16	12 ÷ 20	66 ÷ 109
Existence of a problem with this variable	45 ÷ 63	31 ÷ 42	17 ÷ 21	21 ÷ 28	110 ÷ 154

Source: Own calculations

The proportion of students categorized with problem behaviour according to the variables of the dimension “Time, Involvement, and Attachment” is 15%. According to the dimension of “Neglect and Withdrawal from other activities and readiness to decrease internet use” – 4.5%; according to “School Performance” – 19.4%; according to “Social Comfort: – 1.4%. The aggregate variable for problematic internet use “catches” 2.4% of students categorizing them with problem behaviour for all the indicators used in this research instrument.

3. Conclusion

Some of the main dimensions of the term “problem use of internet” are defined. Using hierarchical clustering six clusters with people are defined.

Cluster 1 – seekers of general information and entertainment.

Cluster 2 – chatters and searchers of entertainment and information.

Cluster 3 – communicators and searchers for general information and entertainment.

Cluster 4 – postal workers and gamers.

Cluster 5 – shoppers.

Cluster 6 – communicators.

It is necessary to track other groups of students through other quantitative research projects in order to determine the real size of the group of people with “problem use of internet”.

An index of problematic behaviour (PBI) is calculated. It reflects a ratio between the proportion of individuals with problematic behaviour and the proportion of individuals without problematic behaviour in the respective indicator. The values of the PBI are calculated in the following dimensions: (1) time, involvement, and attachment, (2) neglecting activities and refusal to take part in other activities and readiness to decrease use of the internet, (3) school performance and (4) social comfort.

Four additional variables are calculated – the total sum of responses for each dimension. PUI is calculated – the total sum of the responses for all 22 variables used to measure problem use of internet. The results of each of the new variables allow each individual to be categorized according to each variable into three categories: lack of a problem with respective variable; likelihood of problem behaviour with the respective variable; existence of a problem with the respective variable. The aggregate variable for problematic internet use “catches” 2.4% of students categorizing them with problem behaviour for all the indicators used in this research instrument.

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Appendixes

Appendix 1

One-dimensional distribution of the cluster affiliation of the respondents based on the frequency of observed activities with 2 to 10 cluster groups

Average Linkage (Between Groups) – 10 cluster groups

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	463	80.0	85.0	85.0
	2	19	3.3	3.5	88.4
	3	24	4.1	4.4	92.8
	4	5	.9	.9	93.8
	5	5	.9	.9	94.7
	6	21	3.6	3.9	98.5
	7	1	.2	.2	98.7
	8	5	.9	.9	99.6
	9	1	.2	.2	99.8
	10	1	.2	.2	100.0
	Total	545	94.1	100.0	
Missing	System	34	5.9		
Total		579	100.0		

Average Linkage (Between Groups) – 9 cluster groups

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	482	83.2	88.4	88.4
	2	24	4.1	4.4	92.8
	3	5	.9	.9	93.8
	4	5	.9	.9	94.7
	5	21	3.6	3.9	98.5
	6	1	.2	.2	98.7
	7	5	.9	.9	99.6
	8	1	.2	.2	99.8
	9	1	.2	.2	100.0
	Total	545	94.1	100.0	
Missing	System	34	5.9		
Total		579	100.0		

Average Linkage (Between Groups) – 7 cluster groups

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	487	84.1	89.4	89.4
	2	25	4.3	4.6	93.9
	3	5	.9	.9	94.9
	4	5	.9	.9	95.8
	5	21	3.6	3.9	99.6
	6	1	.2	.2	99.8
	7	1	.2	.2	100.0
	Total	545	94.1	100.0	
Missing	System	34	5.9		
Total		579	100.0		

Average Linkage (Between Groups) – 6 cluster groups

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	512	88.4	93.9	93.9
	2	5	.9	.9	94.9
	3	5	.9	.9	95.8
	4	21	3.6	3.9	99.6
	5	1	.2	.2	99.8
	6	1	.2	.2	100.0
	Total	545	94.1	100.0	
Missing	System	34	5.9		
Total		579	100.0		

Average Linkage (Between Groups) – 5 cluster groups

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	517	89.3	94.9	94.9
	2	5	.9	.9	95.8
	3	21	3.6	3.9	99.6
	4	1	.2	.2	99.8
	5	1	.2	.2	100.0
	Total	545	94.1	100.0	
Missing	System	34	5.9		
Total		579	100.0		

Average Linkage (Between Groups) – 4 cluster groups

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	538	92.9	98.7	98.7
	2	5	.9	.9	99.6
	3	1	.2	.2	99.8
	4	1	.2	.2	100.0
	Total	545	94.1	100.0	
Missing	System	34	5.9		
Total		579	100.0		

Average Linkage (Between Groups) – 3 cluster groups

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	539	93.1	98.9	98.9
	2	5	.9	.9	99.8
	3	1	.2	.2	100.0
	Total	545	94.1	100.0	
Missing	System	34	5.9		
Total		579	100.0		

Average Linkage (Between Groups) – 2 cluster groups

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	540	93.3	99.1	99.1
	2	5	.9	.9	100.0
	Total	545	94.1	100.0	
Missing	System	34	5.9		
Total		579	100.0		

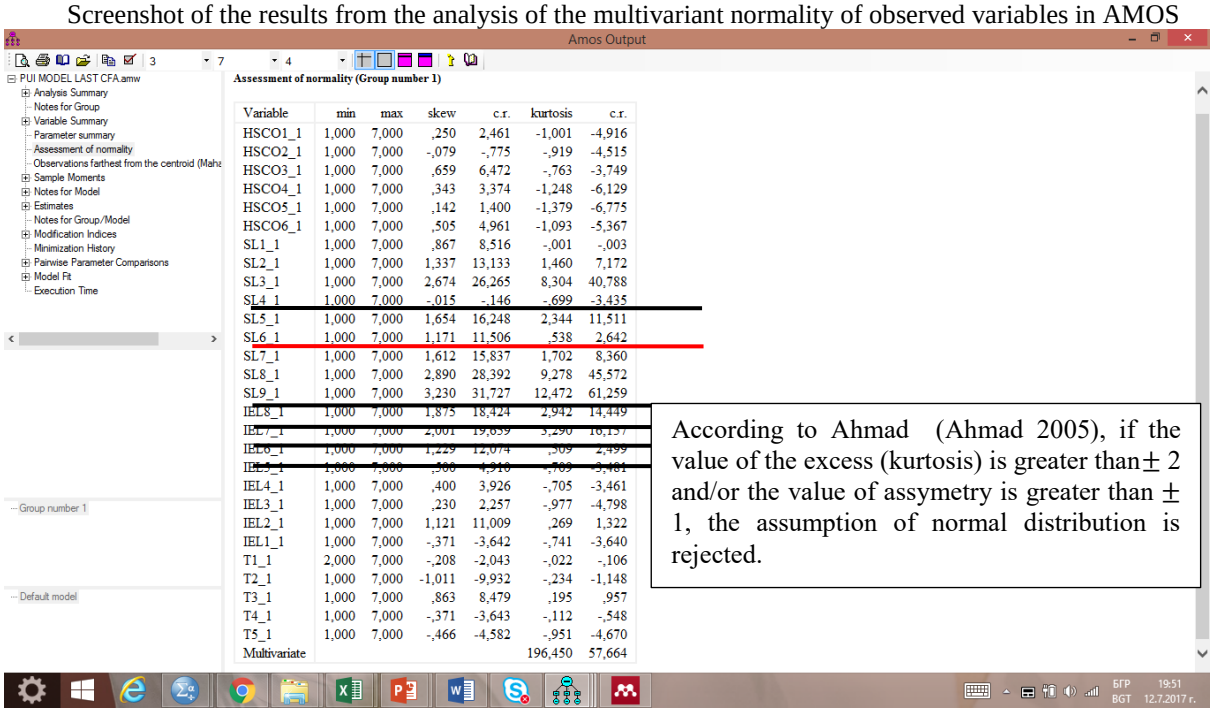
Appendix 2

ANOVA table of conducted clustering of variables for the frequency of completed internet activities using the K-mean method with 6 clusters

Question	Cluster		Error		F	Sig.
	Mean Square	df	Mean Square	df		
A6.1. How often do you play games?	36.044	5	.221	539	162.743	.000
A6.2.How often do you download music, films, games and programs from the internet?	59.330	5	1.480	539	40.083	.000
A6.3.How often do you search for non-school related information on the internet?	109.531	5	1.276	539	85.860	.000
A6.4.How often do you search for school-related information on the Internet?	72.015	5	1.613	539	44.659	.000
A6.5.How often do you use email?	103.989	5	1.422	539	73.114	.000
A6.6.How often do you socialize with others online?	106.239	5	1.064	539	99.891	.000
A6.7.How often do you shop on the Internet?	122.268	5	1.296	539	94.311	.000
A6.8.How often do use the Internet to help you study (courses, tests, etc.)?	79.549	5	1.596	539	49.828	.000

Appendix 3

Screenshot of the results from the analysis of the multivariant normality of observed variables in AMOS



Appendix 4

Initial results of the completed exploratory factor analysis – 22 variables – 5 extracted factors

KMO and Bartlett‘s Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.865
Bartlett‘s Test of Sphericity	Approx. Chi-Square	3351.931
	df	231
	Sig.	.000

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.716	25.982	25.982	5.716	25.982	25.982	2.942	13.372	13.372
2	2.316	10.526	36.508	2.316	10.526	36.508	2.847	12.943	26.314
3	1.614	7.335	43.843	1.614	7.335	43.843	2.495	11.341	37.655
4	1.174	5.338	49.181	1.174	5.338	49.181	1.985	9.024	46.679
5	1.054	4.792	53.973	1.054	4.792	53.973	1.605	7.294	53.973
6	.979	4.448	58.421						
7	.892	4.057	62.478						
8	.865	3.931	66.409						
9	.765	3.476	69.885						
10	.752	3.417	73.302						
11	.687	3.124	76.426						
12	.641	2.914	79.340						
13	.632	2.874	82.215						
14	.599	2.721	84.936						
15	.559	2.539	87.475						
16	.523	2.377	89.852						
17	.483	2.195	92.047						

18	.460	2.089	94.136						
19	.422	1.917	96.052						
20	.370	1.682	97.735						
21	.274	1.247	98.982						
22	.224	1.018	100.000						

Extraction Method: Principal Component Analysis.

Rotated Component Matrix[a]

Question	Component				
	1	2	3	4	5
IEL4.Do you ever get on internet even when there are other interesting activities?	.641	.252	.079	-.006	.032
IEL5.Do you mainly seek advice from your online friends when you are making an important decision about your life and future?	.627	-.142	.209	.225	.010
T2.How often do you usually get on internet no matter the reason why?	.563	.038	.065	-.050	.348
SL4.Do you ever get on internet while you are with friends?	.552	.220	.000	.113	-.012
T4.Do you stay on the net longer than you had planned?	.549	.296	.171	.028	.257
T3.How many hours a day do you usually spend on the Internet daily?	.492	.126	.004	.188	.394
IEL1.Do you ever to go to bed late and stay on internet instead of going to sleep?	.491	.313	.159	.162	.260
HSCO2.Do you ever put off doing your chores or homework because you are surfing the net?	.170	.750	.252	.066	.168
HSCO3.Do you ever completely ignore your chores or homework because you are surfing the net?	.224	.727	.234	.000	.126
SL1.Do you ever ignore members of your family for the sake of your internet activities?	.342	.516	.040	.277	.032
IEL3.Do you ever get irritated, angry or react sharply, if your internet activities are interrupted for some reason?	.452	.513	-.049	.017	-.131
SL6.Would you refuse to take part in an interesting school event because you preferred to stay on the net?	-.146	.495	-.102	.389	.187
IEL2.Do you ever miss a meal so that you don’t interrupt what you are doing on internet?	.336	.453	.098	.350	.017
HSCO1. When you go home, is the first thing to do to turn on your computer?	.115	.453	-.015	.331	.247
HSCO5.Does the time you spend on internet distract you from studying?	.151	.154	.878	-.026	.051
HSCO4.Does the time you spend on internet interfere with your concentration at school?	.165	.003	.866	.003	.016
HSCO6.Does the time you spend on internet have a negative impact on your grades in school?	.011	.135	.843	.022	-.038
SL7.Do you think that you can get to know a person better on internet than through personal contact?	.053	-.064	.041	.734	.000
IEL6.Do you feel more comfortable in the virtual world than in the real world?	.184	.224	.029	.683	-.071
SL2.Do you often prefer to stay at home surfing the Internet rather than going out with friends?	.090	.329	-.085	.579	.149
T5.Do you think that if you decide to use the internet less and for shorter periods of time that you will be able to do it?	-.006	-.167	-.033	-.168	-.761
T1.How many days do you think that you would be able to go without internet?	-.296	-.061	.036	.149	-.651

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

Appendix 5

Initial results of the completed exploratory factor analysis – 22 variables – 4 factors

KMO and Bartlett‘s Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.865
Bartlett‘s Test of Sphericity	Approx. Chi-Square	3351.931
	df	231
	Sig.	.000

Rotated Component Matrix[a]

Question	Component			
	1	2	3	4
T2.How many times a day do you get on the internet no matter the reason why?	.641	.108	.037	-.109
IEL4.Do you ever get on the Internet even when there are other interesting activities?	.631	.106	.130	.110
T4.Do you stay on the net longer than you had planned?	.609	.278	.185	.043
IEL5.Do you mainly seek advice from your online friends when you are making an important decision about your life and future?	.598	-.214	.190	.235
T3.How many hours a day do you usually spend on the Internet?	.586	.236	-.035	.094
IEL1.Do you ever to go to bed late and stay on the internet instead of going to sleep?	.553	.314	.164	.157
SL4.Do you ever get on the Internet while you are with friends?	.531	.083	.044	.218
T1.How many days do you think that you would be able to go without the Internet?IEL3.Do you ever get irritated, angry or react sharply, if your internet activities are interrupted for some reason?	-.473	-.330	.108	.342
IEL3.Do you ever get irritated, angry or react sharply, if your internet activities are interrupted for some reason?	.411	.274	.058	.231
HSCO2.Do you ever put off doing your chores or homework because you are surfing the net?	.234	.677	.324	.157
HSCO3.Do you ever completely ignore your chores or homework because you are surfing the net?	.273	.621	.316	.118
SL6.Would you refuse to take part in an interesting school event because you preferred to stay on the net?	-.077	.565	-.092	.356
T5.Do you think that if you decide to use the internet less and for shorter periods of time that you will be able to do it?	-.227	-.551	.075	.123
HSCO1. When you go home, is the first thing to do to turn on your computer?	.191	.508	-.009	.301
SL1.Do you ever ignore members of your family for the sake of your internet activities?	.349	.400	.098	.378
HSCO5.Does the time you spend on the Internet distract you from studying?	.170	.108	.876	-.027
HSCO4.Does the time you spend on internet interfere with your concentration at school?	.168	-.036	.849	-.016
HSCO6.Does the time you spend on internet have a negative impact on your grades in school?	.009	.074	.846	.032
IEL6.Do you feel more comfortable in the virtual world than in the real world?	.156	.163	.032	.699
SL7.Do you think that you can get to know a person better on the Internet than through personal contact?	.042	-.011	-.015	.640
SL2.Do you often prefer to stay at home surfing the Internet rather than going out with friends?	.132	.378	-.096	.534
IEL2.Do you ever miss a meal so that you don’t interrupt what you are doing on internet?	.337	.345	.143	.433

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

Appendix 6

Standardized regression coefficients and coefficients of determination (R^2) according to factor groups

Code	Content of the Indicator	Standardized regression coefficient	Coefficient of determination (R^2)
Factor 1: Time, Involvement and Attachment			
T4	Do you stay on the net longer than you had planned?	0,68	0,47
IEL1	Do you ever to go to bed late and stay on the internet instead of going to sleep?	0,63	0,39
T3	How many hours a day do you usually spend on the Internet daily?	0,58	0,34
IEL4	Do you ever get on the Internet even when there are other interesting activities?	0,56	0,31
T2	How often do you usually get on the Internet?	0,52	0,27
SL4	Do you ever get on the Internet while you are with friends?	0,50	0,25
IEL3	Do you ever get irritated, angry or react sharply, if your internet activities are interrupted for some reason?	0,48	0,18
IEL5	Do you get advice mainly from online friends when you are making an important decision?	0,43	0,22
T1	How long do you think you can go without internet?	0,38	0,15
Factor 2: Neglecting activities and refusal to take part in other activities and readiness to decrease use of the internet			
HSCO2	Do you put off other commitments because of the internet	- 0,81	0,65
HSCO3	Do you ever ignore completely your commitments because of the Internet	- 0,78	0,61
SL1	Do you ever ignore member of your family	- 0,53	0,28
HSCO1	When you go home, is the first thing to do to turn on your computer	- 0,49	0,24
SL6	Would you refuse to take part in an interesting school event because you preferred to stay on the net	- 0,37	0,14
T5	Do you think that you can decrease your internet usage if you decide to	0,31	0,09
Factor 3: School Results			
HSCO5	Time spent on the Internet distracts you from your studies	0,91	0,83
HSCO4	Time spent on the internet interferes with good concentration at school	0,80	0,64
HSCO6	Time spent on the internet has a negative impact on your school grades	0,74	0,55
Factor 4: Social Comfort on the Internet			
SL2	Surfing the internet versus opportunities to go out with friends	0,64	0,39
IEL6	Feel more comfortable on the internet than in real life	0,61	0,37
IEL2	Miss meals because of the Internet	0,59	0,35
SL7	People online can be known better than those in real life	0,36	0,13