

A Model Proposal Regarding the Effect of Adolescents' Psychological Endurance on Internet Addiction and Intermediary Role of Self-Esteem among Related Variables

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ABSTRACT

This research is conducted in order to provide a model proposal for supporting the youth's efficient and productive use of education processes by preventing the misuse of information technologies. In this regard, the main purpose of this research is to reveal the effect of psychological endurance on internet addiction and intermediary role of self-esteem among related variables via a proposed model. Research hypotheses were developed based on the research model: H₁: As much as the psychological endurance increases in adolescents, self-esteem increases. H₂: As much as the psychological endurance increases in adolescents, internet addiction decreases. H₃: Regarding the negative relationship between psychological endurance and internet addiction in adolescents, self-esteem has an intermediary function. In order to test the research model, data of 528 students among 540 students, 288 males and 240 females, from 9th, 10th and 11th grades were analyzed from public high school in Kadıköy district of Istanbul. The research is based on structural equation model. CFA analysis was performed with the software AMOS 21.0 and factor structures were analyzed. According to the results of SEM analysis, the students' perception of Family Support negatively affects the Self-Esteem level (B=-0.294, p<0.05) and the students' Peer Support perception negatively affects the Self Esteem (B=-0.259, p<0.05). The dimension which meets all three criteria of Baron and Kenny for intermediation test is the Determination to Struggle. According to the SOBEL test results, Self Esteem has a meaningful intermediary role in the effect of Determination to Struggle dimension on Internet Addiction (SOBEL=1.984, p<0.05).

KEYWORDS: Adolescent psychological endurance, self-esteem, internet addiction, information technologies

INTRODUCTION

In the age of information, the idea that information technology is moving people away from oneself and other people has been one of the most emphasized topics of almost every discipline in relation to the fact that the involved technologies bring about different problems (Bengshir, 1996; Castells, 2000; Akolaş, 2004). Especially social sciences such as psychology, sociology and human science such as medicine, draw attention to the fact that information technologies make a difference in the interaction among people, can cause health problems related to all areas of life from education to business life (Yücel, 2002; Kocacık, 2003; Koehler, Mishra, Atasoy, 2007; Cain, 2013). The main question that needs to be answered in order to solve such problems probably lies in why people need information technologies. In other words, does information technologies produce problems? Or does it lie in the fact that mankind cannot solve the meaning and value of existence by integrating with others through an ontological perspective. The existence of the human being has depended on the "technology" produced since the ancient times and the source of technology is "information". Knowledge is the product of the mind, which is the most basic function of mankind. The source of everything man produces is based on knowledge and the counterpart of this knowledge in everyday life is based on technology (Isman, 2001). Since Neanderthals, humans have met their needs through "knowledge" in the world that has changed with their own knowledge (Özbek, 2000). What humans need most at the point of 400 thousand years of adventure is a mechanism that can help force and overcome the limits of their capacity along with a structure similar to their own thinking system; a mechanism that will process, organize, store the data of the external world like them and use it in a suitable manner when necessary; a mechanism that exists with the knowledge as life itself (Solso, Maclin, Maclin, 2007), in other words, information technologies. Thus, a multi-factor dynamic produced by human beings and affecting them.

Information technologies are the tools that are required by people in an information society to continue their lives; just like the stone technology created in ancient times for the survival of human beings. Studies emphasizing on the features of information societies which are the third transformation stage of the history of humanity draw attention to the changes that can be seen in every field of life in the world which is turning into a global village (Castells, 2013). due to the easy access to data; Such as having unlimited possibilities to differentiate professional competences in addition to attaching importance to the freedom of thought and expression in decision making mechanisms, intellectual capital and service industry in professional life,

supporting personal development of each individual having different competences and interests, forming new profession and business fields by the fact that individuals acquiring values by means of knowledge (Scardamalia, Bereiter, 1994). In other words, the information technologies function as a mediator between human and life.

The answer of this question maybe lies in the human nature. Although human, who is a member of the information society, is defined with different notions such as individuality and autonomy, human being is a social entity. The process expressed as socialization refers to the ability to adapt to life by acquiring the qualifications defined by the society. This process requires an individual to be responsible for his or her self-development as an autonomous person and to develop himself or herself by making choices, as well as having an interaction with other people. In other words, the need of autonomy and the need of socialization are the complementary characteristics of a human being.

In addition, sociological opinions in a criticising manner indicate that information technologies cause an increase in terms of differences among social classes day by day and revealing different problems. When we consider Maslow's hierarchy of needs and life quality of World Health Organization in terms of objective and subjective criteria (Sirgy, 1986), the definitions of identity, needs and values among the different classes of a society differentiate. Therefore, the reasons of each group for taking advantages of the tools of the information society and using these tools may vary (Castells, 1997). It is seen that individuals in low sociocultural classes are aware of social changes, but they do not have the opportunities of individuals in high socio-economic cultural classes. For the individuals believing that social differentiation and social progress do not make any differences in their own life or having difficulties in keeping up with such changes due to their existing sources, the new social order brings many thoughts and feelings such as distrust, valuelessness, exclusion and failure for them. While the survival of the group benefiting less from the relevant areas of life such social, legal and educational sources and of the group having difficulties in competing with the developing and changing members of the society gets more difficult, the information society offers some opportunities by creating solutions with different means of information technologies bringing this society into an existence (Leung, Lee, 2005; Wan, Chiou, 2006; Raacke, Bonds-Raacke, 2008; Lichtenstein, Christiansen, Elklit, Bilenberg, and Støving, 2014). For instance, meeting and chatting with different people, making himself/herself recognizable (Duran, Özkul, 2015) or gaining information about lives of others, having fun and playing games. At this point, it cannot be ignored that the main purpose of information technologies is to develop systems (Deperlioğlu, Köse, 2010; Baltacı, 2011) which could meet different needs of people; different use of these systems is related with how people and social classes are affected by political, economic, sociological and educational dynamics of society. On the other hand, life satisfaction of individuals thinking that their competencies regarding the basic areas of life such as education, healthcare, social activities and career is different compared to the competencies of the other members of a society and evaluating their lives accordingly becomes different. As their life satisfaction differs, their feelings of hope for the future will decrease. The relevant literature has stated that there is a positive relation among life quality, life satisfaction and feeling of hope. In other words, the life quality and life satisfaction decrease whereas the feeling of hopelessness about the future increases. This case effects the mental health of an individual and direct them to have unhealthy or problematical behaviours (Diener, Lucas, 2000). Individuals facing problems at the basic needs level of Maslow's hierarchy of needs use these stated technologies illegally in order to meet such needs. This sub-discipline of the law within the scope of information technology law leads to an increase on illegal acts through information technologies in an information society and is discussed as aggravated fraud (Broadhurst, Choo, 2011; Gercke, 2011; Koçak, Dandin, 2017). For example, it is noted that frauds performed using different identities at a global scale by means of information technologies is high because of poverty and starvation in Nigeria. Moreover, it is known that this situation poses a threat due to the inadequacy of the laws on information technologies in Nigeria (Adesina, 2017). For individuals who have problems in fulfilling their needs to be loved and the sense of belonging or who are able to meet them in different developing periods of life, the means of the information society may be used for different purposes; It is possible for those people to satisfy their needs for the feelings of love, respect and belonging through a virtual identity which they think that it could be accepted by the community (Selfhout, Branje, Delsing, Bogt, Meeus, 2009; Özmen, Aküzün, Sünkür, 2012) Moreover, being able to be away from their actual problems in different applications may ease the feeling of being unsolved. This process could also be effective in terms of developing behaviours as an addiction (Weinstein, Dorani, Elhadif, ... and Dannon, 2015; Liang, Zhou, Yuan, Shao, Bian, 2016). Furthermore, not being able to meet their basic needs like others do with their efforts in real life (which they can testify with technology) (Dedeoğlu, 2004; Karshioğlu, 2014) and the gradual decrease on their beliefs that they are safe and will be supported and protected by others lead to an increase in their experiences which could not be acquired by their competencies of love and value. This results in spending more time in such platforms supported by stated technologies where they feel better (Young, Rogers, 1998). Therefore, the more time they spend, the more they get away from the reality. They also stay away from the benefits and effectiveness of their responsibilities for real life (Ni, Yan, Chen, Liu, 2009). The time spent in such environments where they relax and feel good to be away from such problems increase.

When the behavioural characteristics of the members of the upper socioeconomic class of the society are examined, it can be seen that their needs and definitions regarding life differ but their awareness that the information society is at the same time an environment of an increasing competition makes (Castells, 2011) them see it as an important problem to be able to maintain their current conditions. Members of this group also need a sense of safety that the current conditions will not change and can go even better. They need to be loved under all circumstances and to receive a feedback from their groups that will satisfy their feelings of belonging and achievement. The schemes regarding the knowledge and the definition of competency differentiate continually may increase their need to be online (Carlbring, Maurin, Törnigren, Linna, ...and Andersson, 2011). This group considered to have more responsibilities in social development and change, can also become estranged to the real life due to the definitions of need and deprivations gradually increasing in the world he or she creates using information technologies (Coulson, 2005; Leung, 2006; Barker, 2009).

As is seen, although the justifications for using information technologies and the practices preferred depending on these reasons are different, the new behaviors that people have developed to adapt to the social differentiation can cause them to face new problems that need to be solved rather than supporting their adaptation. In other words, the problems in terms of the basic needs of the human being in the historical development process are only changing in terms of its form. While people experience similar problems with the dynamics of the period they live in and they try to produce solutions with the methods and tools of that period. This process has also occurred in the members of the information society whereas making it obligatory to consider a new phenomenon explaining the effect of the way the information technologies are used on the individual's life, that is, the "Internet addiction disorder" in the addiction's category of psychological disorders (Young, 1998; Griffiths, 2000; Beard, Wolf, 2001; Ginige, 2017). The Internet addiction behavioral disorder was first used as a concept by psychiatrist Ivan Goldberg in 1995 after being studied by the information technologies and other disciplines with its different dimensions as well as the literature on psychological disorders. And it was with the studies of psychologist Kimberly S. Young that it drew attention as a phenomenon that affects people's lives. The process starting with Young's realizing that Internet users had the behavioral characteristics in the diagnostic criteria of alcohol and substance abuse behavioral disorder started to be discussed within the scope of impulse control disorders as a result of the serious endeavor shown (Young, 2004; Byun, Ruffini, Mills, and Blanton, 2009). Even though Young pioneered the research in this field as well as the studies regarding the definition, Diagnostic and Statistical Manual of Mental Disorders (DSM V) does not include diagnostic criteria for the Internet addiction behavior disorder. In addition, some researchers appreciate the importance of Young's studies and his leadership in making the phenomenon an attention-grabbing one whereas they point out the limitations of her studies and even indicate that his views in his article "Evolution of Internet Addiction" include an incomplete or wrong evaluation that doesn't pay regard to the cultural dynamics of the rest of the world (Griffiths, Kuss, Billieux, Pontes, 2016). The findings of the study show that the problem has multidimensional dynamics as the other addiction problems have (Cash, Rae, Steel, Winkler, 2012). When the relevant literature is reviewed, it is seen that there are increasingly more solution-seeking for the problem (Chakraborty, Basu, Kumar, 2010; Young, 2011; King, Delfabbro, ... and Sakuma, 2017) which changes its shape and makes its effect felt more intensely with each new application of the information technologies despite the ongoing discussions about whether it is the specific diagnosis or the determination of the behavioral criteria that is important (Musetti, Cattivelli, Giacobbi, ... and Castelnuovo, 2016). Another remarkable emphasis of the researches is that the problematic use of the Internet is becoming widespread among adolescents (12 to 17 years) and young adults (18 to 29 years) due to the fact that they access the Internet more easily compared to the other age groups (Ko, Yen, Yen, Lin, Yang, 2007).

These age groups are the target mass of the education, which are among the priority areas in the societies' investments related to information technologies. In other words, societies prioritize education while making investments related to the information technologies in order to raise the qualified individuals of the information society because education is both the source and the solution of the problems in a society. A competent human model providing the continuation of societies, understanding the gist of knowledge, and centralizing learning in life can be realized through an education process supported by information and information technologies (Isman, Çağlar, Dabaj, Ersözlü, 2005). Moreover, the young in adolescence period when an individual decides on what kind of a person to become, covering the middle school and high school placed between the childhood and adulthood have a critical importance in terms of developmental aspects as well as being the adult human models of the future. Being able to understand and feel the meaning of education internally depends on the social and emotional characteristics of the young. In other words, for young people to become the qualified workforce of the information society, as ... says, their belief in education being the art of changing one's own destiny and their hopes and efforts in life should be able to keep existing under any circumstances. Whether young people can manage a process effectively in case of any difficulties of life depends on their psychological endurance or resilience. These young people, who have the qualifications to control the factors that can affect their

development when facing the challenges, difficulties and unpredictable dynamics of life have protective factors that can preserve their belief of knowledge and information generation's ability (Isman, Gungoren, 2013) to make a difference in their own lives as well as on other members of their society (Brassai, Piko, Steger, 2011). These factors are in relation to familial and environmental sources. In addition, psychologically enduring young people can differentiate their academic successes by using information production and sharing tools effectively and efficiently and being aware of their educational goals with their competencies such as high self-esteem, being a fighter, and capability of managing personal relationships (Caplan, 2002; Valkenburg, Peter, Schouten, 2006; Kim, La Rose, Peng, 2009; Cardak; 2013).

From these perspectives, the aim of the study was to reveal the mediating role of self-respect and the effect of the psychological endurance in the use of information technologies outside of its purpose in order to contribute to the achievement of the educational objectives of the information society. In this context, the main aim of this research is to put forth the effect of psychological endurance in adolescents on internet addiction behavior and the mediating role of self-esteem among related variables by using a proposed model.

Purpose of the Research

The main purpose of this research is to present the effect of psychological endurance on internet addiction behavior and intermediary role of self-esteem among related variables with a proposed model. Accordingly, the model proposal of this research is as shown in Figure 1.

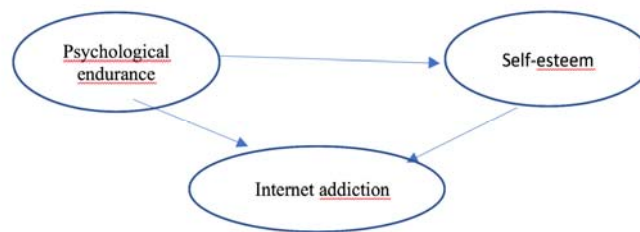


Figure 1. Research model

Research hypotheses developed based on the research model:

H₁: The more psychological endurance increases in adolescents; the more self-esteem increases.

H₂: As much as the psychological endurance increases in adolescents, internet addiction decreases.

H₃: Self-esteem has an intermediary function in the negative relationship between psychological endurance and internet addiction in adolescents.

METHOD

This research has been conducted based on the structural equation modeling. It is used for explaining and interpreting complex relationship models put forward by researchers. As comprehensive statistical techniques, structural equation models test the conformity of the relationship between observable and unobservable variables with the research model. In addition to revealing the relationship between theoretical structures and variables, the model can help acquiring different models which are effective in understanding the casual relationship between observable and unobservable variables in common studies of various fields of science such as information technologies-psychology, organizational administration-psychology, education-psychology etc. Path Analysis Method is frequently used in order to show the relationships in structural equation models. In Path Analysis, regression and correlation analysis coefficients are used for modeling the relationships between observable variables (Raykov, Marcoulides, 2006; Karagöz, 2016).

Study Group of the Research

The research was conducted in 2015-2016 academic year in randomly selected public high schools in Kadikoy district of Istanbul. The study was composed of randomly selected students from the 9th, 10th and 11th grades of these schools with the 25.04.2016 dated and 59090411-44-E.4612197 numbered institutional approval of Istanbul Governorate Provincial Directorate of National Education. Data of ... male students and ... female students among the ... students participated in the research were analyzed. 12th grade students were excluded from the study due to their preparations for higher education examination.

Data Collection Tools

Adolescent Social Endurance Scale

The scale developed by Bulut, Doğan and Altındağ (2013) is prepared as a four-point-likert-scale comprising of six dimensions of family support, peer support, school support, adaptation, determination to struggle and empathy. As a result of construct validated exploratory factor analysis of the scale, 29 items explaining 57% of the scale’s total variance have been found. Scale’s overnight study was conducted by using scales of Problem-solving inventory, Beck Hopelessness and Focus of control. Correlation coefficients obtained in relation to the related scales were found by problem solving inventory -.47, Beck hopelessness scale -.61, and focus of control scale -.46. During reliability studies, Cronbach alpha internal consistency coefficient was found .87 while alpha values of subscales were found to vary between .61 and .89. The retest reliability coefficient of the scale was found to .87 and the relationship was found to be changing between .59 and .81 as a result of total item correlation analysis. In line with the obtained results, it is stated that Adolescent Psychological Endurance scale is a valid and reliable scale in educational and psychological studies on adolescents.

Self-Esteem Scale:

In order to evaluate the self-esteem of student sample group of the research, Rosenberg Self-Esteem Scale developed by Morris Rosenberg (1963) and adapted to Turkish by Korkmaz and Uysal (1996) was used. The scale comprises of 63 multiple-choice items and 12 sub dimensions: self-esteem, concept of self, trust to people, sensitivity to criticism, depressive emotions, being fantasist, psychosomatic information, feeling threat in interpersonal relations, level of attending to arguments, parental attention, relations with father and psychic isolation. Each correct answer in line with the answer key related to dimensions other than the self-esteem dimension gets 1 point. The scale’s reliability coefficient of self-esteem subfield (for 10 items) was calculated according to Gutman formulation and retest reliability was found as .93. It was noted that internal consistency reliability coefficient over the scale’s total 63 items in 12 sub dimensions varied between .07 and .70. In this study, Rosenberg Self-Esteem scale’s self-esteem sub dimension comprising of 10 questions has been used.

Computer Addiction Scale

Computer addiction scale developed by Ayas, Çakır and Horzum (2011) has two factors as game and internet addiction. Game addiction factor has 26 while internet addiction factor has 28 questions. Load rating in the scale’s internet addiction factor varies between .512-795 and explains 29.49% of the scale’s total variance. Load rating in the scale’s game addiction factor changes between 424-788 and explains 19.13% of the scale’s variance. Internet addiction factor group has been used as a data collections tool for the sample group of this study.

Confirmatory Factor Analysis of the Scale

Confirmatory factor analysis (CFA), is an analysis of how well the factors (latent variables) that are generated from many variables supported with a theoretical basis comply with actual data. In other words, the CFA aims to examine how well a predefined or designed structure is validated by collected data. In the exploratory factor analysis, while the factor structure of the data is determined on the basis of factor loads without a certain pre-expectation or hypothesis, the CFA is based on a test of certain predictions where certain variables predominate over predetermined factors on the basis of a theory (Sümer, 2000).

In order to determine the adequacy of the model tested in CFA, a large number of compliance indexes are used. Due to the strengths and weaknesses compared to each other in the evaluation of the fit indexes between the theoretical model and the actual data, it is recommended to use a number of fit index values to put forth the consistency of the model. The most commonly used ones are; (Cole, 1987; Sümer, 2000) Chi-Square Goodness, Goodness Fit Index (GFI), Adjusted Goodness Fit Index (AGFI), The Comparative Fit Index (CFI) Normed Fit Index (NFI), Root-Mean-Square Error (RMR or RMSE), Root Mean Square Error of Approximation (RMSEA). In the study, DFA analysis was performed using AMOS 21.0 program and factor structures were examined.

Table 1: Fit Indexes of the Scales

Acceptable Fit Indexes	Adolescent Social Support	Self-Respect	Internet Addiction
$\chi^2/sd <5$	2.57	4.19	3.57
GFI >0.90	0.90	0.96	0.93
AGFI >0.90	0.87	0.92	0.80
CFI >0.90	0.89	0.95	0.88
RMSEA <0.08	0.06	0.08	0.07
RMR <0.08	0.06	0.04	0.07

According to DFA result; it has been seen that fit indexes in Adolescent Social Support, Self-Respect and Internet Addiction scales have almost been ensured.

FINDINGS

In this section, there is the information on the method of information gathering form prepared by the researcher and demographic characteristics of the sample group students, and results of structural equation model analysis.

3.1 Finding of demographic characteristics of the students forming the sample group 30.3% of the students participating in the research were in the 9th grade, 46.6% were in the 10th grade and 23.1% were in the 11th grade (See Table 2).

Table 2. Demographic Characteristics of Students

Gender	F	%	Grade	f	%	Age	f	%
Female	240	45.5	9 th grade	160	30.3	14	88	16.7
Male	288	54.5	10 th grade	246	46.6	15	120	22.7
Total	528	100.0	11 th grade	122	23.1	16	207	39.2
			Total	528	100	17	113	21.4
						Total	528	100.00

During the researches, according to the statements of the students regarding the data obtained from their school success, while clear majority of the students indicated their success as good (43.2%) and not bad (42.4%), the distribution between the ones describing it as very good (6.6%) and bad (7.2%) are close to each other. The distribution of students who indicated their school success as very bad among the sample group is 6% (See Table 3).

Table3: School Success of Students

	Very Bad		Bad		Average		Good		Very good		Total	
	f	%	f	%	f	%	f	%	f	%	f	%
School success	3	.6	38	7.2	224	42.4	228	43.2	35	6.6	528	100.0

Findings of level of education of the parents of the students forming the sample group is given Table 4.

Table 4: Level of Education of Parents of the Students

Level of education	No education		Primary school		Secondary school		High School		University		Total	
	f	%	f	%	f	%	F	%	f	%	f	%
Mother	13	2.5	145	27.5	118	22.3	166	31.8	86	16.3	528	100.0
Father	5	0.9	92	17.4	133	25.2	191	36.2	107	20.3	528	100.0

Findings of working status of the parents of the students forming the sample group is given Table 5.

Table 5: Working Status of Parents of the Students

Working status	Unemployment		Housewife		Retired		Works part-time		Works full-time		Total	
	f	%	f	%	f	%	F	%	f	%	f	%
Mother	-	-	312	59.1	22	4.2	39	7.4	155	29.4	528	100.0
Father	18	3.4	-	-	53	10.0	39	7.4	418	79.2	528	100.0

3.2 Findings of the Analysis of Structural Equation Model (SEM) Performed to Test the Proposed Model

The following model was tested by SEM analysis in the study and the significant effects among the results were presented on the figure

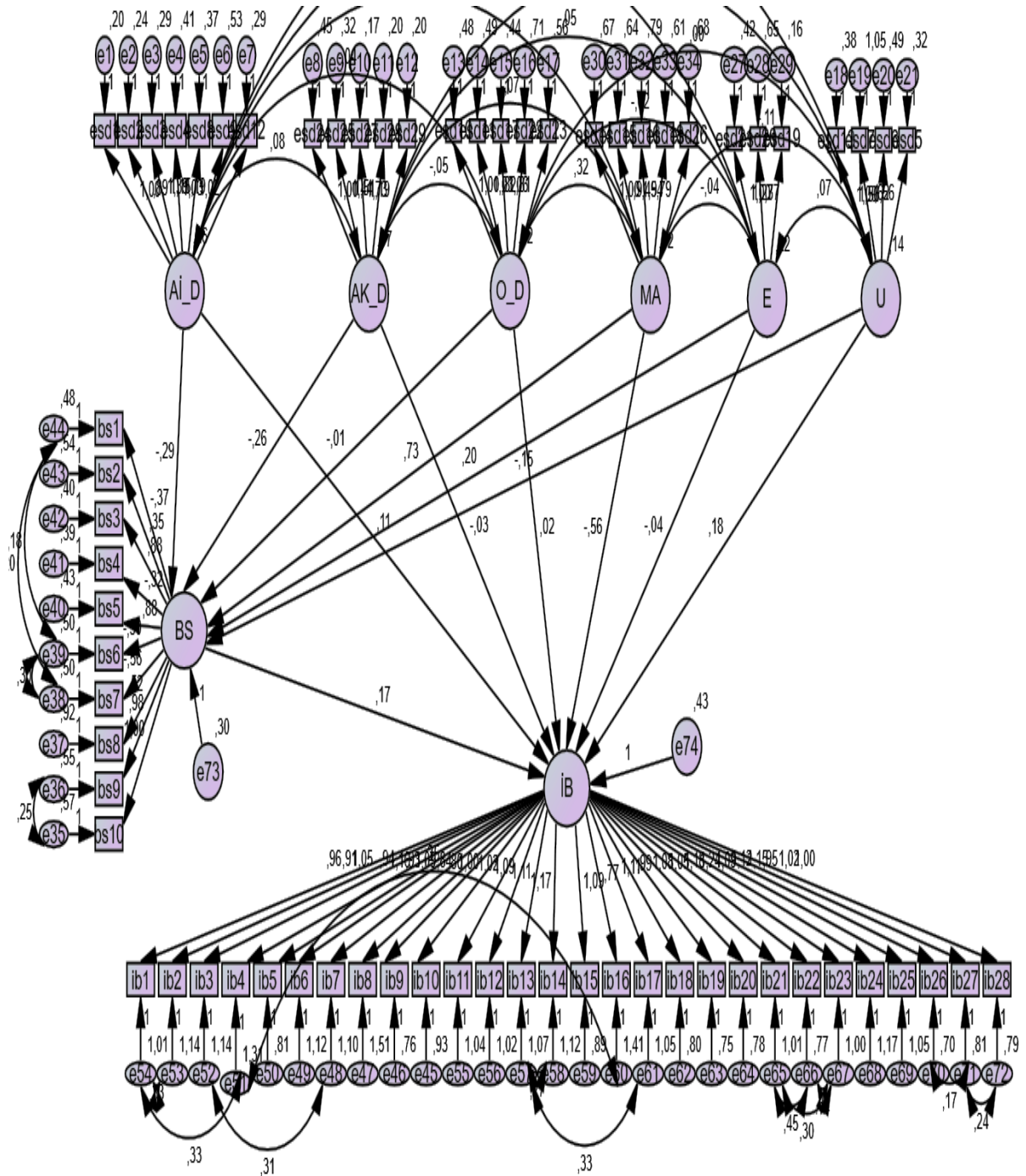


Figure 2: Path Diagram for SEM Analysis

According to the SEM result; it is seen that the fit index of the established model is nearly ensured.

Table 6: SEM Fit Indexes

Acceptable Fit Indexes	SEM
$\chi^2/sd < 5$	2.00
GFI > 0.90	0.80
AGFI > 0.90	0.88
CFI > 0.90	0.86
RMSEA < 0.08	0.04
RMR < 0.08	0.07

Students' Perception of Family Support affects Self-Esteem level negatively ($B=-0,294$, $p<0.05$). Students' Perception of Peer Support affects self-esteem level negatively ($B= -0.259$, $p<0.05$).

Table 7: Regression Coefficients Between Variables

Dependent V.	Independent V.	Estimation	sh.	p	Status
Self-Esteem	Family Support	-0.294	0.080	0.000*	Accepted
Self-Esteem	Peer Support	-0.259	0.097	0.008*	Accepted
Self-Esteem	School support	-0.011	0.070	0.871	Rejected
Self-Esteem	Struggling Determination	0.729	0.106	0.000*	Accepted
Self-Esteem	Empathy	0.196	0.097	0.044*	Accepted
Self-Esteem	Adaptation	-0.147	0.157	0.350	Rejected
Internet Addiction	Self-Esteem	0.170	0.082	0.037*	Accepted
Internet Addiction	Family support	0.114	0.082	0.164	Rejected
Internet Addiction	Peer support	-0.028	0.096	0.773	Rejected
Internet Addiction	School support	0.018	0.069	0.795	Rejected
Internet Addiction	Struggling Determination	-0.564	0.131	0.000*	Accepted
Internet Addiction	Empathy	-0.039	0.097	0.690	Rejected
Internet Addiction	Adaptation	0.182	0.156	0.243	Rejected

* $p<$ significance effect, $p>$ no significance effect

Conditions in the Mediation Test

According to Baron and Kenny model;

1. There should be a statistically significant effect between the dependent variable and the independent variable.
2. A statistically significant effect should also exist between the independent variable and the mediator variable.
3. Mediator variable should have a statistically significant effect on the dependent variable (when used in the model with independent variable).
4. The coefficient of the independent variable should be greater (as an absolute value) in the model having an independent variable than the coefficient of independent variable in the model, where the independent variable and the mediator variables are available. However, this could not be enough, and the significance of these coefficient decreases should be tested with the SOBEL test.

For the mediation test, Struggling Determination dimension ensures 3 of the Baron and Kenny criteria. According to the SOBEL test results; Self Respect is a significant mediator in effect of Struggling Determination on Internet Addiction (SOBEL=1.984, $p<0.05$).

DISCUSSION

The main purpose of this study is to present the effect of psychological endurance and intermediary role of self-esteem among related variables through a proposed model in regard to internet addiction behavior being studied under the category of unhealthy addiction behavior emerging as a result of misuse of information technologies. In model which shows the effect of psychological endurance characteristics of adolescents on internet addiction through proposed model, according to SEM Structural Equation Model analysis results, it is found out that “Determination to Struggle” dimension as one of the adolescent psychological endurance characteristics is the factor effecting internet addiction. Furthermore, significant intermediary effect of self-esteem was seen in the influence of dimension of “determination to struggle” on internet addiction. According to the results of the analysis, a negative relationship was found between “Family Support” and “Peer Support” dimensions of adolescent social endurance and self-esteem.

According to the views and findings related to researches on excessive use of information technologies which threatens psychological health, the person’s psychological characteristics and mental health along with insufficiency of environmental sources may cause unhealthy excessive use. The researches emphasizing the

psychological characteristics, while multi-dimensionally; from neurobiological factors (Jang, Hwang, Choi, 2008; Hou, Jia, Hu, Fan, Sun, Sun, Zhang, 2012; Brand, Young, Laier, 2014) to personal characteristics, from gender characteristics to life expectancies; studying excessive use habits of healthy and unhealthy people are also investigating the meaning of communication technologies applications supporting the excessive use in both groups for these individuals (Chak, Leung, 2004; Coulson, 2005; Morahan-Martin, 2005; Yellowlees, Marks, 2007; Shaw, Black, 2008).. In other words, it is mentioned that the applications on internet are not attractive and behavior reinforcer on the same levels for each individual. Especially while healthy and unhealthy use of internet may vary according to many factors like personal characteristics, mental health, self-esteem, social class, life expectancy and goals, preferred applications and time spent also differentiate (La Rose, Eastin, 2004; Tran, Hinh, Nguyen, ... and Ho, 2017).

Findings of the results of SEM analysis, being one of the internal factors of adolescent psychological endurance, the dimension of determination to struggle, being the factor affecting internet addiction have revealed that personal characteristics are effective on reasons of using communication technologies. Despite the differences in living conditions; the confidence, determination and tenacity on the resolvability of these somehow, show that they are effective on the use of technology in line with the purpose (Niemz, Griffiths, Banyard, 2005; Pontes, Szabo, Griffiths, 2015; Wisniewski, Jia, Wang, Zheng, ... and Carroll, 2015).

In all periods of life, existence of supportive sources makes people healthy and resilient. Although supportive sources required may change depending on the development steps, the significance of their existence does not show any changes. Feeling that there will be support or there are the sources to solve it while facing problems, being prepared and feeling powerful when having trouble, helps protecting the mental health. The positive change in behaviors created by power to struggle with difficulties with the existence of individual and environmental sources supporting psychological health has been explained by concepts such as “psychological resilience,” “psychological endurance,” “resilience” since the end of 90s. (Ryff, Singer, 2003). Psychological endurance is addressed in literature in two dimensions as being able to gather yourself up and to adapt under difficult conditions or the processes supporting the generation of these abilities. As for the factors protecting psychological health and endurance, while one dimension is related to the person’s own characteristics, the other dimension is related to the existence of the person (Haggerty, Sherrod, Garmezy, Rutter, 1996; Davey, Eaker, Walters, 2003). While external protective factors put emphasis on the meaning and quality of the sources related to family, peer and school environment (Crosnoe, Elder Jr, 2004); internal factors are effective on formation of subsequent experiences as determination to struggle, empathy and feeling of hope, which are developed related to life experiences. When the literature is reviewed regarding the positive psychology, it is observed that psychological endurance is related to many characteristics such as optimism, subjective wellness, hope, creativity, belief (Neff, McGehee, 2010). Related literature emphasizes that power to struggle is related to competence perception and belief based on previous experiences. It is noted that the individual’s dynamic competence perception and belief on capability to do something, to overcome a difficulty, enables them to be successful in education and working life and is a significant supportive factor in reaching goals (Bandura, 2005). Despite the fact that conceptual terminology is used in the perspective of positive psychology thought, it is indicated that the content of the concepts bears the traces of many existentialist, cognitive thoughts. When we evaluate the dimension of determination to struggle related to adolescent psychological endurance in terms of Hierarchy of Needs Theory (Maslow’s theory, even though supported by experimental (empirical) researches in limited levels, it has been one of the reference sources in terms of motivational procedures of fields such as education, organizational behaviour, working psychology, medicine, psychotherapy) (Schultz, Schultz, 2007, 697), it is possible to express that the individuals with high determination to struggle and positive self-esteem can postpone their needs in lower levels for the sake of reaching their upper-level-needs. It has been seen that the support of adolescents’ determination and efforts to struggle related to psychological endurance lets them believe that they have the competence to overcome difficulties by positively affecting their perceived self-values (Glynn, Aultman, Owens, 2005).

The researches related to the theory state that characteristics; self-value, self-confidence and competence feeling; of the individuals with high self-esteem differs from that of with no self-esteem (Pajares, Schunk, 2002). Related to Maslow’s hierarchy of needs, Victor E. Frankl, the representative of Logotherapy, mentions that “it is necessary to distinguish between the needs in lower levels and the needs in higher levels”. In words of Frankl, it is necessary to be able to determine whether each of the needs or goals is a means or ends. At this point, he has noted that the importance of an individual with unfulfilled basic needs, turning towards his higher-level-needs, in other words, search for a meaning, in order to be able to continue his or her living (Park, Park, Peterson, 2010). Regarding his three-year-life in concentration camps in Auschwitz and Dachau, Frankl, “if we accepted all else equal, the ones with higher chance to live (survive) in the camp were the ones who turned towards the future (to the purpose waiting for them in the future, to a human-being, to a meaning to be realized by them in the future)”

meaning that the meaning and goal of life is not a sufficient condition but a necessary condition to live. Therefore, determination to struggle is related to the questions of for what or for whom (Frankl, 1999, p. 15-33). Gary Kasparov's match in New York City in 1997 is an interesting example regarding the importance of determination to struggle for humans. Kasparov was 34 and had kept his title of world champion for 12 years. Although he won the first game of the six-game-match against his competitor whom he won against with a landslide one year ago the same way, it has been observed that Kasparov began to react differently when the match restarted. During the second match, the change in Kasparov's behavior changing with the competitor's moves was astonishing not only for the followers on internet and TV but also for chess grandmasters. After a short while when the game restarted on Monday, following a one-day-break, Kasparov stood up and declared that he withdraws from the game and the match after 19 moves. Kasparov explained the situation with the words "I lost my warrior spirit." after the match (Schultz and Shultz, 2007, p.693). The statement of the world-renowned chess grandmaster is a significant example to support the literature. In the light of these knowledge, the finding on intermediary role of psychological endurance, determination to struggle and self-esteem can be supported by the relevant literature.

In line with the obtained results, the research hypothesis of as much as the psychological endurance increases in adolescents, self-esteem increases, is supported by determination to struggle dimension of adolescent psychological endurance, whereas it has been found out that the other dimensions, family support and peer support, negatively affects self-esteem. No significant relationship has been found between the other dimensions of adolescent psychological endurance; school support, empathy, adaptation; and self-esteem. In this regard, it has been seen that the support of adolescents' determination and efforts to struggle related to psychological endurance lets them believe that they have the competence to overcome difficulties by positively affecting their perceived self-values. Studying the literature on psychology, education and developmental psychology, it has been seen that the adolescent period is stated as the period when conflict between parent and child is the most intense. Parental manners in terms of specific features of the period and family's specific socioeconomic characteristics may create a difference regarding the intensity of the conflicts related to the process (Stoeber, Rambow, 2007). Moreover, while it is emphasized that parental manners may change depending on the education level and socioeconomic factors, it is also stated that democratic parental attitude positively affects development of the youth. Literature emphasizes that family has not lost its significance despite its being perceived as a less used reference source in adolescent period. Adolescence period's characteristic which is described as distancing from the parent and getting close to peers, allows them to experience the feelings of acceptance, being valued along with the sense of belonging (Collins, Brett 2004). Regarding the finding that family support negatively affects self-esteem, it has been thought that it might be due to the parent-youth relationship's quality related to communication and interaction as per the era, as well as due to the sample group's characteristics related to socio-economic cultural features of the families. The studies indicate that the differentiation in parent's level of education may not only have a positive impact on determination of future goals, but it may also create a psychological pressure on the youth. On the other hand, peers and school has a particular importance for the youth for the development through others. Peer relations for the youth, in parallel to emotional and social maturation, gives information on how the relations may be in the adulthood stage (Steinberg, Morris, 2001). On the other hand, school environment plays a supportive role in education quality and development of thought and belief of abilities. The youth's having the thought of being capable of preparing to life with the school sources and being able to gain necessary materials may ensure him to protect the feeling of hope, one of the internal sources (Brown, 2004). Regarding the negative relationship between peer support and self-esteem; while it makes us think that the youth is having difficulties in their friendship relations (Beerli, Lev-Wiesel, 2012) , it draws attention to psychological and physical violence in children's and youth's friendship relations which is called as peer victimization in related literature. Moreover, according to the research findings related to internet addiction, it is emphasized that the problematic use of internet develops with the lack of emotional, social support and behaviors such as love, help, understanding, acceptance, value, appreciation etc. (Chou, Hsiao, 2000; Zhang, Spinrad, Eisenberg, Luo, Wang, 2017; Stavropoulos, Gomez, Beard, Liew, Griffiths, 2017) which are accepted as the proof of the existence of these supports.

CONCLUSIONS

Structural equation model analysis results of the research, trying to present the effect of psychological endurance on internet addiction behavioral disorder and intermediary role of self-esteem among related variables through proposed model, and the hypotheses created in line with the research model, are supported by the determination to struggle dimension of adolescent psychological endurance. According to the analysis results, there is a negative relationship between determination to struggle dimension of adolescent psychological endurance and internet addiction, and a positive relationship to self-esteem. Self-esteem has an intermediary function in the effect of determination to struggle dimension of adolescent psychological endurance on internet addiction.

RECOMENDATIONS

Information society, while trying to diversify qualities of the tools produced, naming the information technologies, and that of psychological health protection factors; it also looks for alternative ways to solve the problems created by the insufficiency of these factors. Among these problems, unhealthy excessive use of technology as a behavior threatening psychological health, affects many daily activities from education to work. Additionally, the solution to this problem also underlies efficient and productive use of information technologies, one of the most important tools of information society, in education. The reason is the fact that education means the future and gets its power from the past and present. As the existentialist philosopher, Kierkegaard said, "life can only be lived in the future, but understood in the past". Thereby, education is the source of solutions as much as it is the source of problems in a society. A competent human model providing the continuation of societies, understanding the gist of knowledge, and centralizing learning in life can be realized through an education process supported by information and information technologies. The awareness on information societies should be created among each member of the society, that the means it produced not being for social class discrimination but for social development and to provide equality of opportunities. Thus, not only the determination to struggle of the youth but also of all individuals from all ages can be supported.

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