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THE EFFECT OF SOLUTION-FOCUSED APPROACH ON REDUCING SMARTPHONE ADDICTION

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Abstract

The aim of this study is to examine the effect of solution-focused group counseling on reducing smartphone addiction among university students. The research is an experimental study with an experimental control group with pre-test, post-test and follow-up measurement design. The study group of the research consisted of 22 university students (10 females and 12 males). 11 of these students are in the experimental group (5 females and 6 males) and 11 of them are in the control (5 females and 6 males) group. A solution-focused group psychological counseling program designed to reduce smartphone addiction, consisting of six sessions developed by the researcher, was applied to the experimental group. This program was implemented once a week. Each session consisted of approximately 90-120 minutes. No study was conducted on the control group. In this study, "Smartphone Addiction Scale" and "Personal Information Form" were used as data collection tools. Data obtained from this study were analyzed using Mann Whitney U Test, Wilcoxon Signed-Ranks Test and Friedman Test. The findings of the study revealed that the solution-focused group was more effective than the control group. In addition, it was observed that this effectiveness was preserved with the follow-up studies carried out at the end of three months.

Keywords: Solution-Focused Group Counseling, Addiction, Smartphone Addiction, University Student

Akıllı Telefon Bağımlılığını Azaltma Üzerinde Çözüm Odaklı Yaklaşımın Etkisi

Öz

Bu çalışmanın amacı, çözüm odaklı grupla psikolojik danışmanın üniversite öğrencilerinin akıllı telefon bağımlılığını azaltmadaki etkisini incelemektir. Araştırma, deney-kontrol gruplu ön test, son test ve izleme ölçüm desenli deneysel bir çalışmadır. Araştırmanın çalışma grubunu 22 üniversite öğrencisi (10 kadın ve 12 erkek) oluşturmuştur. Çalışma grubunu 18-24 yaş arasındaki üniversite 1. 2. 3 ve 4. sınıf düzeyindeki öğrenciler oluşturmaktadır. Bu öğrencilerin 11'i deney (5 kadın ve 6 erkek) ve 11'i kontrol (5 kız ve 6 erkek) grubunda yer

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almaktadır. Deney grubuna araştırmacı tarafından geliştirilen altı oturumdan oluşan akıllı telefon bağımlılığını azaltmaya yönelik çözüm odaklı grupla psikolojik danışma programı uygulanmıştır. Uygulanan bu program haftada bir kez yapılmıştır. Her bir oturum yaklaşık 90-120 dakikadan oluşmuştur. Kontrol grubuna ise herhangi bir çalışma yapılmamıştır. Bu çalışmada veri toplama araçları olarak "Akıllı Telefon Bağımlılığı Ölçeği" ve "Kişisel Bilgi Formu" kullanılmıştır. Bu çalışmadan elde edilen veriler Mann Whitney U Testi, Wilcoxon Signed-Ranks Testi ve Friedman Testi kullanılarak analiz edilmiştir. Araştırmanın bulguları çözüm odaklı grubun kontrol grubuna göre daha etkili olduğunu ortaya koymuştur. Ayrıca üç ay sonunda yapılan takip çalışmaları ile bu etkinliğin korunduğu gözlemlenmiştir. Bu çalışma sonucunda çözüm odaklı grupla psikolojik danışmanın üniversite öğrencilerinin akıllı telefon bağımlılığını düzeylerini azaltmada etkili olduğuna ulaşılmıştır.

Anahtar Kelimeler: Çözüm Odaklı Grupla Psikolojik Danışma, Bağımlılık, Akıllı Telefon Bağımlılığı, Üniversite Öğrencisi

Introduction

The use of smartphones has increased significantly throughout the world in the last century (Atroszko et al., 2015). Important features such as convenience in online access, change in information and communication environment, directing interpersonal behaviors, having fun, socializing, and high-definition camera opportunities offered by smartphones have led especially university students to use smartphones more (Lan et al., 2018; Sağar, 2022b). Research conducted with university students has revealed that they experience personal, social, and academic problems due to spending too much time on smartphones and that they are a group more prone to the risk of addiction (Boumosleh & Jaalouk, 2018; Roberts et al., 2014). This situation, which creates anxiety for university students, is described as smartphone addiction and is defined as a kind of internet addiction that can cause them to be harmed in terms of their personal, social, and other life areas (Sağar, 2022a, 2022b, Sağar & Sağar, 2023). It is also characterized as a mental health problem or more specifically a type of behavioral addiction (Lin et al., 2016).

It is seen that the need for studies with psychological counseling approaches to reduce the smartphone addiction of university students and to cope with such problems is increasing. As a matter of fact, effectiveness studies have been carried out to reduce and solve smartphone addiction with some psychological counseling approaches. When these studies were examined, it was seen that the studies aimed

at coping with smartphone addiction turned to cognitive-behavioral approach (Bong et al., 2021), awareness-based cognitive approach (Lan et al., 2018; Tang & Lee, 2021) and realistic approach (Park & Kim, 2018; Ulfatari et al., 2022), and positive results were achieved. In addition, when it is considered as a kind of internet addiction (Kim, 2013; Sağar, 2022a, 2022b, Sağar & Sağar, 2023), smartphone addiction, it has been seen that effectiveness studies based on psychological counseling approaches to reduce internet addiction give successful results based on cognitive approach (Chun et al., 2017; Liu et al., 2017), positive psychology approach (Khazaei et al., 2017), realistic approach (Chun et al., 2017; Kim, 2008) and integrative approaches (Chun et al., 2017). Moreover, studies based on a solution-focused approach to reducing problematic internet use have also proven to be effective (Busari, 2016; Lien, 2007; Mun et al., 2011; Sağar & Özabacı, 2022; Zhang et al., 2020). In addition, a meta-analysis study conducted until 2017 revealed that cognitive behavioral approach and sports interventions reduce internet addiction (Liu et al., 2017). In another meta-analysis study conducted until 2017, it was determined that the integrative approach, cognitive behavioral approach, and reality approach were more effective in reducing internet addiction (Chun et al., 2017). In line with these studies in the literature, it has been seen that studies based on different psychological counseling approaches to reduce smartphone addiction yield effective results. The overall main goal in these studies is to focus on reducing smartphone addiction and dealing with problems related to smartphone use. As an alternative to these existing studies in the literature, a study can be conducted with university students based on the solution-focused psychological counseling approach, which is a post-modern approach.

The pioneers of the solution-focused short-term counseling approach are important names such as Steve de Shazer and Insoo Kim Berg. This approach was developed as a family counseling model in the United States in the 1980s. There are a number of important considerations specific to this approach. These are to help clients focus on their solutions, resources, achievements, strengths, minor changes, and

focus instead of focusing on their problems. In this approach, the process consists of 4-6 sessions. In addition, the psychological counselor prefers to use a solution-focused language in the process. In addition, clients are considered to be experts in their own lives. The counselor and the client are collaborators. The main techniques of solution-focused brief counseling approach are "pre-session change technique", "the formula first-session task", "the miracle question", "scaling questions", "exception questions", "coping questions technique" and "the crystal ball technique" (De Jong & Berg, 2008; De Shazer, 1985; De Shazer & Berg, 1997). Considering these general features of the solution-focused counseling approach, it is thought that individuals can give effective results in studies aimed at reducing smartphone addiction. As a result of the literature review, a limited number of studies based on different approaches to reducing smartphone addiction of university students were found (Bong et al., 2021; Lan et al., 2018; Park & Kim, 2018; Tang & Lee, 2021; Ulfatari et al., 2022). In this context, it is expected that a study based on a solution-focused short-term counseling approach to reduce smartphone addiction will offer a different perspective with short and systematic solutions.

Smartphone addiction, which has some risks for individuals of all ages, can be a threatening element on their mental health by causing loss of function in different areas. In this context, it can be said that smartphone addiction is a problem that needs to be studied for university students. As a matter of fact, it is important for university students to be able to control and regulate their smartphone usage, to fulfill their duties and responsibilities successfully, and to be more compatible with themselves and their environment. At this point, it is thought that it would be important and beneficial to support university students with studies to reduce their smartphone addiction levels. In addition, it is thought that there is a need for studies in the fields of psychology, education, and psychological counseling as interventions to reduce the smartphone addiction levels of university students. Therefore, it is important for psychological help professionals to have an effective program to help reduce smartphone addiction. In the literature, it has been seen that studies to reduce smartphone

addiction focus on cognitive-behavioral approach, awareness-based cognitive approach, and realistic approach. In addition, it has been determined that efforts to reduce smartphone addiction are quite inadequate. With this study, it is expected that solution-focused group counseling approach will be effective in reducing smartphone addiction as an alternative to cognitive-behavioral approach, awareness-based cognitive approach, and realistic approach. The solution-focused short-term counseling approach can offer a different perspective from other counseling approaches in reducing the smartphone addiction of university students. It can provide university students with the opportunity to discover their talents and use them to reduce smartphone addiction. Therefore, it can contribute to university students' finding solutions by offering a positive and optimistic perspective in trying to reduce smartphone addiction. By focusing on the present, it can help them find solutions in terms of reducing smartphone addiction with their own capabilities. For these reasons, this research tried to find answers to questions about how solution-focused short-term counseling approach contributes to reducing smartphone addiction in university students. In this direction, the aim of the research is to examine the effectiveness of a solution-focused short-term group counseling program to reduce smartphone addiction among university students. For this purpose, the hypothesis of the research is as follows:

H_1: Solution-focused group counseling is effective in reducing the smartphone addiction levels of university students.

1. Method

1.1. Research Models

This research is an experimental study with experimental-control group pretest, post-test, and follow-up measurement design. The experimental design for the study is given in Table 1.

Table 1: *Experimental Design of the Study*

Group	Pre-test	Implementation	Post-test	Follow-up-test
Experimental Group	SAS	A solution-focused group psychological counseling program was applied (6 sessions / once a week / 120 minutes).	SAS	SAS
Control Group	SAS	No implementation has been made	SAS	SAS

SAS: Smartphone Addiction Scale

1.2.Study Group

The study group consists of 22 university students attending a state university in the Aegean Region of Turkey in the fall semester of the 2022-2022 academic year. 11 of these students were randomly distributed to the experimental group (5 females and 6 males) and 11 of them to the control (5 females and 6 males) groups. The study group is university students between the ages of 18-24. The average daily smartphone usage time average is 14.50. These students did not receive a clinical diagnosis. In addition, they were not involved in any other support program (group or individual counseling) related to reducing smartphone addiction. All students who participated in the research were volunteers.

1.3.Data Collection Tool

Smartphone Addiction Scale

This scale, which aims to evaluate the level of smartphone addiction of university students, was prepared by Known et al. (2013) considering the internet addiction scale developed by Young (1998). The scale was adapted into Turkish by Demirci et al. (2014). This scale, scored between 1 and 6 points in the Likert type, consists of 33 items. The Cronbach's alpha internal consistency coefficient of the scale was calculated as 0.947. The lowest score that can be obtained from the whole scale is 33, and the highest score is 198. A high score from the scale indicates that the person is in the risk group for smartphone addiction (Demirci et al., 2014).

Personal Information Form

It is a form prepared by the researcher to ask information about university students' gender, age, daily use of smartphones and whether they have received psychological help to reduce smartphone addiction before.

1.4.Process

In order to form the study group, the students were informed about the study to be carried out by going to different departments at appropriate times. “Smartphone Addiction Scale” was applied to 287 volunteer university students who wanted to participate in the study. The total scores of the students from the Smartphone Addiction Scale were ordered from the lowest to the highest. Then, university students with high smartphone addiction scores were determined and preliminary interviews were conducted with volunteer students. The data were evaluated in line with the preliminary interviews and some criteria determined by the researcher (being a volunteer, being a university student, not taking part in another support program (individual or group counseling), not having a clinical diagnosis). A pool of participants was created according to the determined criteria. A total of 22 university students, 10 females and 12 males, who met the criteria determined by the researcher, were determined. The determined 22 university students were randomly distributed to the experimental and control groups, 11 people in each group. Six-session "solution-focused short-term group counseling" sessions, developed by considering the basic philosophy, principles, and techniques of solution-focused short-term counseling approach, were applied to university students in the experimental group. These session applications were made once a week and each session consisted of 120 minutes. No action was taken against the university students in the control group. These students were allowed to continue their normal daily life and learning activities. After the group sessions were completed, the “Smartphone Addiction Scale” was applied to the experimental group and the control group as a post-test. Three months after all the studies were completed, the "Smartphone Addiction Scale" was applied to the university students in the experimental group and the control group as a follow-up

test. After all the studies were completed, the control group was given a two-hour smartphone addiction reduction seminar within the framework of the ethical rules of the field. All studies were carried out in the fall semester of the 2022-2023 academic year.

1.5.Development of the Program and Implementation Process

The general aim of this program is to reduce the smartphone addiction of university students by gaining a solution-oriented perspective. During the development of the program, a literature review was made (Ateş, 2015, 2016a, 2016b, 2020, 2021; Ateş & Gençdoğan, 2017; Busari, 2016; De Jong & Berg, 2008; De Shazer, 1985; De Shazer & Berg, 1997; Lien, 2007; Mun et al., 2011; Sağar, 2021, 2022c, 2022d, 2023; Sağar & Ateş, 2023; Sağar & Özabacı, 2022; Zhang et al., 2020). The formula first-session task, miracle question, exception questions, scaling questions, paying attention to small changes, coping questions technique, positive design for the future, compliment clients, giving homework, encouraging, emphasizing client strengths, focusing on solution, topics such as goal setting, solution-focused techniques, and key components.

After the program was designed, the preliminary application of the program was made on 9 university students who volunteered. In this way, the deficiencies in the preliminary program were determined, the program was revised, and the program was made suitable for the working group. During the implementation of the program, care was taken to complete the solution-focused group counseling sessions on the specified dates and times. The content summary of the "Solution-Focused Group Psychological Counseling Program for Reducing the Smartphone Addiction of University Students" developed within the scope of this research is given below.

Session-I: Group members were introduced. The aims of the sessions were introduced, and general information about the solution-focused counseling approach and the conscious use of smartphones was shared. Rules and positive goals were tried to be determined. In this session, pre-session change technique and the formula

first-session task were used. In addition, the technique of scaling questions is included.

Session-II: The observations and experiences of the group members regarding the positive developments in their lives regarding the use of smartphones were examined. Therefore, attention was drawn to the positive changes and solutions in the lives of the group members. The focus of the study is when there are fewer complaints. In this context, the miracle question technique was used in the session. In addition, the technique of scaling questions is included.

Session-III: Group members were provided to find their strengths, successes and past solutions to reduce smartphone addiction. Group members were helped to look at them from different perspectives, and in this direction, they tried to find the times they found solutions and coped with in the past. At this point, coping questions technique was used in the session. In addition, the technique of scaling questions is included.

Session-IV: Studies were carried out for group members to discover their exceptions in terms of seeing their solutions and reducing their problems. They were allowed to formulate their response plans. The exceptions questions technique was used in this session. In addition, the technique of scaling questions is included.

Session-V: Group members shared their future designs to reduce smartphone addiction. Thus, it is aimed that the group members reach their goals in reducing their smartphone addiction and gain awareness of their situations in which they cope with their problems. Crystal ball technique was used in this session. In addition, the technique of scaling questions is included.

Session-VI: Group members were allowed to evaluate this six-session process. In this session, the technique of scaling questions was included in terms of the group members' evaluation of both the group process and themselves.

1.6.Data Analysis

Since the data obtained from the Smartphone Addiction Scale of the experimental and control groups in the study did not show a normal distribution, the Wilcoxon Signed Rank test for related measurements and the Mann Whitney U-test for unrelated measurements were used in the analysis of the data. In addition, Friedman test and Wilcoxon Signed Rank test were used to reveal the differences between the daily internet usage hours of the experimental groups and control groups before the experiment, after the 6-week experiment and at the end of the 3-month follow-up. The 05 significance level was taken as basis in the study (Büyüköztürk, 2011).

1.7.Ethical Procedures

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2. Findings

2.1. Pre-Test Scores Results of the Groups

In this study, the pre-test scores of the smartphone addiction scale were analyzed with the Mann Whitney U Test to determine whether the experimental group and the control group were equal before the application. Findings related to the analysis are presented in Table 2.

Table 2: *Mann Whitney U Test Analysis Results Regarding Pre-Test Scores of Experimental and Control Groups*

Group	N	Average Rank	Total Rank	U	P
Experimental Group	11	11.68	128.50	58.50	.895

Control Group	11	111.32	124.50		

According to Table 2, it was found that there was no significant difference between the pre-experimental smartphone addiction scale total scores of the experimental and control groups (U=58.50; p>0.05). This finding shows that the experimental groups and control groups were matched groups in terms of pre-test scores.

2.2. Post-Test Scores Results of the Groups

After determining the equality of the groups' pre-test scores, the Mann Whitney U Test was used to analyze whether there was a significant difference between the smartphone addiction scale post-test scores. Findings related to the analysis are presented in Table 3.

Table 3: *Mann Whitney U Test Analysis Results Regarding Post-Test Scores of Experimental and Control Groups*

Group	N	Average Rank	Total Rank	U	P
Experimental Group	11	6.32	69.50	3.50	.000
Control Group	11	16.68	183.50		

According to Table 3, it was determined that the total scores of the smartphone addiction scale of the experimental group were lower than those of the control group. Therefore, the difference between the post-test scores of the groups is significant (U=3.50; p<0,05). In this context, the smartphone addiction scale mean rank and total rank scores of the experimental group were lower than those in the control group.

2.3. Pre-Test and Post-Test Scores Results of the Groups

The Wilcoxon Signed Rank Test was used to analyze whether there was a significant difference between the pretest scores and posttest scores of the groups. Findings related to the analysis are presented in Table 4.

Table 4: *Wilcoxon Signed Ranks Test Analysis Results Regarding Pre-Test and Post-Test Scores of the Experimental and Control Groups*

Group		N	Mean Rank	Sum of Ranks	Z	P
Experi-mental Group	Negative Ranks	11	6.00	66.00	-2.930	.003
	Positive Ranks	0	.00	.00		
	Ties	0				
Control Group	Negative Ranks	7	7.21	50.50	-1.557	.120
	Positive Ranks	4	3.88	15.50		
	Ties	0				

According to Table 4, there was no significant difference between the pretest and posttest scores of the control group (Z=-1.557; p>0,05). However, it was determined that there was a significant difference between the pretest and post-test scores of the experimental group (Z=-2.930; p<0,05). When the mean rank and rank sum of the difference scores were examined, it was seen that this difference was in favor of the positive ranks and the posttest score.

2.4. Follow-Up Scores Results of the Groups

Follow-up test scores of the groups were analyzed with the Mann Whitney U Test. Findings related to the analysis are presented in Table 5.

Table 5: *Mann Whitney U Test Analysis Results Regarding the Follow-Up Test Scores of the Experimental and Control Groups*

Group	N	Average Rank	Total Rank	U	P
Experimental Group	11	6.18	68.00	2.00	.000
Control Group	11	16.82	185.00		

According to Table 5, the smartphone addiction levels of the experimental group are lower than those of the control group, and the difference is significant (U=2.00; p<0,05). This finding shows that the difference in the post-test scores of the groups in favor of the experimental group continued in the follow-up test as well.

2.5. Post-Test and Follow-Up Test Scores Results of the Groups

Whether there was a significant difference between the post-test scores of the groups and the follow-up scores was analyzed with the Wilcoxon Signed Rank Test. Findings regarding the analysis are presented in Table 6.

Table6: *Wilcoxon Signed Ranks Test Analysis Results Regarding Posttest and Follow-Up Test Scores of Experimental and Control Groups*

Group		N	Mean Rank	Sum of Ranks	Z	P
Experimental Group	Negative Ranks	5	6.70	33.50	-1.319	.187
	Positive Ranks	4	2.88	11.50		
	Ties	2				
Control Group	Negative Ranks	5	6.50	26.00	-.417	.677
	Positive Ranks	4	3.80	19.00		
	Ties	2				

According to Table 6, there was no significant difference between post-test scores and follow-up test scores (Experimental Group (Z=-1.319; p>,05; Control Group (Z=.000; p>,05). This finding shows that the decrease in the level of smartphone addiction in the experimental group continued in the follow-up test.

2.7. Results Regarding the Comparison of Daily Smartphone Usage Hours of the Groups in the pre-test (before the experiment), post-test (at the end

of the 6-week experiment) and follow-up test (3 months after the experiment is completed)

Examining the significant difference between the pre-test, post-test and follow-up test daily smartphone usage hours of the experimental and group controls was analyzed with the Friedman Test. The analysis findings are explained in Table 7.

Table 7: *Friedman Test Results for Pre-test, Post-test and Follow-up Test Measurements of Daily Smartphone Usage Hours of Experimental and Control Groups*

Group		N	Mean Rank	χ^2	df	p
Experimental Group	Pre-test (Daily clock use before the experiment)	11	3	21.143	2	.000
	Posttest (Daily watch usage after the experiment)	11	1.91			
	Follow-up test (Daily watch usage 3 months after the experiment is completed)	11	1.09			
Control Group	Pre-test (Daily clock use before the experiment)	11	2	0.059	2	.971
	Posttest (Daily watch usage after the experiment)	11	2.05			
	Follow-up test (Daily watch usage 3 months after the experiment is completed)	11	1.95			

When the mean rank of the experimental group is examined according to Table 7, it is seen that the mean rank of individuals' smartphone usage hours before the experiment was 3, after the experiment it was 1.91, and in the follow-up measu-

rement three months later, the mean rank was 1.09. Additionally, when the significance value of χ^2 value is examined, it is seen that there is a statistically significant difference between the measurements (χ^2 =21.143; p<.05). To determine between which tests these differences existed, the Wilcoxon Signed Rank Test was performed and is presented in table 8. When the significance value of the χ^2 value of the control group in the table is examined, it is seen that there is no statistically significant difference between the measurements (χ^2 =0.059; p>.05).

Table 8: *Wilcoxon Signed-Rank Test Results for Differences in Pre-Test, Post-Test and Follow-Up Test Measurements According to Daily Smartphone Usage Hours of the Experimental Group*

	mean rank	sum of ranks	Z	p	r
Post-test and Pre-test	6	66	-2.971	.003	-0.90
Follow-up test and Pre-test	6	66	-2.992	.003	-0.90
Follow-up test and Post-test	5	45	-2.810	.005	-0.85

Note: r: effect size

As a result of the pairwise comparisons made according to Table 8, it was seen that there was a significant difference between the post-test and pre-test measurements (Z=-2.971, p<.05, r=-0.90). The measurements obtained from the post-test (median = 5) are significantly lower than the measurements obtained from the pre-test (median = 8). It was observed that there was a significant difference between the follow-up test and pre-test measurements (Z=-2.992, p<.05, r=-0.90). Measurements obtained from the follow-up test (median = 4) are significantly lower than measurements obtained from the pre-test (median = 8). Similarly, a significant difference was found between the follow-up test and post-test measurements (Z=-2.810, p<.05, r=-0.85). Measurements obtained from the follow-up test (median = 4) were

significantly lower than measurements obtained from the post-test (median = 5). Additionally, when the effect size (r) values are examined, it can be said that the experiment has a great effect on reducing the smartphone usage time of individuals.

3. Results, Discusion and Recommendations

In this study, it was seen that the solution-focused group counseling program applied to the experimental group was more effective than the control group in reducing smartphone addiction. In addition, it was concluded that these efficacy levels continued in the follow-up measurement made three months after the completion of the sessions.

These results show that solution-focused group counseling is effective in reducing smartphone addiction among university students. According to the literature review on this result, studies examining the effectiveness of group counseling based on solution-focused approach on smartphone addiction are limited. However, the result obtained from this study is consistent with the results of reducing smartphone addiction based on other counseling approaches other than solution-focused group counseling (Bong et al., 2021; Lan et al., 2018; Park & Kim, 2018; Tang & Lee, 2021; Ulfatari et al., 2022). In this context, it can be said that the participation of clients in the counseling process has a positive effect on reducing smartphone addiction.

Solution-focused counseling focuses on solutions rather than direct problems. Therefore, the solution-focused approach focuses on the client's skills and solutions rather than deficiencies or problems (De Jong & Berg, 2008; De Shazer, 1985; De Shazer & Berg, 1997). In this context, it can be said that individuals can regulate their smartphone use in line with their own skills and abilities. It can be thought that it would be beneficial for solution-focused practitioners to examine reducing smartphone addiction from a theoretical and experimental point of view at the point of being more adaptable to individuals and their environment in terms of their personal, social, academic, and professional development.

In this study, it was concluded that solution-focused group counseling is effective in reducing smartphone addiction. When the literature is examined, no studies directly consistent with this result have been found, but there are studies examining the effectiveness of solution-focused group counseling on other types of addiction. As a matter of fact, it is seen that the result obtained from this research supports the findings that group psychological counseling based on solution-focused approach is effective in reducing individuals' internet addiction (Busari, 2016; Lien, 2007; Mun et al., 2011; Sağar & Özabacı, 2022; Zhang et al., 2020). In the study conducted by Ababneh and Jaradat (2021), the finding that group counseling based on solution-focused approach is effective in reducing social networking sites addiction is also consistent with the result of this study. In addition, the results of this study are consistent with the findings that the solution-focused approach is also effective in reducing other types of addiction (González Suitt et al., 2019; Kim et al., 2021). When the current studies in the literature and the result obtained from this research are evaluated as a whole, it can be said that group counseling studies based on solution-focused approach are effective in reducing the smartphone addiction of university students. In addition, in this study, when the daily smartphone usage hours of the experimental groups and control groups in the pre-test (before the experiment), post-test (at the end of the 6-week experiment) and follow-up test (3 months after the completion of the experiment) were compared, it was seen that the daily smartphone usage hours of the experimental group were not significantly different than the control group. It was determined that the level decreased. Moreover, when the daily smartphone usage hours stated by the experimental group in the pre-test, post-test and follow-up test were compared, it was seen that the post-test and pre-test results were lower than the pre-test. In the monitoring test, it was found that the daily smartphone usage hours were lower than the last test. In the context of all the results obtained, this study may have contributed to university students gaining positive experiences in terms of reducing smartphone addiction and providing insight into

methods of controlling their impulses in order to use smartphones healthily. In addition, it may have provided the opportunity to examine its own resources and strengths in depth with its solution-focused approach. Therefore, solution-focused group counseling may have helped them learn to use smartphones more healthily. The solution-focused techniques used in the sessions may have provided the opportunity for university students to take action to reduce smartphone addiction and to evaluate this addiction with a more positive perspective. Therefore, it can be said that thanks to the solution-oriented group psychological counseling program prepared within the scope of this study, university students' smartphone addiction scores and daily smartphone usage hours decreased.

In conclusion, this study shows that solution-focused group counseling program is effective in reducing the smartphone addiction levels of university students. However, there are some limitations in this study. This research data is limited to data obtained from university students only. In this context, similar studies can be conducted with different age groups (adolescents, adults, and so on). Another limitation of this study is that the effect of group dynamics was not examined. For this reason, the effect of group dynamics can be examined in future studies. This study is limited to a follow-up study conducted six sessions and three months later. Therefore, the content of the solution-focused group counseling program developed in this study can be rearranged and adapted to the needs. In addition, longitudinal studies can be conducted to reduce smartphone addiction among university students. This study is limited to 22 university students. A larger research group may be preferred in future studies. In this study, only the effect of solution-focused counseling approach on reducing smartphone addiction was examined. In future studies, the effect of other psychological counseling approaches on reducing smartphone addiction can be examined. This study is limited to a program based on a solution-focused approach to reduce smartphone addiction. At this point, studies based on different psychological counseling approaches can be developed to reduce smartphone addiction. The effectiveness of the prepared programs can be compared with the solution-focused

approach. Seminars, training groups, guidance programs, and so on that can increase the awareness of individuals about reducing smartphone addiction. such studies can be carried out.

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