

ORIGINAL ARTICLE

Investigation of the Relationship Between Health Promotion Behavior and Self-Efficacy of Turkish Adolescents

Türk Adölesanların Sağlığı Geliştiren Davranışları İle Özyeterlikleri Arasındaki İlişkinin İncelenmesi

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ABSTRACT

Purpose: This research was carried out to identify the relationship between adolescent health promotion behaviors and the self-efficacy of students.

Materials and Method: This study is a descriptive study, which was carried out in a secondary school and two high schools in the provincial center of Ankara in the 2017-2018 academic year. The research population included all students studying these schools. The study was conducted on the entire population (N=915) therefore, no sample selection was made. Participation was on a volunteer basis. Three different forms were used as data collection tools. These are questionnaire form, adolescent health promotion scale, and self-efficacy scale for children. The data were summarized as mean, standard deviation, and percentages.

Results: 789 adolescents have participated voluntarily in the research. Seventy-one percent (n:561) of the students in the research group were male and 28.9% (228) were female students. The mean age of the students was 13.93±2.34, their height average was 1.63±0.15, and their weight average was 55.99±18.42. The mean score for adolescent health promotion scale is 142.53±27.06. On the other hand the mean score for self-efficacy scale is 74.61±16.44. In the adolescent health promotion scale and all subscale scores, there were significant differences according to their grade, age, success status, health state perception, beliefs in managing future health statuses, wearing a seat belt, wearing a helmet while riding a bicycle or motorbike, using pedestrian crossings and overpasses when crossing the road (p<0.05). In the self-efficacy scale and all subscale scores, there were significant differences according to their grade, age, success status, health state perception, beliefs in managing future health statuses, wearing a seat belt, wearing a helmet while riding a bicycle or motorbike, using pedestrian crossings, and overpasses when crossing the road. There was a positive and significant correlation between health-promoting behaviors and self-efficacy (p<0.05).

Conclusions and Suggestions: Self-efficacy perception and health-promoting behaviors are gained during childhood and adolescence and maintained throughout life. For this reason, education, seminars, and activities to be given to students, teachers, and parents will be effective in increasing self-efficacy perceptions of adolescents and gaining health-promoting behaviors in adolescents.

Keywords: Adolescent Behaviour, Health Promotion, Self-efficacy.

ÖZ

Amaç: Bu araştırma, ergenlerin sağlığı geliştiren davranışları ile öz-yeterlik düzeyleri arasındaki ilişkiyi incelemek amacıyla yapılmıştır.

Gereç ve Yöntem: Tanımlayıcı tipteki çalışma, 2017-2018 eğitim öğretim yılında Ankara il merkezindeki bir ortaokul ve iki lisede yapılmıştır. Çalışma evrenin tamamı (N=915) üzerinde yürütüldüğü için örneklem seçimi yapılmamıştır. Katılım gönüllülük esasına dayalıydı. Nüfusun %86'sı (n=789) çalışmaya ulaşmıştır. Veri toplama aracı olarak 3 farklı form kullanılmıştır. Bunlar; anket formu, adölesan sağlığı geliştirme ölçeği ve çocuklar için öz-yeterlik ölçeğidir.

Bulgular: 789 ergen araştırmaya gönüllü olarak katılmıştır. Araştırma grubundaki öğrencilerin yüzde yemış biri (n:561) erkek, %28,9'i (228) kız öğrencilerden oluşmaktadır. Öğrencilerin yaş ortalaması 13,93±2,34 bulunmuş olup, boy ortalamaları 1,63±0,15, kilo ortalamaları 55,99±18,42 bulunmuştur. Genel adölesan sağlığı geliştirme ölçek durumu ve tüm alt boyut durumlarında, sınıf, yaş, başarı durumu, sağlığı algılama, gelecekte sağlığı geliştirebileceğine inanma, emniyet kemeri takma, motor-bisiklete binerken kask takma, yay ve üst geçidi kullanma durumlarına göre anlamlı farklılık bulunmuştur (p<0.05). Ergenlerin genel öz yeterlilik ölçeği durumları ve tüm alt boyut durumlarında, sınıf, yaş, başarı durumu, kronik hastalık, sağlığı algılama, gelecekte sağlığı geliştirebileceğine inanma, emniyet kemeri takma, motor-bisiklete binerken kask takma, yay ve üst geçidi kullanma durumlarına göre anlamlı farklılık bulunmuştur (p<0.05). Adölesan sağlığı geliştirme ile öz yeterlilik ölçeği arasında pozitif anlamlı bir korelasyon bulunmuştur.

Sonuç ve Öneriler: Öz-yeterlik algısı ve sağlığı geliştiren davranışlar çocukluk ve ergenlik döneminde kazanılıp hayat boyu devam ettirilmektedir. Bu sebeple öğrenci, öğretmen ve velilere verilecek eğitim, seminer ve etkinlikler ergenlerin hem öz-yeterlik algılarının artmasına hem de ergenlerin sağlığı geliştiren davranışları kazanmalarında etkili olacaktır.

Anahtar Kelimeler: Ergen davranışları, Öz-yeterlik, Sağlığı geliştirme.

Introduction

'Health promotion is the process of enabling people to increase control over and to improve, their health'(1). Health promotion provides people with awareness of the control of their health conditions, which reduces their disease risk factors. Health promotion practices play a key role in controlling and preventing

communicable and chronic diseases and achieving the Millennium Development Goals. Health promotion helps to provide and maintain healthy people, schools, hospitals, workplaces, and as well as healthy societies (1, 2)

Behavioral lifestyle patterns are formed during adolescence that affect both their current and future health. Health-related behaviors such as tobacco and alcohol use, unhealthy diet, and physical exercise habits that cause non-communicable diseases generally begin in adolescence and continue throughout life. Some health problems may arise during the adolescent period of life. These are listed as follows; suicide, substance addiction, accidents, personal hygiene, violence and sexual abuse, unhealthy nutrition, reproductive health problems such as sexually transmitted diseases or teenage pregnancy, growth and development problems, mental health problems such as depression, anxiety, addiction to the internet (1).

Adolescents spend most of their time at school. For this reason, the school period is one of the most important periods in the life of adolescents. School health programs make healthy adolescents, healthier adolescents make better communities. School health programs are used both to improve academic performance and to improve the health of adolescents. School health programs require the cooperation of students, their families, school staff as well as the community and health professionals (2, 3).

Comprehensive school health programs include the following components; comprehensive school health education, school health services, physical education, school nutrition services component, school foods, and beverages component, environment to promote healthy eating, school behavioral health services, staff wellness, healthy school environment component, school-family-community partnerships (3, 4).

The adolescent period is a transition period from childhood to adulthood. Health behaviors that are gained by adolescence continue into adult life (5). Many factors affect the health-promoting behavior of adolescents. One of the most important of these is the level of self-efficacy that adolescents have. Self-efficacy gains importance in adolescents' acquisition of new skills, increasing their success levels and increasing their ability to overcome the difficulties they encounter in life.

Bandura defined the concept of self-efficacy as "personal belief in the ability of the individual to plan and execute the actions necessary in the process of achieving the determined goals" (6). Researchers have shown more interest in the concept of self-efficacy nowadays. The reason for this interest is the positive effect of self-efficacy on human behavior. While individuals with high self-efficacy strive without giving up to overcome the difficulties of life, individuals with low self-efficacy make less effort to overcome difficulties of life, give up easily, and are exposed to psychological symptoms (7).

In our research, the relationship between the health-promoting behaviors of middle and high school students and their self-efficacy levels was determined

and examined. It was determined that how students' health responsibility, exercise, nutrition, social support, life appreciation, and stress management levels affect students' academic, social and emotional self-efficacy levels. In the adolescence period, if adolescents gain desired health behaviors and high self-efficacy, it will contribute to the raising of physically and psychosocially healthy generations.

Method

This study was designed as a descriptive study.

Research Sample/Study Group/Participants

This study was carried out in a secondary school and two high schools in the provincial center of Ankara in 2017-2018 academic year. The study was conducted on the entire population (N= 915) therefore no sample selection was made. Participation was on a volunteer basis. 86% (n=789) of the population have attained the study. The remaining students did not participate in the research due to the reasons such as not wanting to join the study, giving an empty questionnaire, and not coming to school. The rate of answering the questionnaires is one hundred percent.

The inclusion criteria were

- secondary school and two high schools students, and
- permission from the parents.

The exclusion criteria were:

- any visual and hearing problems, and 2) any neuropsychiatric disease diagnosis.

Research Instruments and Processes

Students voluntarily participated and were informed about the purposes of the study. Completion of the questionnaires was anonymous and there was a guarantee of confidentiality. Scales were administered to the students in the classrooms. Three different forms were used as data collection tools. These are questionnaire form, adolescent health promotion scale, and self-efficacy scale for children.

Questionnaire form

It consists of a total of 25 questions from the four sections, which include students' socio-demographic characteristics, their views on health promotion, their perception of health, and their views on the prevention of accidents.

The Self-Efficacy Questionnaire for Children (SEQ-C)

This scale was originally developed by Muris and standardized to the Turkish population by Telef and Karaca (8, 9)The self-efficacy questionnaire is a 21- item self-report measurement and consists of

three sub-scales; academic self-efficacy, social self-efficacy, emotional self-efficacy, and a general self-efficacy level can be gathered from the total point. Each item was rated on a 5-point Likert scale (1=not at all, 5= very well). The highest score is 105 and lowest score is 21. A higher score means higher efficacy. During standardization studies, between the Turkish and English forms correlations are found statistically significant at $p < 0.01$ levels as 0.95 for the overall scale, 0.93 for the academic self-efficacy subscale, 0.94 for the social self-efficacy subscale, 0.91 for emotional self-efficacy subscale. Exploratory factor analyses (EFA) with a 21-item version of the SEQ-C supported the existence of three factors that accounted for 43.74% of the total variance (6)

Adolescent Health Promotion Scale (AHPS)

Adolescent Health Promotion Scale (AHPS) was originally developed by Chen et al. And standardized for the Turkish population by Temel et al (10,11). AHPS is a 40-item self-report instrument used to identify unhealthy lifestyles in adolescents. Each item was rated on a 5-point Likert scale (1=not at all, 5= very well). Factor analysis yielded a six-factor instrument that explained 51.14% of the variance in the 40 items. The six factors are social support (7 items), life appreciation (8 items), health responsibility (10 items), nutritional behaviors (6 items), exercise behaviors (4 items), and stress management (5 items). The minimum and maximum scores available from the total scale is between 40 and 200. Factor analysis yielded a six-factor instrument that explained 38.48% of the variance in the 40 items. During standardization studies, between the Turkish and English forms, factor analysis yielded a six-factor instrument that explained 38.48% of the variance in the 40 items. The Cronbach's alpha reliability coefficient for the total scale was calculated at 0,86 and ranged from 0,50 to 0,74 for the subscales (11).

Data Analysis

Data were analyzed using SPSS 20 statistical computer software. The data were summarized as mean, standard deviation, and percentages. To determine the type of analysis to be made, the distribution of the data was examined with the Kolmogorov-Smirnov test, and it was observed that the data were distributed normally since the kurtosis and skewness coefficients of the data were between -1.50 and +1.50. The homogeneity control of group variances was done by the Levene test. The mean of the two independent groups was compared by the T-test and the mean of more than two independent groups was compared by one-way ANOVA. Pearson correlation analysis was used to determine the relationship between the two variables. Cronbach's alpha values were calculated separately to determine the internal reliability of the scales. The significance level was taken as 0.05.

Ethic

Ethical approval was obtained from theUniversity School of Medicine Non-Interventional Clinical Research Ethics Committee (approval number: 2017/22). The written permission was gathered from the Ankara Provincial Directorate of National Education (22.01.2018 / E.1604867).

Result

789 adolescents have participated the study. Seventy-one percent (n:561) of the students in the research group were male and 28.9% (228) were female students. The percentage of class 6 students 16.3% was the highest percentage among all students. The average age of the students in the research group was found as 13.93 ± 2.34 . At the end of the last semester, 44% of the students received a certificate of appreciation. 49.7 % of adolescents perceived their health as very well. 90.1% of adolescents believed that they can manage their future health statuses. It was determined that 94.9% of the adolescents do not have a chronic disease, and 5.1% have a chronic disease. 41.2% of the chronic diseases of adolescents were asthma. 15.5% of them never wore seat belts, while 32.6% of them always wear seat belts. It was determined that 25.1% of the students always wear helmets and 3.2% of them never wear helmets while riding a bike or motorbike. 5.7% of the students never use pedestrian crossings and overpasses, while 43.6% of the students always use pedestrian crossings and overpasses when crossing the road. (Table 1).

Total AHP scores and subscale scores for adolescents are shown in Table 2. The highest score was obtained from the nutrition and exercise Mean \pm SD = 33.99 ± 7.07 and the lowest score was obtained from the stress management subscale Mean \pm SD = 21.01 ± 5.43 .

Total SEQ-C scores and subscale scores for adolescents are shown in Table 3. The highest score was obtained from the academic self-efficacy Mean \pm SD = 25.48 ± 6.44 and the social self-efficacy Mean \pm SD = 25.48 ± 5.99 , and the lowest score was obtained from the emotional self-efficacy subscale Mean \pm SD = 23.64 ± 6.50 .

Summarizes the relationships between adolescents' socio-demographic characteristics and health-promoting behaviors. In adolescent health promotion and all subscale levels, there were significant differences according to class, age, success status, health state perception, and beliefs in managing future health statuses ($p < 0.05$). No statistically significant difference was found between the adolescents' presence of chronic disease and their adolescent health promotion and all subscale levels. Summarizes the relationships between adolescents' socio-demographic characteristics and self-efficacy. In self-efficacy and all subscale levels, there were significant differences according to class, age, and success status ($p < 0.05$).

In adolescent health promotion and all subscale levels, there were significant differences according to health state perception, beliefs in managing their future health statuses, wearing a seat belt, wearing a helmet while riding a cycle and motorbike, usage status of pedestrian crossing -overpasses while crossing a road. In adolescent health promotion and all subscale levels, there were no significant differences according to the presence of chronic diseases. Adolescents who always wear seat belts have the highest adolescent health promotion scores. Adolescents who always wear helmets while riding a motorcycle or bicycle have the highest adolescent health promotion scores. Adolescents who always use pedestrians crossing and overpasses while crossing a road have the highest adolescent health promotion scores.

In self-efficacy and all subscale levels, there were significant differences according to health state perception, beliefs in managing their future health statuses wearing a seat belt, wearing a helmet while riding a bicycle and motorbike, usage status of pedestrian crossing and overpasses while crossing a road. In total self-efficacy and academic self-efficacy levels, there were significant differences according to the presence of chronic disease ($p < 0.05$).

As a result of the correlation analysis, a positive and moderately significant relationship was found between adolescent health promotion and subscale scores and self-efficacy and subscale scores (Table 4).

Table 1. Health state perception, presence of chronic disease, and accident prevention behaviors of adolescents.

VARIABLES	N	%
Health state perception		
Very well (Better)	392	49.7
Good (Average)	371	47
Bad (Worse)	26	3.3
Presence of chronic disease		
No	749	94.9
Yes	40	5.1
Beliefs in managing future health statuses		
Yes	711	90.1
No	78	9.9
Wearing seat belt		
Never	122	15.5
Rarely	111	14.1
Sometimes	120	15.2
Usually	179	22.7
Always	257	32.6
Wearing helmet		
Never	261	39.2
Rarely	77	11.6

Sometimes	72	10.8
Usually	88	13.2
Always	167	25.1
Usage of pedestrian crossing and crosswalk		
Never	45	5.7
Rarely		
Sometimes	80	10.2
Usually	183	23.3
Always	343	43.6
Total	789	100

Table 2. Adolescent health promotion scale and Subscale scores of students.

VARIABLES	Min	Max	Mean	Sd	Cronbach's α
Nutrition and Exercise	10	50	33.99	7.07	0.73
Social support	7	35	25.33	5.98	0.78
Health responsibility	9	45	30.94	7.44	0.78
Life-appreciation	8	40	31.24	6.84	0.85
Stress management	6	30	21.01	5.43	0.74
Total scale	40	200	142.53	27.06	0.93

Table 3: Self-Efficacy Questionnaire for Children and Subscale scores of students.

VARIABLES	Min	Max	Mean	Sd	Cronbach's α
Academic self-efficacy	7	35	25.48	6.44	0.87
Social self-efficacy	7	35	25.48	5.99	0.79
Emotional self-efficacy	7	35	23.64	6.50	0.81
Total scale	21	105	74.61	16.44	0.91

Table 4: Pearson correlations of scores on self-efficacy subscales and adolescent health promotion subscales

		Nutrition and Exercise	Social support	Health	Life appreciation	Stress management	Total Adolescent Health Promotion scores
Academic	R	0.535**	0.420**	0.536**	0.564**	0.550**	0.634**
Self efficacy	P	0.000	0.000	0.000	0.000	0.000	0.000
Social	R	0.487**	0.479**	0.460**	0.504**	0.471**	0.582**
Self- efficacy	P	0.000	0.000	0.000	0.000	0.000	0.000
Emotional	R	0.490**	0.386**	0.452**	0.497**	0.479**	0.560**
Self- efficacy	P	0.000	0.000	0.000	0.000	0.000	0.000
Total Self	R	0.583**	0.493**	0.559**	0.604**	0.579**	0.685**
efficacy scores	P	0.000	0.000	0.000	0.000	0.000	0.000

** The correlation is significant at the 0.01 level.

Discussion

This research was carried out to identify the relationship between adolescent health promotion behaviors and the self-efficacy of students. Self-efficacy perception and health-promoting behaviors are gained during childhood and adolescence and maintained throughout life. For this reason, education, seminars, and activities to be given to students, teachers, and parents will be effective in increasing self-efficacy perceptions of adolescents and gaining health-promoting behaviors in adolescents.

Adolescents' health-promoting behaviors have an impact on individuals' current and future health. Some health problems can occur at any stage of life. Healthy behaviors gained during adolescence can prevent health problems and non-communicable diseases. In this way, healthy individuals and a healthy society are formed. In our research, the relationship between the health-promoting behaviors of students and their descriptive status such as grade, age, success status, health state perception, beliefs in managing future health statuses, wearing a seat belt, wearing a helmet while riding a bicycle or motorbike, using pedestrian crossings and overpasses when crossing the road was determined and examined. Based on the study results, a statistically significant difference was found between the grade levels of adolescents and their adolescent health promotion and subscale scores. Moreover, the health promotion of 5th-grade adolescents was found significantly higher than in the other grades. Similarly, other studies found a statistically significant relationship between the grade levels of adolescents and the scores obtained in the nutritional and exercise subscale of adolescent health promotion (12, 13). In these studies, a statistically significant relationship was not found between the grade levels of adolescents and their adolescent health promotion subscale scores other than nutrition and exercise (12,13).

In present study, there were statistically significant relationships between students' academic performance and their adolescent health promotion and all subscale scores. Busch et al. found that smoking, peer bullying, compulsive and excessive internet use, and low physical exercise patterns were significantly associated with poor school grades in adolescents (14). Logi Kristjánsson et al. reported that good eating habits and being physically active may help children and adolescents to maintain a desirable weight and higher academic achievement (15). Although health behaviors such as healthy nutrition and high physical exercise affect academic performance positively, unhealthy behaviors such as alcohol use, bullying, smoking, early sexual intercourse, and some screen time behaviors negatively affect academic performance (14,15,16).

The result of this study shows that there were statistically significant relationships between students' beliefs in managing their future health statuses and adolescent health promotion behavior. Similar findings were

reported in another study. A statistically significant relationship was found between students' beliefs about managing their future health status and healthy lifestyle behaviors (17). Taken together, the findings indicate that adolescents who can manage their future health statuses have high health promotion behavior. In our study, no statistically significant relationship was found between students' chronic disease status and adolescent health promotion and subscale scores. Similarly, Dağdeviren et al. did not find a significant relationship between the presence of chronic disease and healthy lifestyle behaviors(18). Although there was no significant relationship between chronic disease status and adolescent health promotion status in these studies, the adolescent health promotion scores of adolescents without chronic disease were higher than those with chronic disease.

In this research, there were statistically significant differences between adolescents' perception of health, their adolescent health promotion, and all subscale scores. Similar result was found in another study. Açıksöz et al. found a significant difference between healthy lifestyle behaviors and perception of health among nursing students (19). The result of the present study shows that, in adolescent health promotion and all subscale scores, there were significant differences according to wearing seat belts. Habib et al. revealed that the use of seat belts by adolescents was significantly associated with the smoking status of adolescents, which is a risky health behavior(20). Based on these studies, it is thought that positive healthy behaviors gained during adolescence will contribute to the widespread use of seat belts.

In this study, in adolescent health promotion and all subscale scores, there were significant differences according to the usage status of pedestrian crossings and overpasses while crossing the road. It is believed that adolescents' health promotion behaviors raise awareness about the use of pedestrian crossings. Increasing road safety for adolescents will reduce traffic accidents. When the studies examining the health promotion of adolescents in the literature are searched, no study has been found that examines the relationship between the use of pedestrian crossings and overpasses while crossing the road and their health promotion behavior. When the studies on the use of pedestrian crossings by adolescents in the literature are examined, the effects of different factors on the use of pedestrian crossings by adolescents are such as age, gender, life skills training, and planned behavior theory examined (21,22).

Self-efficacy is one of the essential determinants of health. Adolescents' ability to learn new skills, achieve greater levels of success and overcome obstacles in life all depend on their level of self-efficacy. In our research, the relationship between the self-efficacy of students and their descriptive status, such as grade, age, success status, health state perception, beliefs in managing future health statuses, wearing a seat belt,

wearing a helmet while riding a bicycle or motorbike, using pedestrian crossings and overpasses when crossing the road, was determined and examined. Based on the study results, the self-efficacy of the 5th and 6th grades was significantly higher than the other classes. Diseth et al. found that 6th-graders had significantly higher self-efficacy than other grade students. It was concluded that as the grade level increases, self-efficacy decreases. Nevertheless, as the grade level of adolescents increases, their academic social and emotional problems arise. Diseth et al. found that 6th-graders had significantly higher self-efficacy than other grade students. It was concluded that as the grade level increases, self-efficacy decreases. Nevertheless, as the grade level of adolescents increases, their academic, social and emotional problems arise. These problems can negatively affect the self-efficacy of adolescents (23).

In this research, there was a statistically significant relationship between the students' ages and their academic, social, emotional, and total self-efficacy scores. In the present study, the self-efficacy of 11 years old adolescents was significantly higher than that of other ages. Similarly, there was a statistically significant relationship between students' ages and their academic social, emotional, and general self-efficacy levels in the studies of Telef and Karaca, too (9). On the other hand, Coşkun and Yiğit did not find a statistically significant relationship between the ages of adolescents and their general self-efficacy levels (24). Based on the results of these studies, as the age of adolescents increases, their general self-efficacy decreases. Conflicts in social relationships, and increased responsibilities, may cause a decrease in self-efficacy with age.

Significant relationships were found between students' academic performance and their academic self-efficacy in present study. Some other studies have reported similar findings. As academic success increases, the academic self-efficacy of adolescents increases significantly (8,9,25). In this research, there were statistically significant relationships between students' academic performance and their social, emotional, and total self-efficacy scores. The results of other studies were similar to those of our study (9,25,26). The results show that increasing the academic performance of adolescents contributes to the development of emotional self-efficacy. Telef and Karaca stated that students with low academic performance have a decrease in their self-efficacy (9).

In present research, there was a statistically significant relationship between students' beliefs in managing their future health statuses and their academic, social, emotional, and total self-efficacy scores. Studies based on the self-efficacy of individuals and beliefs in managing their future health statuses have generally been conducted on sick individuals. Unsal and Kasikci examined the effects of a self-efficacy training program in arthritis patients. It was stated that the self-efficacy training program helped patients manage

their future health statuses. Self-efficacy is one of the most important factors that enable individuals to manage their future health conditions(27).

Additionally, the findings show that there was a statistically significant relationship between the chronic illness of the students and their academic self-efficacy and total self-efficacy scores, while there was no statistically significant relationship between the chronic illness of the students and their social self-efficacy and emotional self-efficacy scores. In our study, the total self-efficacy scores of adolescents without chronic diseases were significantly higher than those with chronic diseases. Bağ and Mollaoğlu investigated the self-efficacy and the factors affecting the patients who underwent hemodialysis, and found that the general self-efficacy level average scores of the patients were below (28). As a result of these studies, it has been revealed that chronic diseases in humans may limit their daily activities and cause a decrease in their self-efficacy.

This study has clearly shown that, in self-efficacy and all subscale scores, there were significant differences according to wearing seat belts, wearing helmets while riding a bike or motorbike, and usage status of pedestrian crossings and overpasses while crossing the road. Feenstra et al. found a negative correlation between self-efficacy toward safe cycling skills and risky cycling behavior and risky cycling intentions (29). Okamura et al. investigated the motivational determinants of not wearing a front seat belt in Japan. The intention of wearing a seat belt was found to be impacted by self-efficacy (30). Schwebel et al. investigated the effects of pedestrian safety education for school-age children to cross the road safely. In addition to obtaining safer pedestrian behavior of students after training, an increase in self-efficacy on crossing roads was also observed (31). Self-efficacy helps individuals improve healthy behaviors such as wearing seat belts, wearing helmets while riding a bike or motorbike, and usage status of pedestrian crossings-overpasses while crossing the road.

As a result of the correlation analysis, a positive and moderately significant relationship was found between adolescent health promotion and subscale scores and self-efficacy and subscale scores. A similar result was found in another study. Binay and Yiğit found a positive and moderately significant relationship between healthy lifestyle behaviors and general self-efficacy in 13-16 age group students. From these studies, it can be concluded that self-efficacy is an important factor in adolescent behavior change. Adolescents with high self-efficacy put more effort into improving their health (32).

Limitations

There are some limitations to this study. Obtaining the data from three schools in the city center, a small sample size, and not using the sampling method may limit generalizability.

Conclusion

In our research there were significant differences between the characteristics of adolescents such as grade, age, success status, health state perception, beliefs in managing future health statuses, wearing a seat belt, wearing a helmet while riding a bicycle or motorbike, using pedestrian crossings and overpasses when crossing the road with mean adolescents health promotion scale and all subscale scores. Besides this, in the current study, there were significant differences between the characteristics of adolescents such as grade, age, success status, health state perception, beliefs in managing future health statuses, wearing a seat belt, wearing a helmet while riding a bicycle or motorbike, using pedestrian crossings, and overpasses when crossing the road with mean self-efficacy scale and all subscale score.

In our research, there was a positive and significant correlation between health-promoting behaviors and self-efficacy. Self-efficacy and health-promotion behaviors are acquired during adolescence and maintained throughout life. Therefore, education, seminars, and activities in schools will be effective in both increasing self-efficacy perceptions and gaining health promotion behaviors. To increase the self-efficacy levels of adolescents, education and activities should be organized by the school guidance service. To increase the health-promoting behaviors of adolescents, the school nurse should organize training and activities.

Both parents and teachers play an important role in adolescents' gaining health promotion behaviors and increasing their self-efficacy perceptions. For this reason, training and seminars should be organized for families and teachers.

To increase both self-efficacy and health promotion behaviors of adolescents, projects and studies should be carried out in inter-sectoral cooperation of both the Ministry of Health and the Ministry of National Education.

Conflict of Interest

No conflict of interest.

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