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INVESTIGATION OF EFFECTS OF COMPUTER ANXIETY AND INTERNET ATTITUDES ON COMPUTER SELF-EFFICACY

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Abstract

During the use of computers in education or in computer based programs one must have information regarding the state of learners' affective behaviors. Learners' attitudes and perceptions towards new technologies are quite effective on their learning levels. In this research, effects of computer anxiety and internet attitude on computer self-efficacy were investigated. According to the research findings, computer anxiety has a strong influence on internet attitudes. Moreover, it was concluded that internet attitude affected computer self-efficacy. On the other hand, a significant relation between computer anxiety and computer self-efficacy could not be determined. Based on these findings, we may suggest that by keeping computer anxiety under control, we may be able to positively develop learners' internet attitudes. We may further suggest that students who have positive internet attitude also have relatively enhanced computer self-efficacy.

Key Words: Computer anxiety, Computer self-efficacy, Internet Attitudes, Computer Education, Instructional Technology

1. INTRODUCTION

Along with the technological development, course of and access to information which once required considerable amount of time is shortened, making use of multiple sources for fulfilling information needs possible. Therefore, it may be suggested that today's learning activities became easier in learners' respect.

While Dewey (2007:36) characterized the new education concept as *"simpler"*, he emphasized that being *"simpler"* and *"easier"* were not the same. Because, it is not easy for the new education concept being accepted to due to old learning approaches becoming traditional and ordinary and hard to replace thereof. Thus, some researchers draw attention to the education loss which may be caused by the casual use of technology in education. A variety of views were brought forward which underlined aspects such as; not degrading the subject to be taught to the level of students during the use of technology in education (Çoklar, Kılıçer and Odabaşı, 2007), teachers' inability of integrating technology to class teaching (Lumb et al., 2000), that teachers' enhanced computer using skills doesn't necessarily mean that these can be efficiently used in the process of learning-teaching knowledge and communication technologies (Demiraslan and Usluel, 2005), that teachers' pedagogic approach limits their use of technology in class (Öksüz and Ak, 2009). Quoting from Maurer and Davidson (1998), Sadi at al. (2008) suggested that using technology without an efficient planning within high education institutions may cause new problems instead of solving the old ones. Hızal (1983) pointed out that with rational planning, new technologies invented in the field of technology and communication may create positive results in formal and non-formal education. As can be concluded from the findings of this research, use of technology in education is a critical matter which needs to be dwelled upon and Bruner's (2009:66-67) view summarized as *"it can be suggested that technological tools make teaching easier for teachers, however, it is yet too early to consider the use of them conclusively"* is in support of this.

This debate can be made more meaningful by also mentioning of studies which indicate the positive influences of technology on education-teaching. With the invention of television, as Akpınar (2005:59) suggests, possibility arose visually depicting events to people besides verbally referring to them. This took on another dimension when computers were started to be used in education and presenting courses in the class visually and audibly through projection device became possible. It has been suggested that visually reinforced teaching supports high state of attention and interest in students, materialization of the learning process and conveying of information in an organized manner (Yanpar, 2006:111; Akpınar, 2005:61). It is has been thought that with the start of using computers in education, learning time is saved compared to traditional teaching and students' achievements and motivation are positively affected (Uşun, 2004:41). According to Demirci at al. (2007) who quotes from Keeler at al. (1996), in classes where technology is used, teachers learn and explore alongside their students and thus, an efficient learning environment is created. Karsten and Roth (1998) suggest that students' perception of using computer efficiently have significant effects on their learning experiences.

Taking all these views into consideration, we may assert on the view that during the use of computers in education or teaching with computer based programs, probable situations likely to be faced by students should be known and kept under control. In this research therefore, attitudes towards computer anxiety, computer self-efficacy and internet which are believed to be instrumental in technology supported teaching were examined.

1.1. Review of Relevant Literature

Developments in information technologies play on important role in expanding the changing information structure in various fields and this has a significant influence on the field of education. (Birisci, Metin and Karakus, 2009). İsman and Dabaj (2004) pointed out that technology was an important tool, not only in seeking information but also in obtaining it in a suitable and convenient manner. Referring to the impossibility of controlling and processing enormous amounts of data created by the frequent use of computers in producing information and documentation, Ataman (2012), in a way described the challenges of the current situation. Blignaut (2006) on the other hand suggested that many people avoid using computers despite the known and proved advantages of it. For this reason, we must make use of new opportunities created in parallel with technological developments on one hand and monitor learners' attitudes while using these opportunities on the other. None of any learning approach not examined from the point of the learner can be everlasting. From the aspect of educational activities carried out with the support of technology, collective evaluation of learners' anxiety levels towards computers and self-efficacy perceptions alongside attitudes towards internet are critical in terms of the acknowledgment of these educational activities and organizing them in that manner.

1.2. Computer Anxiety

Howard and Smith (1986) described computer anxiety as *"the tendency of a person to experience a level of uneasiness over his or her impending use of a computer*". Anxiety towards computers was addressed in various studies. Among these; Gordon (1995), Burkett (1993), Givens (1998), Tobias (1979), Bohlin (1999), Agbatogun (2010), Mahar, Henderson and Deane (1997), Sam, Othman and Nordin (2005), Beckers, Wicherts and Schmidt (2007), Mazloumiyan, Akbari and Rastegar (2011), Orr (2009) and Olatoye (2009) are prominent. In these studies, the state of anxiety was defined as concern-worry reaction. Anxiety is also described as the tension or fear of wrong doing (Desai and Richards, 1998). Fajou (1997) described computer anxiety as uneasiness resulting from doing something wrong while Phelps and Ellis (2009) described it as personal uneasiness and emotional concern. Anxiety towards computer is classified as keeping away, avoidance and cyberphobia. Orr (2009) classified computer anxiety as a particular type of anxiety and mentioned about certain types of it with various experiences such as feeling of frustration, potential of embarrassment, disappointment and fear of the unknown. Phelps and Ellis (2009) determined that computer anxiety results in reduced achievement and reduced attempts towards achievements. Doyle, Stamouli and Huggard (2005) determined that with the increase of the level of education, there was a negative correlation between computer anxiety and self-efficacy and between computer anxiety and experience while there was a positive correlation between self-efficacy and experience. Keen (1998) drew attention to that computer anxiety had a social aspect. Expressions such as *"you won't be able to do it", "you can't succeed"* are indicated to be influential on computer anxiety. Saade and Kira (2009) indicate that disappointment, rage, worry and other similar emotions affect not only interactions with computers but also productivity, learning of social relations and personal welfare in general. Desai and Richards (1998) determined that mathematical anxiety and performance, mathematical anxiety and computer anxiety, computer anxiety and performance were related. Accordingly, it may be suggested that there is a negative correlation between computer anxiety and performance. Chen (1986) found that men compared to women had a more positive attitude towards computers and less computer anxiety. Loydi Loyd and Gressard (1987) on the other hand,

claim quite the contrary. Rosen, Sears and Weil (1987) and Badagliacco (1990) are of the view that gender has no effect on computer anxiety. Sam, Othman and Nordin (2005) suggest that frequent use of computers by those don't result in feeling themselves secure. Çakıroğlu (2009) asserts that computer anxiety had physical indications such as sweating, moistening hands, bellyache, breathing difficulty, sense of choking, throbbing, tension in lips.

Learning is negatively affected where concerns such as not being able to achieve learning, being faced with negative situations, not being able to fulfill the task reach to the level of extreme (Başaran 2005: 411). In addition to anxiety; rage, regret, frustration, and sense of panic are referred to as other emotional obstacles faced by educationists (Burkett, Compton & Burkett, 2001).

1.3. Computer Self-Efficacy

According to Bandura (1977), self-efficacy is "the belief in one's capabilities to organize and execute the courses of action required to exhibit a certain performance". Snyder & Lopez, (2002: 278) on the other hand, suggest that self-efficacy is not a perceived and observed skill but individuals' internal belief responding to the question of "what can I do" with the available skills under certain conditions. In another research, it was described as individuals' self-confidence in being able to fulfill a task which requires effort and persistence (Kinzie, Delcourt & Powers, 1994). According to Donald (2003:219), key words used in describing self-efficacy are sentences starting with the question of "Can I achieve this" (Acar, 2007). So much so that when individuals with strong self-efficacy are faced with a difficult task, they perceive it as a challenge that needs to be getting over with rather than avoiding it (Bıkmaz, 2004). As Aşkar and Umay (2001) also mentioned about it, an individual with high self-efficacy will try to deal with difficulties instead of running away from them. Self-efficacy is in fact the capability of controlling the emotional performance acquired by the individual to be used in times of challenge. Studies in the relevant literature point out to certain aspects of self-efficacy such as; containing cognitive processes, emotions and behaviors which can be controlled by the individual themselves (Çetin, 2008); affecting right or wrong doing behaviors and being associated with persistence in dealing with difficulties (Akkoyunlu and Orhan, 2003); students with low self-efficacy absenting themselves from learning situations and tasks (Schunk, 2000:109). Yi and Hwang (2003) indicated that self-efficacy has an important role in describing human behaviors.

Teo and Koh (2010) addressed teacher candidates' computer self-efficacies in three dimensions; basic computer skills, media related skills and web based skills. Guy and Jackson (2010) suggested that there are differences in students' self-efficacy beliefs in terms of their computer knowledge and skills level. It was revealed in another research that there are differences between teacher candidates' computer self-efficacy beliefs in terms of their academic achievements (Özder, Konedrali and Sabancıgil, 2010). Sam, Othman and Nordin (2005) asserted that high level internet usage is not instrumental in describing self-efficacy. Other studies conducted on self-efficacy include Bandura, (1995), Emmer and Hickmen, (1991), Gibson and Dembo, (1986), Hoy and Woolfolk, (1993), Ross, (1992), Soodak and Podell, (1998), Tschannen-Moran, Berkant and Tuncer, (2010), Aston, (1984), Enochs and Riggs, (1990).

1.4. Attitude Towards the Internet

Internet attitude can be described as emotions, thoughts and experiences regarding internet activities (Erkan, 2004; Esgi and Bardakci, 2007). Wilson and Marsh emphasize two main student characteristics developed by internet access (Akbaba and Altun, 2000). Firstly, students who use internet for the purposes of accessing to data and sharing,

forwarding and research are likely to be more at peace with technology in their future lives. These individuals easily adapt themselves to teamwork and structure their self knowledge potentials through these resources. Secondly, internet access save students from the physical boundaries and encourage them to gain self reliance in an individual based concept.

From the students' point of view, internet is among primary sources for obtaining information. It was determined that approximately half of students started using computers in university education and two third of them used it for educational purposes (Usta, Bozdoğan and Yıldırım, 2007). It is evident that as a learning source, internet technology will be holding a more significant position in our lives in the future. It is therefore extremely important to know about the factors affecting learners' internet attitudes.

According to the research findings of Yaman (2007) students have a negative internet attitude. Asan and Koca (2006) on the other hand, claim otherwise. Tuncer and Yılmaz (2011) found that students regard internet as the primary source for accessing information and have positive attitudes towards it thereof. Yalçınalp and Aşkar (2003) suggested that under certain conditions, students prefer internet over libraries and other resources. Yıldırım and Bahar (2008) and Tuncer and Berkant (2010) came to the conclusion that internet attitude doesn't vary according to gender. According to Mitra and Steffensmeir (2000) easy internet access encourages positive attitudes towards computers. Other research findings indicate that in educational use of internet students have positive internet attitude (Hong, Ridzuan and Kuek, 2003). Other studies conducted on internet attitude include (Tsai, Lin, and Tsai, 2001), (Durndell and Haag, 2002) and (Pamuk and Peker, 2009)

2. METHOD

2.1. Aim of the Research

In this research interactions between computer anxiety, internet attitude and computer self-efficacy were examined. In this context following questions were posed:

- Does computer anxiety affect internet attitude?
- Does computer anxiety affect computer self-efficacy?
- Does internet attitude effect computer self-efficacy?

2.2. Overview of Methodology

Three scales were made use of in the research. One of them is the 19 articled Computer Anxiety Rating Scale developed by Heinssen, Glass, and Knight (1987). Attitude Towards Internet Scale was developed by Nickell and Pinto (1986) and also this contains 19 articles. Computer Self-efficacy Scale which was developed by Murphy, Coover & Owen (1989) contained 29 articles. All scales were 5 point Likert scales. (5=absolutely agree, 4=agree, 3=indecisive, 2=disagree, 1=absolutely disagree)

Scales were adapted to Turkish and articles were reviewed in accordance with expert opinions. Scales were applied on 274 students of Tunceli University Vocational High School for Exploratory and Confirmatory Factor Analyses. Demographic data concerning this group are given in table 1.

Scales revised according to Exploratory and Confirmatory Factor Analyses were applied to 268 students from the same vocational school and hence, relation between computer

anxiety, computer self-efficacy and internet attitude. The group, on which the Exploratory and Confirmatory Factor Analyses were applied, was excluded in the second application.

Table 1: Demographic characteristics of the sample

		N	%
Gender	Female	206	75,2
	Male	68	24,8
Grade	First	160	58,4
	Second	114	41,6
Department	Child Development	120	43,8
	Electricity and Energy	22	8,0
	Accounting and Tax Practices	33	12,0
	Fashion and Design	51	18,6
	Hair Care and Beauty Services	11	4,0
	Construction Technology	8	2,9
	Computer Technologies	29	10,6

Students taking part in the research were between 16-28 years of age and the mean of age was 21.53. The most crowded group in the research contained students of 20-23 years of age.

2.2.1. Exploratory Factor Analyses

Scales used within the research activity were first subject to exploratory factor analyses and their factor statuses were examined. Among these scales, exploratory factor analyses results of Computer Attitude Scale results are given in table 2.

Table 2: Exploratory factor analyses results of Attitude Towards Internet (ATI)

Scale	Dimensions	Question	Faktor Load	$\bar{X}$	S.D.
ATI (Attitudes Towards Internet)	ATI-1	The Internet makes me uncomfortable because I don't understand it	,737	3,58	1,27
		Life will be easier and faster with the Internet	,731	2,40	1,36
		I feel intimidated by the Internet	,680	2,82	1,42
		The Internet's complexity intimidates me	,614	2,91	1,35
	ATI-2	Soon our worlds will be run by the Internet	,814	3,28	1,26
		The Internet will replace the working human	,720	3,48	1,26
		Soon our lives will be controlled by the Internet	,676	3,41	1,29
	ATI-3	The Internet is bringing us into a bright new era	,626	3,62	1,14
		There are unlimited possibilities of Internet applications that have not been thought of yet	,588	3,18	1,22
		The Internet can eliminate a lot of tedious work	,588	3,83	1,13
		The Internet is responsible for many good things we enjoy	,569	3,58	1,27
		The Internet is a fast and efficient means of gaining information	,545	3,99	1,19
	ATI-4	The Internet is lessening the importance of too many jobs done now by human	,662	3,47	1,29
		The Internet turns people into just another number	,637	3,26	1,21
		The Internet is dehumanizing to society	,570	3,76	1,25

Dimension	Eigenvalues	Variance (%)	Cumulative (%)	Cronbach Alpha	Bartlett's X^2	df	Sig.	KMO
ATI-1	3,168	21,122	21,122	,672	743,32	105	,000	,75
ATI-2	2,283	15,222	36,344	,669				
ATI-3	1,177	7,845	44,188	,666				
ATI-4	1,151	7,672	51,860	,578				

The original ATI scale contains 19 articles. On the other hand, 4 articles were removed as factor loading was found insufficient or cyclical as a result of the exploratory factor analyses and thus, the scale comprised 15 articles. It was observed that this adapted, 15 articled and four factored scale explained 51.86% of the total variance.

Another scale, exploratory factor analyses of which was made is Computer Anxiety Rating Scale (CA). Exploratory factor analyses results of this scale is given in Table 3.

Table 3: Exploratory factor analyses results of CA

Scale	Dimensions	Question	Factor Load	$\bar{X}$	S.D.
CA (Computer Anxiety)	CA-1	I am sure that with time and practice I will be as comfortable working with computers as I am in working by hand	,805	4,10	1,15
		I feel computers are necessary tools in both educational and work setting	,800	4,15	1,17
		I look forward to using a computer on my job	,746	4,05	1,22
		If given the opportunity, I would like to learn more about and use computers more	,719	3,83	1,18
		Learning to operate computers is like learning any new skill, the more you practice, the better you become	,680	4,00	1,09
		I feel that I will be able to keep up with the advances happening in the computer field	,610	3,82	1,07
	CA-2	It scares me to think that I could cause the computer to destroy a large amount of information by hitting the wrong key	,790	3,10	1,42
		I have difficulty in understanding the technical aspects of computers	,754	3,00	1,36
		I feel apprehensive about using computers	,751	2,59	1,42
		I hesitate to use a computer for fear of making mistakes that I cannot correct	,742	2,89	1,42
	CA-3	The challenge of learning about computers is exciting	,782	3,27	1,33
		I am afraid that if I begin to use computer more, I will become more dependent upon them and lose some of my reasoning skill	,636	3,00	1,34
		I would dislike working with machines that are smarter than I am	,545	3,08	1,34

Dimension.	Eigenvalues	Variance (%)	Cumulative (%)	Cronbach Alpha	Bartlett's X^2	df	Sig.	KMO
CA-1	3,356	25,814	25,814	,824				
CA-2	2,669	20,531	46,346	,773	957,57	78	,000	,80
CA-3	1,261	9,699	56,045	,459				

The original CA scale contains 19 articles. As a result of the exploratory factor analyses 6 articles were removed. It was determined that this three factored scale explained 56.045% of the total variance.

Finally, exploratory factor analyses of Computer Self-Efficacy Scale (CSE) were carried out and obtained results are given Table 4.

Table 4: CSE Scale's exploratory factor analyses results

Scale	Dimensions	Question: I feel confident,	Factor Load	$\bar{X}$	S.D.
CSE (Computer Computer Self-Eficacy)	CSE-1	explaining why a program (software) will or will not run on a given computer	,748	3,47	1,14
		troubleshooting computer problem	,701	3,68	1,17
		getting help for problems in the computer system	,698	3,43	1,12
		explaining why a program (software) will or will not run on a given computer	,676	3,49	1,08
		organizing and managing files	,670	3,81	1,13
		understanding the 3 stages of data processing: input, processing, output	,627	3,68	1,15
	CSE-2	working on a personal computer	,713	3,69	1,30
		entering and saving data (numbers and words) into a file	,708	3,48	1,23
		getting software up and running	,706	3,41	1,07
		escaping (exiting) from the program (software)	,650	3,70	1,22
		calling up a data fie to view on the monitor screen	,646	3,56	1,18
	CSE-3	copying a disc	,808	3,64	1,19
		using a printer to make "hardcopy" of my work	,807	3,80	1,21
		copying an individual file	,731	3,81	1,19
	CSE-4	writing simple programs for the computer	,833	3,67	1,26
		using the computer to write a letter or essay	,620	3,75	1,20
		describing the function of computer hardware (e.g. keyboard, monitor, disc drives, computer processing unit)	,601	3,87	1,17

Dimens.	Eigenvalues	Variance (%)	Cumulative (%)	Cronbach Alpha	Bartlett's X^2	df	Sig.	KMO
CSE-1	7,456	43,858	43,858	,865	2310,14	136	,000	,90
CSE-2	1,540	9,061	52,919	,811				
CSE-3	1,209	7,111	60,030	,866				
CSE-4	,952	5,601	65,632	,756				

The original CSE scale contained 29 articles. Adaptability work of the scale was carried out and it was observed that this 17 articled and four factored scale's loading was between .601 and .833, and it explained 65.623% of the total variance. For this scale, KMO test result was found as .90.

2.2.2. Confirmatory Factor Analyses

In order to test given scales' structured statuses according to exploratory factor analyses, confirmatory factor analyses were conducted. Results of confirmatory factor analyses and factor structures are given in Figure 1

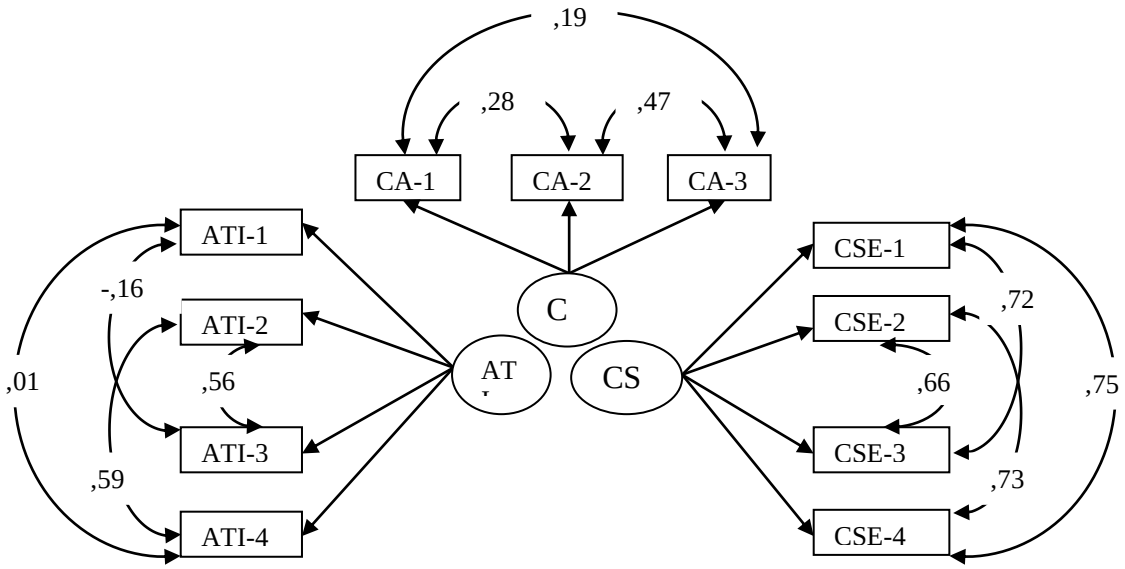

Figure 1: CAR, CA, CSE Scales' confirmatory factor analyses.

As can be seen in Figure 1, the highest correlation coefficient is between CSE-1 and CSE-4 factors and the lowest correlation coefficient is between ATI-1 and ATI-4. Fit indexes obtained as a result of confirmatory factor analyses are given in table 5.

Table 5: Confirmatory factor analyses fit indexes of CA, ATI and CSE scales'

Scale	X^2	df	X^2/df	GFI	AGFI	RMSEA	CFI	IFI	SRMR
CA	120,406	62	1,942	0,936	0,906	0,059	0,935	0,936	0,0625
ATI	169,613	84	2,019	0,926	0,894	0,061	0,869	0,873	0,0662
CSE	299,847	113	2,654	0,890	0,852	0,078	0,917	0,918	0,0528

As can be seen in figure 5, scales' X^2/df rate change between 1.942 and 2.654. SRMR and RMSEA values are close to null.

3. FINDINGS

In the course of the general purpose of this research, the kind of relation between computer anxiety, internet attitude and computer self-efficacy was examined in this chapter. How computer anxiety, internet attitude and computer self-efficacy interact with each other was tired to be determined by standardized regression coefficients and obtained results are given in Figure 2.

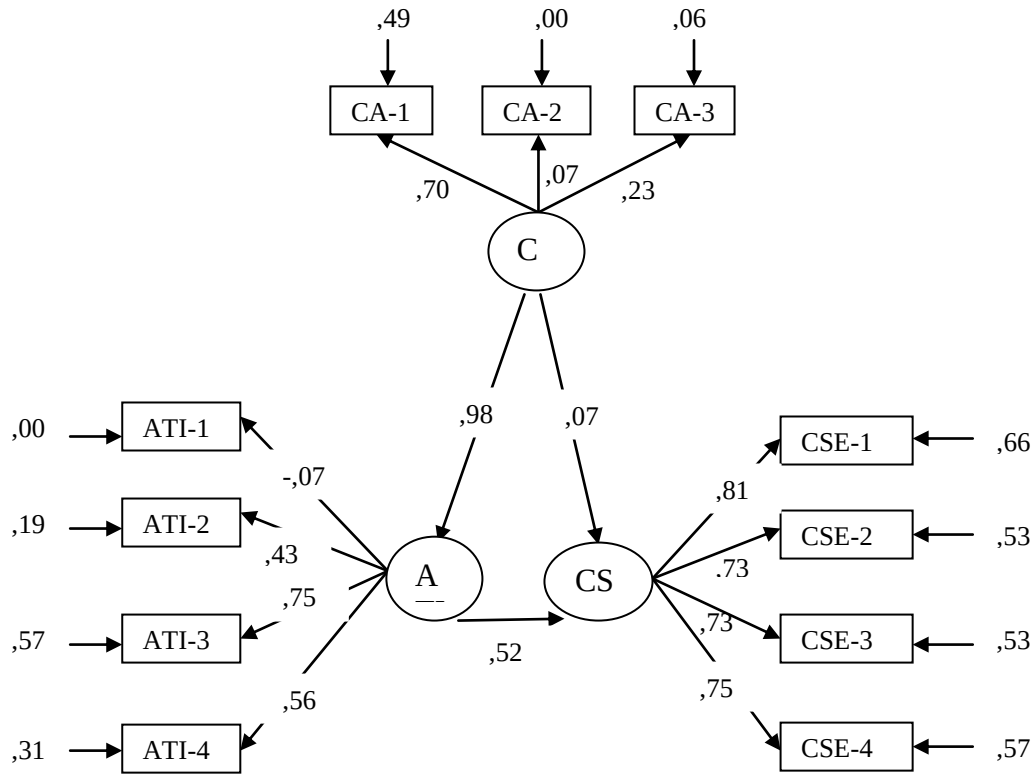

Figure 2: CA, ATI and CSE scales' Standardized Regression Analyses Results

When standardized regression (beta) coefficients are analyzed, it was revealed the computer anxiety had a strong and positive effect on internet attitude. (β=.98; $p<.05$). Similarly, it was determined that internet attitude positively affected computer self-efficacy (β=.52; $p<.05$). However, an effect of same direction between computer anxiety and computer self-efficacy (β=.07; $p>.05$) could not be observed.

4. DISCUSSION

Many techniques used in the development of measurement scales in education and psychology are based on the assumption that test is one dimensional and in the development of multiple dimensional measurement tools, single dimensional components are brought together. In the development of both single and multiple dimensional measurement tools one has to make sure which items will provide measurement from which dimension is known. Therefore, in the development of measurement tools to be used in education and psychology factor analyses are widely made use of (Baykul, 2000). Researchers may use factor analyses techniques for creating hypothesis (exploratory factor analyses) and testing them (confirmatory factor analyses) (Rennie, 1997).

One of the pre-conditions for factor analyses is sufficient number of samples. Whether data are suitable for factor analyses are checked with Kaiser-Meyer-Olkin (KMO) coefficient, and whether variables correlate with each other is checked through Barlett's sphericity test values. KMO value being higher than .60 and Bartlett's test result being significant indicates that data are suitable for factor analyses. (Çokluk et al., 2010:206-207).

KMO value being lower than .50 may indicate that factor analyses cannot be continued. Even though there are closely expressed sufficiency standards in the literature, items' factor loading in the scale or the factor are expected to be around .320 (Tabachnick and Fidel, 2001; Çokluk et al., 2010:223).

The main difference between exploratory and confirmatory factor analyses depend on the purpose of data analyses (Gillaspy, 1996). Compared to exploratory factor analyses, confirmatory factor analyses is a rather complex technique used during the later stages of the research to test a hypothesis on implicit variables (Tabachnick and Fidell (2001). In order to test the conformance between exploratory and confirmatory factor analyses X^2 , X^2 /sd , GFI, CFI, RMSEA, SRMR are widely used (Stapleton, 1997).

Chi-square goodness of fit indicates the distance of observed correlation matrix from the hypothetical correlation matrix. Low X^2 value is an indication to a good conformity between the model and data. (Çokluk et al., 2010). X^2 /sd rate being below 2 or 3 is perfect conformity (Schreiber et al., 2006) while below 5 is accepted as moderate conformity (Sümer, 2000). GFI and CFI values are between 0.00 and 1.00 and scale value for both these values are expected to be close to 1. GFI value being .95 and above indicates a perfect conformity of data with the model (Schreiber et al. 2006). However, GFI value being .85 and above is regarded as sufficient for model-data conformity (Sümer, 2000). Additionally IFI being over .90 can be described as another wanted criterion. (Wilson and Muon, 2008). RMSEA and SRMR values being close to null or lower than .05 means perfect model-data conformity (Sümer, 2000). However, .08 and lower values can also be accepted as an indicator of model-data conformity (Schreiber et al., 2006). It is evident that scales' X^2 /sd, GFI, CFI, IFI, RMSEA and SRMR values are within the acceptable limits described in the literature.

It is generally expected that with enhanced computer experiences and skills anxiety towards computers should decrease. However, according to Chua, Chen and Wong (1999), Harris and Davison (1999) computer courses are temporarily effective in reducing computer anxiety. According to Gos (1996), Safford and Worthington (1999) on the other hand, with the increase of skills anxiety increase likewise. Arıkan (2002) and Akkuş (2004) suggest the contrary view that as computer experience increases anxiety decreases. Rosen and Weil (2010) claim that computer anxiety has a socio-cultural root.

According to calculated standardized regression coefficients, computer anxiety has a positively strong effect on internet attitude. Furthermore, internet attitude positively affecting the computer self-efficacy is another finding obtained. In spite of that, a similar effect between computer anxiety and computer self-efficacy could not be observed. According to Sam, Othman and Nordin (2005) a correlation between internet attitude and computer self efficacy does not exist. Same research findings indicate that there was a correlation between internet attitude and computer anxiety. In another research, Abatogun (2010) determined a correlation between internet attitude along with computer anxiety and self-efficacy.

Since computer anxiety has a strong effect on internet attitude, with this anxiety being kept under control and managed, attitudes of learners towards internet and maybe technology can be positively developed. This in return may result in enhanced self-efficacy perception. According to Çetin (2008) self-efficacy perception affect cognitive processes, emotions and individuals' ability to control themselves. Akkoyunlu and Orhan (2003) suggest that self-efficacy affect right or wrong doing behaviors and the persistence to cope with difficulties. Therefore, based on the findings of this research, it may be suggested that

computer trainings be conducted considering the correlation between anxiety and attitude, and attitude and self-efficacy.

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