Is Peer Education Program An Effective Model in Prevention of Substance Addiction in High-School Teens?

Lise Gençlerinde Akran Eğitimi Programı Madde Bağımlılığını Önlemede Etkili Bir Model Olabilir Mi?

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SUMMARY

Objectives: This study aims to evaluate the effect of the "Peer Education Program in Prevention of Addiction" on high-school students' knowledge of addiction and perceived self-efficacy in protection from addiction.

Methods: This study was conducted as quasi-experimental through pretest, posttest, and a control group. The in-depth interview method and an open-ended question form were used to obtain the opinions of the individuals who showed a change at the end of the program about the causes of this change. The peer educators (thirteen females, sixteen males) were chosen from students in the 11th grade in three high schools (Industrial Vocational High School, Anatolian High School, and Girls' Vocational High School). The sample of this study consisted of 550 students educated by their peers and 550 students who did not attend any program. The data were collected using the "Socio-demographic Question Form," "Substance Addiction Information Questionnaire," "Self-Efficacy of Teens to Avoid Substance Addiction," and "Peer Education Program in Preventing Substance Addiction Evaluation Form." The data collection tools were applied to the intervention and control groups twice: before and forty-five days after the program. Statistical methods were used in data analysis, and t-test and chi-square test for matched groups.

Results: It was found that the information and self-efficacy perception level of the group educated by their peers increased; the difference between the groups was statistically significant. No significant difference was observed in the control group. Almost all of the students who participated in the study provided positive feedback about the program.

Conclusion: Peer education can be considered an effective method to reduce addiction in young people.

Keywords: Addiction, peer education; prevention; secondary education.

ÖZET

Amaç: *Bu çalışma, "Bağımlılığı Önlemede Akran Eğitimi Programı" nın bir Endüstri Meslek Lisesi, Anadolu Lisesi ve Kız Meslek lisesi öğrencilerinin bağımlılık ile ilgili bilgi düzeyine ve bağımlılıktan korunmada algıladıkları öz-yeterliğe etkisini değerlendirmek amacıyla yapıldı.*

Gereç ve Yöntem: *Çalışma yarı deneysel çalışmalardan öntest-sontest kontrol gruplu düzen kullanılarak yapılmıştır. Programın sonucunda değişim saptanan bireylerin bu değişimi nelere bağladıklarını belirlemek için nitel yöntemlerden derinlemesine görüşme tekniği ve açık uçlu soru formu uygulandı. Akran eğitimciler (13 K, 16E) örnekleme dahil edilmiş olan üç okulun 11. sınıfına devam eden öğrencilerinden seçildi. AEE alan gençlerin eğittiği 550 öğrenci ve herhangi bir programa katılmayan 550 öğrenci araştırmanın örneklemini oluşturdu. Veriler "Sosyo-demografik Soru Formu", "Madde Bağımlılığı Bilgi Anketi", "Ergenler İçin Madde Bağımlılığından Korunma Öz-Yeterlik Ölçeği" ve "Madde Bağımlılığını Önlemede Akran Eğitimi Programı Değerlendirme Formu" kullanılarak toplandı. Veri toplama araçları müdahale gruplarına ve kontrol gruplarına eğitimden önce ve 45 gün sonra olmak üzere iki kez uygulandı. Verilerin analizinde tanımlayıcı istatistiksel yöntemlerin yanı sıra eşleştirilmiş gruplarda t-testi ve ki-kare testi kullanıldı.*

Bulgular: *Akran Eğitimi Alan grubun bağımlılık bilgi ve öz-yeterlik algısı düzeyinin anlamlı derecede arttığı, gruplar arasındaki farkın istatistiksel olarak anlamlı olduğu belirlendi. Kontrol grubunda anlamlı fark görülmedi. Çalışmaya katılan öğrencilerin hemen hepsinin katıldıkları programla ilgili olumlu geri bildirimleri oldu.*

Sonuç: *Gençlerde bağımlılığı azaltma stratejisi olarak AE'nin etkili bir yöntem olduğu düşünülebilir.*

Anahtar sözcükler: *Bağımlılık; akran eğitimi; önleme; ortaöğretim.*

Introduction

Recent studies on high school students in Turkey have shown that substance abuse prevalence has increased, although it varies from region to region and by substance type.[1–3] Studies on the environmental risk factors that cause substance abuse particularly indicated peer characteristics and influence. In other words, peer influence increases the risk of substance abuse in both girls and boys.[4–6] One of the most important risk factors of substance abuse is determined as having a friend who uses substances.[7,8] Previous studies emphasized that perception of health, age, gender, peer influence, a risky environment, familial influence, lack of information, etc., affects drug addiction, and improved risk reduction programs are needed considering these factors.[4,9,10]

Peer Education (PE) is an educational activity, which was developed based upon the social learning theory and the principle that young people interact well and identify with their peers. It includes the concepts that individuals

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care about the risk of addiction, can evaluate being at risk for addiction, and can consider changing behavior to be applicable and sustainable.[11–13] It is also based on educating young volunteers and leaders about certain subjects and sharing their information, skills, and attitudes with their peers.[14] The information transfer is deemed easier and more effective when young people playing an active role in peer education have a common history as educators and listeners, or a common sense of music, common popular activities, a common language, or common familial themes and social roles (such as being students, teammates, etc.).[11,13] Studies in Turkey and in the world showed that PE is an effective method in preventing risky behaviors.[11,15–20] PE is reported to be more effective than the classical education method and education led by public health nurses.[21,22]

Projects are conducted by international institutions such as UNICEF and UNFPA, using the PE method to prevent risky behaviors by young people in Turkey; however, a limited number of studies have shown the effectiveness of PE. Five studies were found using PE: one study on AIDS and sexually transmitted diseases in high school students; two studies on university students; one of which was on young people aged between fifteen and twenty-four; and one study on protection from breast cancer.[11,15,23–25] Many school-based studies were seen in nursing literature regarding protection and promotion of health and prevention of risks in adolescents. However, only a few of these studies were found to use the PE method.[11] Moreover, no peer education program on addiction was found to be conducted in high school students in Turkey.

This study aims to compare the information level of high-school students who were educated on addiction and perceived self-efficacy in protection from addiction using the "Peer Education Program in Prevention of Addiction" with that of the control group educated by traditional methods.

Materials and Method

Study Type

This study was conducted as quasi-experimental, using a pretest, a posttest, and a control group to determine the effect of the Peer Education Program in Prevention of Addiction on high-school students' information level about addiction and perceived self-efficacy in prevention of addiction. The In-depth interview method and an open-ended question form were used to obtain the opinions of the individuals who showed a change at the end of the program about the causes of this change.

The Study Hypotheses

H1: There is a statistically significant difference between the experiment group educated with peer education and the control group educated using traditional education methods to prevent substance addiction in terms of substance abuse.

H0: There is no statistically significant difference between the experiment group educated with peer education and the control group educated by traditional education methods to prevent substance addiction in terms of basic information level on substance abuse.

H2: There is a significant increase in the Substance Addiction Information Questionnaire pretest and posttest scores of the experiment group educated with peer education to prevent substance addiction.

H3: There is a significant increase in the Substance Addiction Information Questionnaire pretest and posttest scores of the control group educated using traditional education methods to prevent substance addiction.

H0: There is no statistically significant difference between the experiment group educated with peer education and the control group educated using traditional education methods to prevent substance addiction in terms of self-efficacy level in protection from addiction.

H4: There is a significant difference between the pretest and posttest scores of the experiment group educated with peer education to prevent substance addiction on the subscales of self-efficacy in protection from addiction.

H5: There is a significant difference between the pretest and posttest scores of the control group educated using traditional education methods to prevent substance addiction on the subscales of self-efficacy in protection from addiction.

The Study Population and Sampling

The study sampling consisted of students at the 9th, 10th and 11th grades of Technical and Industrial Vocational High School, Anatolian High School, and Girls' Technical and Vocational High School in Düzce. 12th grade students were not included in the study since they would graduate and could not attend the monitoring process.

Determination of Peer Education Educators (PEEs)

These steps were followed while choosing the PEEs:

• The first seven questions of the Who Is It? test (Who is the most loved person? Who always want to help everyone? Who has many friends? Who gets along well with others? Who has nice words and a nice conversation? Who is trusted and believed?) were applied to the 11th grade students (n=714) at the three high schools.

• The students who had the highest scores on the Who is it? test (n=35) were explained the context and details of the study through face-to-face interviews and asked if they wanted to participate in the study. There was written consent

from twenty-nine (thirteen females, sixteen males) students' families.

Determination of Peer Education (PE) Control and Experiment Groups

These steps were followed in determining the peer educators:

• PEEs played an active role in determining the group to be included in PE. PEEs made the first announcement of the program by hanging posters with the slogan "We are coming" on the common use areas. One week after the posters were hung, PEEs distributed a questionnaire form to all students, investigating if they wanted to participate in a program on addiction. In the end, 1200 of the 3000 students at the 9th, 10th, and 11th grades agreed to participate in the education.

• All the students who agreed to participate in the education (n=1200) were asked to complete the personal information form, including the aim of the study and the inclusion criteria. Half of the students who returned the forms (n=1100) were in the experiment group (n=550) and the other half was included in the control group (n=550). Age, gender, and grade were considered while determining the experiment and control groups (Figure 1).

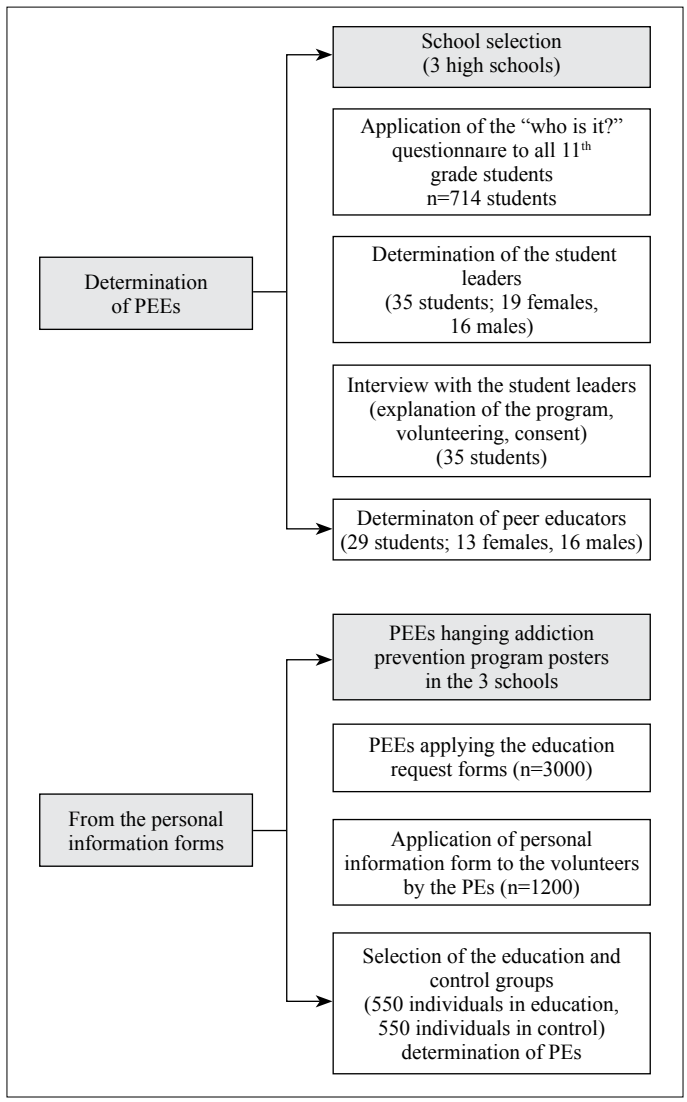

Figure 1. Determination of PEEs and PEs.

Data Collection Tools

The data were collected using the Socio-demographic Question Form, Who Is It? test, Substance Addiction Information Questionnaire, Self-Efficacy of Teens to Avoid Substance Addiction, and Peer Education Program in Preventing Substance Addiction Evaluation Form.

Socio-demographic Question Form: The form consists of eleven questions on socio-demographic characteristics (age, gender, school, department, grade, existence of health problems, trying a substance, substance abuse, the substance used, and the reasons for using or not using substances).

Who Is It Test: The Who Is It? test, a technique to obtain the quantitative data of the study, is a sociometric group technique which shows the perceptions of the individuals in a group in observational techniques of both themselves and each other.[26] The "Who Is It?" test is reported to be valid and reliable since it is among sociometric methods and is considered to be a strong determinant of social behaviors in the future.[27] The Who Is It? test consists of 10–30 questions to describe students in terms of aspects considering general status, characteristics, and developmental period, as well as the aim of the researcher. The descriptive questions are not standard, and each researcher can produce a Who Is It? list by writing the appropriate numbers and questions in line with their aims. The participants identify the people whom apply to the descriptive statements, such as their peers who are loved most, always want to help others, have many friends, get along well with others, have nice words and conversation, and are trusted and believed, etc. After the list is applied to all participants, a table is prepared to evaluate the findings.[27]

Substance Addiction Information Questionnaire: This questionnaire was developed by the researchers and based on relevant literature to determine the basic information level about addiction; it consisted of twenty questions. The questionnaire was self-reporting and included statements on the nature of addiction and the facts needed to be known. It was answered as "Yes" (1 point), "No" and "I don't know" (0 point). The total score of the questionnaire ranged between 0 and 20, with a higher-score average indicating sufficient information.

Self-Efficacy of Teens to Avoid Substance Addiction: The total internal consistency coefficient (Cronbach's) of this scale developed by Eker et al. (2012) was 0.81. The internal consistency coefficients of the subscales ranged between 0.45 and 0.87. It is a 5-point Likert-type scale consisting of twenty-

four items. The choices are Not sure at all, Slightly sure, A little sure, Quite sure, and Extremely sure, for each item. It can be applied to all students in secondary education. Students can apply the scale by themselves. The students who have difficulty in reading and writing can be interviewed face-to-face. The scale can be completed in ten or fifteen minutes, and includes four reverse items. The lowest and highest scores of the scale are 23 and 120, respectively. A high score on the scale shows a high self-efficacy of the student on protection from substance abuse. The scale consisted of four sub-dimensions: the first factor was on avoiding drugs/stimulants, the second factor was on avoiding drugs/stimulants under pressure, the third factor was on seeking help about drugs/stimulants, and the fourth factor was on supporting a friend on drugs/stimulants. One of the reverse items was included in the scale to be a control question by itself.

Peer Education Program in Preventing Substance Addiction Evaluation Form: A semi-structured form consisting of five open-ended questions was used for PEEs to evaluate the program. This form included questions on the students' opinions about the peer education program, ideas and feelings about educating their peers, what they gained or did not gain from the program, and the opinions of their families and others around them about the program.

In addition, the form prepared to evaluate PE included the following questions: "What did you like most about this education?" and "What did you dislike most about this education?"

Peer Education Program in Preventing Substance Addiction: Peer Educators' Education (PEE) consisted of an interactive program. The program was prepared with a child-development specialist, an addiction counselor psychiatric nurse, and an expert psychiatric nurse, based on the literature to complete the peer educators' basic information on addiction and to improve their presentation skills. The education subjects aimed both to provide information and to improve trust and communication skills. The program was finalized at the end of the evaluations by five experts (psychiatrist, psychiatric nurse, psychologist, psychological counselor, and Turkish Drug and Drug Addiction Monitoring Center (TUBIM) city representative) of addiction. The program included "Peer Education;" "Assertiveness in Communication and Relationships;" "Education Methods and Technique," "The Facts to Know about Addiction;" "Avoiding Substance Abuse, Saying No;" and "Understanding the Individuals Using Substances and Reducing the Damage."[12,18,21]

Steps of Peer Education Program in Preventing Substance Addiction

Education of PEEs

• The substance addiction information questionnaire and the self-efficacy in protection from addiction scale pretest were given to the PEEs before they started their education. The educations were completed in twenty hours (four hours a day) by an addiction counselor psychiatric nurse and an expert psychiatric nurse. With the educations carried out in two groups (of fifteen and fourteen individuals), a total of twenty-nine students became PEEs.

• Social activities were planned after the educations were completed in order to increase group sharing among the PEEs. These social activities included a picnic, a visit to TUBIM, and an Istanbul trip.

• The substance addiction information questionnaire and the self-efficacy in protection from addiction scale pretest were given to the PEEs three weeks after education in order to evaluate the effectiveness of the education. A statistically significant difference was found between their information and attitude scores ($p<0.01$). In addition, the PEEs were made to perform a pre-application with a group of students and researchers to evaluate their preparation for the program. Their final preparations were completed by giving the necessary feedback after this pre-application.

Peer Education Program in Preventing Substance Addiction

• The Addiction PE programs were conducted in the halls of the Counseling and Research Center (CRC), organized appropriately for education (in terms of seating arrangement, illumination, educational tools and materials, etc.), between April and May, 2010. Each education group consisted of 14-16 individuals and the educations were completed in ninety minutes in two sessions. The education of 550 students in total took two months. In addition, the researchers supported students to increase their knowledge and ability to make presentations through face-to-face, phone, and e-mail communications during the education and monitoring.

• The addiction information questionnaire and self-efficacy in addiction scales were applied to the experiment and control groups before and forty-five days after the program to evaluate the effectiveness of the Addiction PE program.

• Qualitative data was also to be obtained to support the quantitative data obtained from the study. In the qualitative part, semi-structured interviews were performed with students after the study and an evaluation questionnaire including open-ended questions was applied to them. The PEEs (n=29) were individually interviewed to make evaluations on the program. All interviews were performed and recorded with a tape recorder by the same researcher (the expert psychiatric nurse). The interviews were performed in an office in the CRC, and each interview took 20–25 minutes in average. Each student (n=550) was asked to complete an evaluation form after the educations to evaluate the PE.

• The program was also conducted with the students in the control group after the Peer Education Program in Preventing Substance Addiction finished and the posttests were performed (Figure 2).

Data Analysis

The quantitative data were evaluated using SPSS Windows 16.0 (Statistical Package for the Social Sciences, Düzce University). The outcomes were evaluated at a 95% confidence interval and $p<0.05$ significance level. Item total correlation and internal consistency analysis (Chronbach's alpha) were used for the validity and reliability of the addiction information questionnaire; descriptive analyses (mean, standard deviation, proportion, percentage) were used for the homogeneity of the PE and control groups; the chi-square test was used for the homogeneity of the experiment and control group, and the student t-test was used to compare the scale scores of the experiment and control groups before the intervention and to compare the addiction information and self-efficacy in protection from addiction of the dependent experiment and control groups before and after the PE.

Evaluation of Qualitative Data

Content analysis was used to analyze the qualitative data

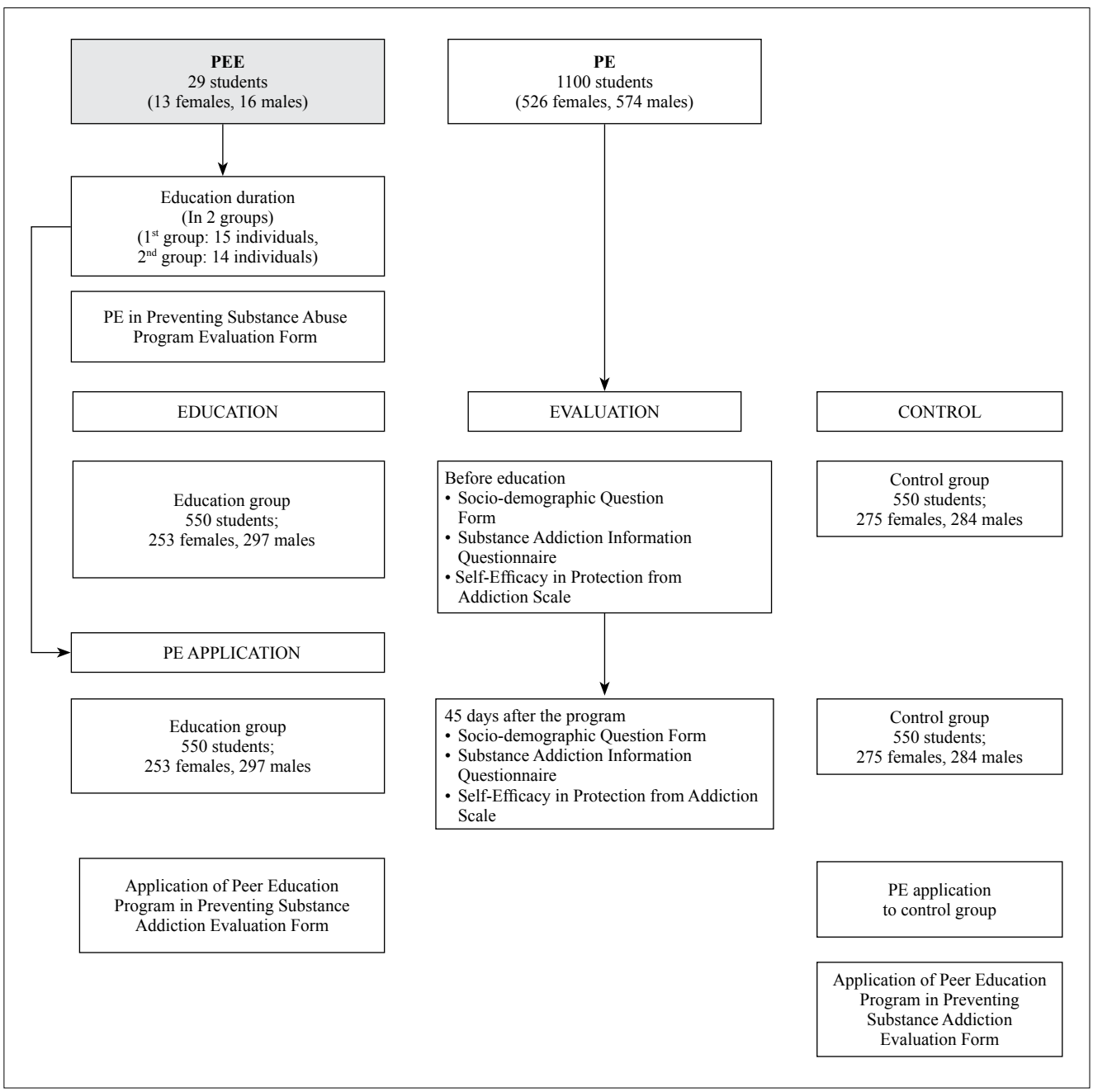

Figure 2. Application phases.

obtained from the in-depth interviews with PEEs. First the recorded data were put in writing. Codes were formed to define these data. The sub-themes and then main themes were established by evaluating the similarities and differences between the formed and gathered codes. The themes were finalized after asking the opinions of two specialists (a psychiatrist and an expert psychiatric nurse) to determine whether the sub-themes and the main themes represented the codes. The data obtained from the question form completed by the PEs after their education were evaluated according to the content analysis; however, they were reported as a result of a general evaluation without establishing the themes.

Findings

Of the students included in the study, 49.2% were at the age of seventeen and the average age was 16.24 (SS=0.827) years. Of all students, 30.5% were in girl's vocational high school, 33.4% were in industrial vocational high school, 36.1% were in Anatolian high school, and 43.7% were at the 11th grade (Table 1).

No statistically significant difference was found between the experiment and control groups according to "age, gender, grade, and school" (p>0.05) (Table 2).

Of the students who participated in the Addiction PE,

Table 1. Sociodemographic characteristics of the experimental and control groups (n=1100)

Sociodemographic characteristics	Peer Education		Control		Total		Statistics
	n	%	n	%	n	%	
Gender							
Female	253	46.0	275	49.6	526	47.8	χ^2=1.457 Sd=1 p>0.05
Male	297	54.0	284	50.4	574	52.7	
Age							
15	124	22.5	336	27.5	275	25.0	χ^2=4.150 Sd=2 p>0.05
16	152	27.7	367	24.0	284	25.8	
17	274	45.8	397	48.5	541	49.2	
School							
Girls' Vocational High School	155	28.2	181	32.9	336	30.5	χ^2=0.318 Sd=2 p>0.05
Industrial Vocational High School	179	32.5	188	34.2	367	33.4	
Anatolian High School	216	39.3	181	22.9	397	36.1	
Grade							
9	145	26.4	141	25.6	286	26.0	χ^2=0.085 Sd=2 p>0.05
10	165	30.0	168	30.6	333	30.3	
11	240	43.6	241	43.8	481	43.7	
Total	550	100.0	550	100.0	1100	100.0	

Table 2. Substance trying and using status of the experimental and control groups (n=1100)

	Experimental		Control		Total		Statistics
	n	%	n	%	n	%	
Trying substances							
Yes	224	44.4	217	39.5	461	41.9	χ^2=0.085 Sd=2 p>0.05
No	306	55.6	333	60.5	639	58.1	
Using substances							
Yes	105	19.1	63	11.5	168	15.3	χ^2=0.085 Sd=2 p>0.05
No	445	80.9	487	88.5	933	84.7	
Total	550	100.0	550	100.0	1100	100.0	

only 15.3% continued to use an addictive substance, although 41.9% tried an addictive substance at least once. No statistically significant difference was found between the experiment and control groups in terms of trying the substance (p>0.05). However, it was found that the experiment group was using substances more compared to the control group, and the difference between the groups was statistically significant. Accordingly, the H1 hypothesis which argued that "there is a statistically significant difference between the experiment group educated with peer education and the control group educated using traditional education methods to prevent substance addiction in terms of substance abuse" was accepted.

No significant difference was found between the score averages of the education (10.8±3.22) and control (10.9±3.57) groups on addiction information before the PE (p>0.05). Forty-five days after the peer education, the addiction information scores of the experiment group were found to be significantly higher than the control group (p<0.01). Accordingly, the H0 hypothesis, which argued that "there is no statistically significant difference between the experiment group educated with peer education and the control group educated by traditional education methods to prevent substance addiction in terms of basic information level on substance abuse," was declined.

The addiction information score of the experiment group was found to be significantly higher (13.82±2.76) forty-five days after the PE program compared to their score before the program (10.8±3.22). The difference between the groups was statistically highly significant (t:17.575; p<0.01). Accordingly, the H2 hypothesis, which argues that "there is a significant increase in the Substance Addiction Information Questionnaire pretest and posttest scores of the experiment group educated with peer education to prevent substance addiction," was accepted.

The addiction information score of the group educated using traditional education methods forty-five days after the education was reduced (from 10.9±3.57 to 9.55±3.67). Although the difference between the groups was statistically significant (t:7.008; p<0.01) the H3 hypothesis which argued that "there is a significant increase in the pretest and posttest scores of the control group educated using traditional education methods to prevent substance addiction on the substance addiction information questionnaire," was declined (Table 3).

No significant difference was found between the self-efficacy in protection from addiction scores of the experiment and control groups before the PE (p>0.05). The self-efficacy level of the experiment group was found to be higher than the control group forty-five days after the PE program (p<0.05). Accordingly, the H0 hypothesis, which argued that "there is no statistically significant difference between the experiment group educated with peer education and the control group educated by traditional education methods to prevent substance addiction in terms of self-efficacy in protection from addiction," was declined.

The self-efficacy score average of the experiment group on avoiding drugs/stimulants, avoiding drugs/stimulants under pressure, seeking help about drugs/stimulants, and supporting friends about drugs/stimulants was found to be statistically higher forty-five days after the PE than before the PE (t=8.950 p<0.01). Accordingly, the H4 hypothesis, which argued that "there is a significant increase in the pretest and posttest scores of the experiment group educated with peer education to prevent substance addiction on the subscales of self-efficacy in protection from addiction," was accepted. The self-efficacy in protection from addiction scores of the control group remained the same (t=2.384 p>0.05). Accordingly, the H5 hypothesis, which argued that "there is a significant difference between the pretest and posttest scores of the control group educated using traditional education methods to prevent substance addiction on the subscales of self-efficacy in protection from addiction," was declined (Table 4).

There is a significant difference between the pretest and posttest scores of the substance addiction information questionnaires after the experimental process of the experiment group who were educated using peer education to prevent substance addiction on the Evaluation of Peer Education Program in Preventing Substance Addiction by the PEEs.

Table 3. Comparison of the substance addiction information scores of the experimental and control groups (n=1100)

Substance addiction information score***	Experimental (n=550)	Control (n=550)	Statistics
	Ave±SD	Ave±SD	
Before Peer Education	10.8±3.22	10.9±3.57	t*=0.638 p>0.005
After Peer Education	13.82±2.76	9.55±3.67	t*=21.792 p<0.01
	t**=17.575 p<0.01	t**=7.008 p<0.01	

*t-test; **t-test on dependent groups; ***Minimum-maximum scores=0–20.

Table 4. Comparison of the self-efficacy on protection from addiction scores of the experimental and control groups (n=1100)

Subscales	Experimental	Control	Statistics
	Ave±SD	Ave±SD	
Avoiding drugs/stimulants	4.20±0.80	4.29±0.78	
Pretest	4.28±0.73	4.15±0.93	t=1.738 p>0.05
Posttest	t=1.803	t=2.604	t=2.543 p<0.05
	p>0.05	p<0.05	
Avoiding drugs/ stimulants under pressure			
Pretest	2.57±1.36	3.44±1.53	t=9.941 p<0.01
Posttest	3.70±1.02	3.34±1.42	t=4.760 p<0.01
	t=15.950	t=1.210	
	p<0.01	p>0.05	
Seeking help about drugs/stimulants			
Pretest	3.70±1.08	3.81±1.07	t=1.614 p>0.05
Posttest	4.04±0.91	3.73±1.17	t=4.834 p<0.01
	t=5.607	t=1.070	
	p<0.01	p>0.05	
Supporting friends on drugs/stimulants			
Pretest	4.28±0.76	4.17±0.83	t=2.142 p<0.05
Posttest	4.40±0.84	4.14±1.04	t=4.540 p<0.01
	t=2.676	t=0.501	
	p<0.01	p>0.05	
Total score of self-efficacy on protection from substance abuse			
Pretest	88.34±13.63	92.96±15.00	t=5.344 p<0.01
Posttest	95.58±14.20	90.59±18.54	t=8.007 p<0.01
	t=8.950	t=2.384	
	p<0.01	p>0.05	

Four themes were determined in consequence of the interviews with PEEs: individual meaning of peer education, difficulties experienced, the personal contributions of the program, and other contributions of being a PEE. The PEEs were happy, willing to interview, and cheerful during the interviews. Almost all of the PEEs were proud and excited for being selected.

Theme 1. General overview on peer education

In this theme, all PEEs expressed that this program was both entertaining and very educational for them. They stated that their anxiety at the beginning of the program was replaced with self-confidence.

I had so much fun during the education. I learned things without stress for the first time (female student).

First, I thought I could not do these things. But I had more fun everyday and my self-confidence increased, and I thought I should share these with my friends (female student).

Theme 2. The difficulties experienced

It was seen that the difficulties that the PEEs experienced during the program were generally about the subjects which they could not control or remained incapable. Some students stated that they especially had difficulty in dealing with the problems about their friends using substances.

Some things happened during the education that I could not control, and I got really angry when my friends did not listen to me (male student).

We affected the ninth-grade students very much, perhaps the tenth-grade students a little, but I think it was too late for the eleventh-grade students… (male student).

Our friends want to quit using substances, but I cannot convince them to come to counseling… because they fear that everyone will hear about this situation… (male students).

Theme 3. Personal contributions of the program

In this theme, the students expressed that they started to regard addiction from a different perspective; they understood their friends using substances, they gained consciousness and, most importantly, their self-confidence increased both personally and on not using substances.

I definitely learned very much about addictions. There are so many things that I did not know or apply even though I knew. I used to get angry with those using substances but now I understand them (female student).

I was smoking a lot, but now I am done smoking. My self-confidence increased, what more can happen…(female student).

I was introverted, but now I am more self-confident (male student).

Theme 4. Other contributions of being a PEE

Some PEEs stated that they affected their families and

social environments on quitting substance abuse, and some stated that they are pleased with the pride of their families because they attended this program.

I set an example for my dad; he quit smoking, and I could see my mom's pride from her face while I was taking my certificate (female student).

My family trusts me more now, and we are shown as examples in our environment (male student).

Evaluation of Peer Education Program in Preventing Substance Addiction by the PEs

The students who attended the Peer Education Program in Preventing Substance Addiction generally gave positive feedback on the program. They considered the open-to-communication and delighted educators to be more successful. In addition, the students stated that they did not know some information on addiction at all. They found the gift pack against addiction game to be very useful. They said that they became more determined to "say no" to the substances. They found their friends to be warm and reliable, and expressed that learning such an education from their peers helped them to listen to the subject "without prejudice." They stated that they had gotten bored and had not listened to the seminars on addiction carried out in their school before, but they both learned and were entertained in this program. The students using substances easily expressed to the group the substances they were using.

Discussion

This study aimed to evaluate the effect of the "Peer Education Program in Preventing Addiction" on the information level on addiction and perceived self-efficacy in protection from addiction, and the results show that the program is effective in protection from addiction. Studies on peer education programs show that this education produces effective results in many fields (education, health, etc.) and age groups. In addition, PE is defined as an effective education method to ensure changing the risk factors and risk-taking behavior of adolescents toward the positive. However, there are only a limited number of studies on preventing risky behaviors in young people through PE in Turkey.

In this study, the addiction information scores of the PE experiment group were significantly higher than the control group, which is a similar finding to the other studies' findings, which show that PE is superior to the other methods in its ability to distribute information. Gümüşdoğan and Ulukol (2010) found in their study on reducing smoking in primary school students through PE that the participants' level of information and awareness on the harms of smoking on health increased.[28] Bulduk (2009) observed that the social cognitive HIV information level of the participants of PE significantly increased compared to the control group in the third and sixth months and within itself during the monitoring process in the peer education practice in reducing risky sexual behaviors in university students.[11] Layzer et al. (2013) showed that PE is effective in increasing information and developing a positive health behavior in their PE program to prevent sexual health problems in high school students.[18] PE provides positive feelings such as sympathy, being understood, etc. for the individuals being educated through an educator of the same age group and with similar characteristics. Another study in Turkey analyzed the effect of PE and group education on breast self-examination information, belief and breast examination and found that both methods were similarly effective in the measurements six months after the study.[15]

Recently, substance abuse prevalence has increased in high school students in Turkey. Therefore, it is important to determine the risk factors and conduct preventive studies in terms of substance abuse.[4] Existence or improvement of self-confidence, ability to say no, and seeking help for adolescents in protection from addiction are addressed as preventive factors. Self-efficacy is also one of the preventing factors. Self-efficacy is the judgment and belief of an individual on him/herself that s/he can successfully do a certain action. Bandura defined self-efficacy as "the judgments of individuals on their capability of performing and organizing the actions necessary for doing a performance."[29] Therefore, self-efficacy should be addressed as an important variable in addiction-preventing programs. The finding of this study that self-efficacy scores of the experiment group significantly increased forty-five days after the program shows the effectiveness of PE in addiction preventing programs.

While avoiding drugs/stimulants under pressure, seeking help for drugs/stimulants, and supporting friends on drugs/stimulants subscale scores of the experiment group increased after the program compared to the scores before the program. No statistically significant difference was found between the avoiding drugs/stimulants subscale scores before and after the program. This is because the experiment group was using substances more than the control group, as seen in Table 2. No PE program was found to have been conducted to prevent addiction in high school students in Turkey. However, studies exist on the effect of PE on the perceived self-efficacy of young people. Bulduk (2009) found the perceived self-efficacy level of university students who participated in his study to be higher than the control group.[11] Similarly, a study conducted in Canada with high-school students showed that the self-efficacy of the students attending PE on delaying sexual intercourse significantly increased in the ninth month after the program.[30] Another study reported that the perceived self-efficacy levels of the young people

attending PE was 2.4 times higher than those who did not attend.[31] Conducting studies that will evaluate the results of monitoring PE on experiment groups for an extended period of time is considered to be important in evaluating its effect on daily life.

In this study, the peer educators had positive opinions on what they gained from the education. They expressed that this program increased their self-confidence, they experienced speaking and making presentations in front of a group, they began to understand their friends using substances, and they believed that this program is necessary. This suggests that the PE program made great, positive contributions to the self-confidences, motivations, and peer relationships of the students. The peer educators stated that they had the most benefit from peer education. Peer educators leaving the program with more benefits is described as the "fundamental principle of helping."[32,33] These students can transmit the information and skills they obtained during peer education into their daily life and use these skills throughout their lifetime. The efforts of the peer educators to be a model for others (with social learning principle) is also an important acquisition.[29]

Results and Recommendations

Peer education can be considered to be an effective strategy to reduce addiction in adolescents in light of the findings of peer education in preventing addiction project. Based on these findings:

• Peer education program in preventing addiction should be turned into a model and spread as a school-based prevention program.

• The activities of peer education were based on volunteering, and those who did not volunteer were excluded. This might have prevented reaching the students who use or are at high risk of using substances. Out-of-education activities may be planned to inform students who do not want to be educated in future studies.

• It is considered that selecting educators from the 11th grade will be effective, and the group to be educated should be selected from a younger group, and even from the 8th grade of primary school for the studies on prevention.

• Longer-term studies should be conducted to evaluate the effectiveness of the peer education program.

A multidimensional work plan should be drawn, including a peer counseling system to support the students with substance abuse experience, in the future studies on peers.

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