The Effects of Peer-Training about Secure Internet Use on Adolescents

Güvenli İnternet Kullanımı Konusunda Uygulanan Akran Eğitiminin Ergenler Üzerindeki Etkisi

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Öz: Bu çalışmanın amacı ergenlerde güvenli internet kullanımı akran eğitiminin ergenler üzerindeki etkisini incelenmektir. Araştırmaya Türkiye Mersin ilinde 2 ilköğretim okulu 6., 7. ve 8. Sınıflarına devam eden öğrencilerden 410'u (Kız 198, Erkek 212) deney grubunda, 415'i (Kız 213, Erkek 202) kontrol grubunda olmak üzere toplam 825 öğrenci katılmıştır. Deney ve kontrol grubu, öğrencilerin yaş, cinsiyet, sosyoekonomik düzey, akademik başarıları ve İnternet Kullanma Alışkanlıkları Ölçeği'nden aldıkları öntest puanları göz önüne alınarak oluşturulmuştur. İnternet Kullanma Alışkanlıkları ile ilgili veriler Yılmazhan-Gültutan (2007) tarafından geliştirilen İnternet Kullanma Alışkanlıkları Ölçeği ile toplanmıştır. On oturumluk akran eğitiminden geçirilen on iki akran eğitimcisi öğrenci; internet, internet yapılabilecekler, aşırı internet kullanımının zararları, internet bağımlılığı, belirtileri ve başa çıkma yolları, internet kullanılırken dikkat edilmesi gerekenler ve güvenlik programlarının kullanımı konularını kapsayan güvenli internet kullanımı hakkında 40 dakikalık iki oturumda akranlarını bilgilendirmişlerdir. Bulgular, akran eğitiminin, bu eğitime katılanlar açısından yararlı olduğunu, öğrencilerin internet kullanım alışkanlıklarının olumlu yönde değiştiğini göstermektedir. Aynı zamanda bu akran eğitimine katılmayan öğrencilerle katılan öğrenciler karşılaştırıldığında katılan öğrenciler lehine anlamlı bir fark olduğu ortaya çıkmıştır.

Anahtar Sözcükler: güvenli internet kullanımı, akran eğitimi, ergenler

Abstract: The aim of this study is to examine the effects of peer training about secure internet use on adolescents in Turkey. The study was conducted with 825 students enrolled at two elementary schools in Mersin. Of these students, 410 were in the experimental group and 415 were in the control group. Control and experimental groups were formed based on students' age, sex, socio-economic status, academic success and pre-test scores received on the Internet Use Habit Scale (IUHS). The data on internet use habits were collected using the Internet Use Habits Scale developed by Yılmazhan-Gültutan (2007). The peer educator group underwent a 10-session peer-education program. They then conducted two 40-minute sessions in which they informed their peers about answers to the following questions: What is the internet? What activities can be performed on the internet? What are the drawbacks of excessive internet use? What is internet addiction? How can security programs be used? The results showed that the peer training was beneficial to the students who underwent the training because their internet use was affected in a positive way. Furthermore, when compared to the group who did not take the training, a significant positive difference was observed in the trained group.

Keywords: secure internet use, peer training, adolescents

In recent years, the internet has become an effective technological development. It is being used frequently by people who are socially, psychologically, culturally and physically affected by it, either positively or negatively. Internet use is increasing dramatically and is becoming an indispensable part of life. There is a significant increase in the number of studies indicating that the unrestricted use of the internet, especially by children and adolescents, has negative outcomes, including some physical, social, and psychological problems as well as negative effects on developmental tasks (Whang, Lee & Chang, 2003).

Adolescents' extensive use of the internet not only affects the individual's academic success, but

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may also cause addiction. Using the internet too much may lead to an increase in depression and aggressive behaviour in children and adolescents. In addition, some studies show that too much internet use may negatively affect skills such as the capacity for self-expression and social skills, both of which are important for personal development (Bayraktar, 2001; Kıran-Esen, 2009; Morgan & Cotten, 2003;Sanders, Field, Diego & Kaplan, 2000).

During puberty, the impact of peers begins to be more dominant than the impact of parents and teachers. During this period, peer relations not only support an individual's process of learning and their social, emotional and psychological independence, but they also help to teach adolescents social and physical skills that they might not learn at home or at school (Siyez, 2009). For adolescents, peers also play a crucial role in internet use. It is even observed that peer pressure induces them to use the internet to an extent that may be called addiction (Kıran-Esen, 2009).

This being the case, psychological counsellors should focus on how to develop students' interpersonal relationships and to increase the positive effect of peers (Kıran-Esen, 2009). Peer training can be a good and effective alternative for raising awareness about this issue. The importance of peer training support programs, which aim to transform the strong peer effect on adolescents into a positive influence, is growing daily. The number of studies investigating this effect has also increased and indicates positive outcomes.

Peer Training

In its simplest and most basic form, the term "peer" refers to individuals who are at the same age. Peer education, on the other hand, refers to individuals first being trained in a systematic way about communication skills and ways of supporting their peers. Then, with supervisory support, these individuals provide training, support and guidance to peers in certain areas such as academic support, health, adaptation to school and test anxiety (Tindall, 1995).

In the literature, peer-based support and training applications are typically named after the aims of the program. For example, peer counselling refers to one-on-one interviews where individuals prefer to share certain personal problems with their peers (Aladağ, 2005; Carter, 2008), peer education refers to situations where the aim is to raise individuals' awareness of specific topics such as AIDS (Turner, 1996), peer training refers to attempts to prevent addictions such as smoking (Darrell, 2007), peer leader refers to individuals who help the school's psychological counsellor with certain projects (Tuna, 2002), and peer mediation refers to instances where conflicts at school are solved in a constructive way (Cremin, 2007; Taştan, 2004). In this study, the term "peer training" is used to inform their peers about internet use via presentations.

Peer-based applications were first implemented in schools during the 1960s in the United States of America. Towards the end of the 1960s, increases in the rates of some problems such as crime, alcohol and drug use, dropping out of school, depression and suicide forced educators to seek new solutions. Peer-based intervention and prevention programs that were developed in this context are now being increasingly applied (Tobias & Myrick, 1999). Peerbased applications are not considered as professionallevel education and psychological support processes. The National Peer Helpers Association (NPHA) and Peer Resources (PR), state that trained individuals are not amateur psychological counselors or guidance experts and cannot replace educated professionals in support occupations; instead, they can only play a supporting role in psychological counselling and guidance (NPHA, 2002). Turner (1999) indicates that a peer-based training-help relationship provides opportunity for individual development.

Studies show that peer-based support increases students' self-confidence (Moore, 1994), decreases alcohol use (Turner, 1996), helps students to adopt a secure sexual life (Study, 1997), helps to reduce students' personal problems (Pitts, 1996), increases students' success in school, helps students to deal increases academic achievements with stress, (Aladağ, 2005; Beardsley, 1997), reduces test-taking anxiety (Pehlivan, 2004), increases students' sense of responsibility (Taylı, 2006), helps students to be less inhibited in peer-based training talks on violence at schools and promotes interpersonal communication among academic peers (DeBates & Bell, 2006). The success of peer training in health education is also evident in the literature. Peer training is thought to be more effective than other methods, especially for informing individuals about breast self-exams for cancer prevention (Tuna, 2002), for positively affecting and developing students' sexual attitudes (Kadıoğlu, 2005), and for informing students about diseases such as HIV-AIDS, which spread via sexual intercourse (Dickinson, 2006; Ergene, Çok, Tümer & Ünal, 2005; Karabulut, 2003; Norton & Mutonyi, 2007).

Internet Use

Internet is a communication system in which computers all over the world are connected to each. With the effective use of the internet, individuals can access or spread information or products worldwide, irrespective of time and place. "Secure internet use" means using the internet at a convenient time to reach an aim without feeling any intellectual or behavioural disturbance. The behavioural patterns of individuals' internet use that result in problems, or cause individuals to deviate drastically from normal behaviour, have been defined as "pathological" or "problematic".

Studies show that excessive internet use may cause loneliness (Engelberg & Sjöberg, 2004; Nalwa & Anand, 2003), anti-social values, low emotional intelligence (Engelberg & Sjöberg, 2004) and tendency towards depression (Young & Rodgers, 1998). They further show that family relationships, especially with the mother, and friendships deteriorate (Sanders, Field, Diego & Kaplan, 2000). Some studies also indicate that the increase in time spent playing games, doing research and shopping on the internet leads to more symptoms of depression (Morgan & Cotten, 2003), causes personal problems for the internet users (Simkova & Cincera, 2004), and negatively affects social, verbal and academic functions (Beard, 2002). Young (1997) states that depressive people who fear social isolation and are in desperate need of social approval use the internet to overcome the problems they face with real people.

In a study which was done by the primary school students about the aims of adolescents in the usage of internet it is stated that % 79 of students use internet and it increases accordingly with their growth of ages. The students use internet for information, communication and gaming (Orhan & Akkoyunlu, 2004). Also Ersoy and Yaşar (2003) stated that mostly primary school students don't use internet efficiently but they use it for fun and they aren't encouraged by their parents or tutors about the usage of internet.

Adolescents make up the vast majority of internet users. According to Tsai and Lin (2003) adolescents who are not yet cognitively mature are considered as a potential risk group for internet addiction. Adolescents are likely to fall into traps in their cyber world, can easily panic and their close relationships can be harmed.

Among others, psychological counsellors working at school can turn the peer effect into a positive factor by using it to raise adolescents' awareness about internet use and to inform and guide them in constructive ways. One of the fundamental factors guiding this study is the fact that, during puberty, the effects of peers are much more evident than the effects of family and teachers. Furthermore, the literature suggests that there is a lack of research on internet use and peer-based education.

In the light of these issues, the main aim of this study is to examine the effects of peer education on adolescents with regard to internet use habits. The following research questions guide the study:

1. Is there a statistically significant difference between the pre-and post-test scores of the Internet Use Habit Scale of students who had peer education?

2. Is there a statistically significant difference between the pre-and post-test scores of the Internet Use Habit Scale of students who did not have peer education?

3. Is there a statistically significant difference between the pre-and post-test scores of the Internet Use Habit Scale of students who took the peer education versus the ones who did not take the peer education?

Method

Participants

This study was conducted during the 2009-2010 academic year with students enrolled in the 6th, 7th and 8th grades of two elementary schools, Mersin, Turkey. The ages of the 825 students ranged between 13 and 15, and as can be seen in Table 1, 410 students (198 female and 212 male) were in the experimental group, whereas 415 (213 female and 202 male) were in the control group. The experimental and control groups were randomly formed based on the students' age, sex, socio-economic status, academic success and the pre-test scores they received on the Internet Use Habit Scale. In addition to the12peer-trainers (8 female, 4 male, ages 14-15) who underwent the training informed their peers in two 40-minute sessions. The studies of peer-trainers were supported by supervision sessions. The participants were volunteering students.

Tablo 1. Distribution of Experimental and Control Groups with Respect to Gender and Grade Level

Experimental group (students who participated in the peer education)				Control group (students who did not participate in the peer education)		
	Female	Male	Total	Female	Male	Total
6 th grade	67	70	137	71	51	122
7 ^{th,} grade	76	71	147	75	72	147
8th grade	55	71	126	67	79	146
Total	198	212	410	213	202	415

Research Design

In this study, the "pre-test, post-test control group" experimental design was used. This method is frequently used in educational and psychological studies. Initially, both experimental and control groups were given the Internet Use Habit Scale as a pre-test. Subsequently, the experimental group was given peer training on internet use. The control group was not given any such training. Both experimental and control groups received the booklets on secure internet use prepared by Turkey Ministry of National Education (2009). Two weeks after the training, experimental and control groups were given the Internet Use Habit Scale again as a post-test.

Data Collection

Internet Use Habit Scale

The Internet Use Habit Scale, a five point Likerttype scale developed by Yılmazhan-Gültutan (2007), was used to ascertain elementary schools' students' internet use habits. Scale has 19 items. The lowest score on the scale is 19, whereas the highest possible score is 95. A high score on the scale shows that the student has strong internet use habits.

Principle components analysis was used to analyse the factorial structure of the scale. First, the 4-item removed. Then the factorial values of all 19 items ranged between 0.291 and 0.560, making it possible to combine all items under one factor. The single factor value (Eigen value) was 8.38 and its variance was 41.88 %. This single factor is called "Students' internet use habit".

To ascertain the reliability of the scale, the Cronbach Alpha reliability coefficient (0.92) and the Spearman-Brown split-half test correlation (0.90) were examined. In order to test whether the items on the scale sufficiently discriminated the characteristics of the individuals under study, a t-test was conducted by taking the total scores of the upper and lower 27 % (t=16.70, p<.000) and analysing them with the corrected item-total correlation. For all items on the scale, item-total correlations ranged between 0.487 and 0.706. (Yılmazhan-Gültutan, 2007).In this study, the Cronbach Alpha reliability coefficient of the Internet Use Habit Scale was calculated as 0.91.

Peer Training Program

The peer-training program was implemented in the 2009-2010 academic year. Within the scope of study, the researchers developed peer-training program which covers the topics of peer education, communication skills and internet use according to the National Peer Helpers Association'sprogrammatic standards (NPHA, 2002). Within the program, a total of 24 students participated, 12 of whom were in the experimental group (8 female, 4 male, ages 14-15) and the other 12 (7 female, 5 male, ages 14-15) were in the control group. The experimental and control groups were randomly formed based on National Peer Helpers Association (NPHA) criteria, students' age, gender, socio-economical status, academic success and their pre-test scores received in Communication Skills Evaluation and Internet Use Habit Scale. In the NPHA criteria, characteristics such as students' being helpful, reliable, interested in others, listening actively and being a good role model are taken into account.

The program covered the 10 peer trainer training sessions, along with the supervision sessions and peer trainers' presentations. The peer training program consisted of topics such as getting to know each other, group rules, responsibilities of peer trainers, ethics, the psychological support process, developing communicative skills, self-knowledge, developing presentation skills, and obtaining information about secure internet use. The ones, who completed the training program successfully, were entitled to be peertrainers. The ten (90-minute) peer-training program sessions were designed around the following:

First Session: Preparing the peer-trainer candidates to the group process and getting to know each other. Second Session: Studies related to peer-trainers' duties and responsibilities, and highlighting the importance of the program. Third Session: Sharing information about psychological support and the characteristics of puberty. Forth, Fitfth and Sixth Sessions: Students' learning about themselves and learning and applying the basics of effective communication skills.

Seventh Session: Getting to know the classroom environment and developing communication and presentation skills. Eighth and Ninth Sessions: Giving information about secure internet use and sharing this information with others. Tenth Session: A general evaluation of the program and studies on how to use the skills acquired in the peer-training program.

The peer trainer group informed their peers in two 40-minute sessions about answers to the following questions: What is the internet? What activities can be performed on the internet? What are the drawbacks of excessive internet use? What is internet addiction, its symptoms and its solutions? What issues should be considered when using the internet? How can security programs be used?

Data Collection and Analysis

The data was collected in groups under classroom conditions. Because equal variance between the control and experimental groups was not assumed for the total scores of the pre- and post-tests, the Wilcoxon Signed Rank Test for Paired Samples was used. The Mann-Whitney U test was used to compare the experimental group with the control group. Results obtained were tested as being meaningful at the level of p=0.05.

Findings

The Internet Use Habit Scale pre- and post-test scores of students who had peer training

To compare the Internet Use Habit Scale pre- and posttest scores of the group that had the training, the Wilcoxon Signed Rank Test for Paired Samples was used. the Wilcoxon Signed Rank Test for Paired Samples was used.

As can be seen from Table 2, there was no significant difference between the control group's pre- and post-test scores on the Internet Use Habit Scale (Z=-0.737. p>0.05). As expected, no change was observed in the internet use habits of the control group.

The Internet Use Habit Scale pre- and posttest scores of students who had peer training vs. students who did not

The Mann Whitney U test for independent samples was used to test whether there was a statistically

Tablo 2. The Wilcoxon Signed Rank Test Results concerning Pre- and Post-test Scores of the Experimental and Control

 Groups' Internet Use Habit Scale

	Post-test, pre-test	Ν	Mean Rank	Sum of Ranks	Ζ	р
Experimental group	Negative ranks	168	155,37	26102,00	-3,267*	.001**
	Positive ranks	124	134,48	16676,00		
	Ties	35	-	-		
Control group	Negative ranks	156	126,04	19662,00	-,737*	.461
	Positive ranks	117	151,62	17739,00		
	Ties	18	-			
	* Based on negative ranks	**p< 0.0	5			

As can be seen from Table 2, there was a statistically significant positive difference (Z=-3.267, p<0.05) in the experimental group when comparing the Internet Use Habit Scale pre- and post-tests total scores. The internet use of students who participated in the peer training was reduced. The presentations that peer trainers gave about internet use had an impact on the students.

The Internet Use Habit Scale pre- and post-test scores of students who did not peer training

To compare the Internet Use Habit Scale pre- and post-test scores of the group that did not peer training, significant difference between the Internet Use Habit Scale pre- and post-test scores of the students in the control group and the ones in the experimental group. As can be seen from Table 3, no difference was observed between the Internet Use Habit Scale pretest scores of the experimental and control groups (U=42586.5, p>0.05). Both groups were considered equal in terms of their internet use prior to the peertraining. However, a significant difference in favour of the experimental group was observed when the Internet Use Habit Scale post-test scores were compared (U=40350.5, p<0.05). Thus, in terms of internet use habits, peer training was effective and students benefitted from the training.

Pre-test					
Groups	Ν	Mean Rank	Sum of Ranks	U	р
Experimental group	327	294,23	96214,50	42586,50	.056
Control group	286	321,60	91976,50		
Total	613				
Post-test					
Experimental group	327	287,40	93978,50	40350,50	.003*
Control group	286	329,41	94212,50		
Total	613				
*p< 0.05					

Discussion and Conclusions

As expected, the first and second findings showed that the internet use of students who participated in the peer training was reduced and no change was observed in the internet use habits of the control group. These findings support the research's third findings. The third findings showed that the peer training was beneficial to the students who underwent the training because their internet use was affected in a positive way. Furthermore, when compared to the group who did not take the training, a significant positive difference was observed in the trained group. These results are in accordance with the results of previous studies, which indicate the success of peer-based training and-counselling (Aladağ, 2005; Beardsley, 1997; Cok, 2003; Demirci & Şekercioğlu, 2009; Kadıoğlu, 2005; Karabulut, 2003; Moore, 1994; Norton & Mutonyi, 2007; Pehlivan, 2004; Pitts, 1996; Sencar Tokgöz, 2007; Study, 1997; Taştan, 2004; Tuna, 2002; Turner, 1996).

According to Anderson and Dill, (2000) most of the effects of internet are positive. Internet is a system which helps people to do their missions, activate information and meet people. Internet gives new opportunities and experiences for both kids and families. By the efficient use of internet kids, without limitations of time and place, can reach any information whenever they want from class on anywhere and present their own products to the world (Akkoyunlu, 2001).

For reasons such as inadequacies in the educational system in Turkey, disinterest in the family, peer pressure, lack of social support and communication breakdown, some individuals see the cyber world as a solution to their problems; thus they spend many hours in front of the computer. Young (1996) points out that, because of excessive internet use, 58 % of students face negative consequences, such as worsening study habits, significant decreases in their grades and missed lessons. In addition, excessive internet use has been shown to be associated with important social, psychological and occupational disorders. It is known that peers play an important role in internet use. Kıran-Esen (2007) found that peer pressure predicts internet addiction to a great extent. During the teenage years, parent support decreases, while peer support increases (Helsen, Volleberg & Meeus, 2000). With the help of peer-based support programs, this peer effect can be transformed into a positive impact.

The school atmosphere is much more likely to be supportive for students when they help each other (Aladağ, 2005; Pehlivan, 200).Turner (1999) states that peer-based training provides an opportunity for personal development. The resources that schools have available to help students solve their social problems are currently inadequate. Peer-based applications are effective for supporting psychological counselling services at schools by using the peer effect in a positive way. In schools where peer-based programs are implemented, the communication between school personnel and students improves (Carter, 2008).

In Turkey it is clear that peer group education is usually done among university students and health, and have positive results (Babadoğan, 2002; Ergene, Çok, Tümer & Ünal, 2005; Karabulut, 2003; Özcebe & Akın, 2003; Tuna, 2002). However, peer-based help and training programs are widespread in primary schools. Psychological counsellors at some schools may not agree with peer-based applications because lack of information about Peer-based help and training programmes (Taylı, 2006). To address this, education programmes can be organized to help psychological counselors become more knowledgeable about the peer education process. In addition, publications focusing on peer-based applications can be encouraged.

Many parents point out that excessive internet use leads to a decrease in their children's academic success and hinders communication within the family; furthermore, they do not know what to do about this issue. Peer training about secure internet use offered at primary schools would be valuable because it would help raise students' awareness about preventing addiction.

The findings of this study also suggest that peer trainers developed their communication skills. This result is similar to researches in the field (Aladağ, 2005; Brack, 2008; Liau, 1999; Steinbauer, 1998; Swen, 2000; Taylı, 2006). For personal development, it is important for students to develop their communicative skills and express themselves comfortably. Thus, it is suggested that peer training applications on various topics be conducted at schools.

Limitations

The most important limitation of this study is that it is semi-experimental. Semi-experimental research designs are often used in the social sciences when all confounding variables cannot be controlled. Thus, factors that might have an impact on peer-trainers' internet use habits during the training (e.g., family, school life, social relations) could not be controlled. An additional limitation is that the peer-training program was designed only for secure internet use. The fact that no pilot study was conducted due to time and economic reasons is another limitation of the study.

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