Original Article

Relationship Between Secondary School Students' Perceptions of Health-Promoting Schools and Health

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Abstract

Background: Approaches struggling to protect and improve the health of school community lay the basis of promoting health at school.
Objective: This research was performed as a descriptive study in order to identify the relationship between secondary school students' perceptions of health-promoting school and health.
Methodology: A total of 1,194 students enrolled at three different secondary schools located at the provincial center of Sivas, Turkey, participated in the research. Research data were collected from students via 'Student Personal Information Form', 'Scale for Health-Promoting Schools' and 'Perception of Health Scale' at school hours approved by the school counselor of each secondary school on December 3-21, 2018.
Results: It was found that the mean of overall scores obtained by students from Scale for Health-Promoting Schools was 85.00±18.86 (Min:24; Max:120) and so they had perception of health-promoting schools at an approximately high level whereas the mean of overall scores obtained by them from Perception of Health Scale was 42.08±8.38 (Min:15; Max:75) and so they had perception of health at a moderate level.
Conclusions: It was discerned that, as perceptions of health promoting school of students participating in research increased, levels of their perception of health also went up.

Key words: Health promoting schools, perception of health, students.

Introduction

Effective school health practices are likely to enable students to assume their own health responsibilities and contribute positively to the development of their health perceptions. Health perception which pertains as to how a human being perceives his/her own health condition offers an effective way of understanding individuals' perspectives of health (Lemos, Rocha & Martínez-Hernaéz, 2018). Thus, health perception is directly related to health promotion process targeting to equip the individual with habits of a healthy life (Bottorff et al., 1996). The successful practice of health-promoting schools is to be made possible only through the incorporation of health services into the education which is the primary task of schools and the establishment of cooperation between teachers and health professionals (Croghan, 2011; Simovska, Lindegaard-Nordin & Madsen, 2016; Gulzar et al., 2017). To this end, 'Cooperation Protocol on School Health Services' was signed between the Ministry of National Education and Ministry of Health in Turkey on May 17, 2016, and so 'Program on the Protection and Promotion of Health at School' was launched (https://hsgm.saglik.gov.tr). The primary responsibility for fulfilling this objective is on the school health team and the school nurses in this team are in a key position and have more opportunities to observe and examine children (Croghan, 2011; Gulzar et al., 2017). For the protection and promotion of health of the school community which is composed of school

children, their families and school staff, important duties are imposed on all health professionals and the school administration particularly the school nurses who are the most essential members of school health team.

If these services are offered effectively, it will be possible to ensure the protection and promotion of health of school community and so to describe schools as health-promoting schools. Therefore, the evaluation especially by those making up the school community (students, teachers, school administrators, students' legal guardians) as to whether schools own characteristics of health-promoting schools is important. It was ascertained that there existed no study in which the school community analyzed whether schools promoted health in secondary schools located in provincial center of Sivas. Moving from these points of departure, this research was performed as a descriptive study in order to identify the relationship between the perception of health-promoting schools and their perception of health by students enrolled at secondary schools in provincial center of Sivas.

The research questions guiding the study are:

1.   What is the school perceptions of secondary school students' health-promoting school?
2.   What is the health perceptions of secondary school students?
3.   What is the relationship between secondary school students' health-promoting school and health perceptions?

Methodology

Research type: This research is of descriptive type.

Design and sample: The participants of the descriptive research was composed of all students (studying in 5th, 6th, 7th and 8th grade a total of 1,863 students) enrolled in the school year of 2018-2019 at three schools located in provincial center of Sivas. A sample was not specifically selected solely for the research through a sampling method, all students (a total of 1,194 students) who agreed to participate in the research in cooperation with school principals and school counselors at above schools on December 3-21, 2018, and continued to attend their schools during the research period. A total of 669 students who did not want to fill in survey forms (205 students) or were not allowed

by their families to fill in forms (185 students) or were inaccessible due to medical excuse or absence (46 students) or failed to fill in survey forms accurately or sufficiently (233 students) were left out of the research.

Data collection tools: Three different forms were utilized as data collection tools.

The student personal information form: In the form which was prepared by researchers with the help of literature relevant to the topic, there existed 22 questions for identifying students' socio-demographic characteristics (age, gender, class year, and so on.) and 16 questions for designating characteristics in relation to health behaviors (number of meals per day, the case of doing exercises regularly and so on.).

The scale for health promoting schools (SHPS): The scale was developed by Ruyam Kucuksuleymanoglu in 2009 (Kucuksuleymanoglu, 2009). Validity and reliability tests were performed for the scale and the reliability coefficient was found to be 0.87. Cronbach's Alfa coefficients were calculated successively as 0.81, 0.70 and 0.69. SHPS which included 24 items and was composed of three sub-scales, namely, (i) health education, (ii) routine health screenings & environmental conditions and (iii) protection of health, was designed to measure the efficacy of health-promoting schools on the basis of views of students. It is a 5-point Likert-type rating scale. Answers given to items are scored in a range from 5 to 1 consecutively from the choice stating "very appropriate to the situation at my school" to the choice stating "very inappropriate to the situation at my school". A high score obtained from the data collection tool indicates that the level of efficacy perceived by students is high for their schools.

Perception of health scale (PHS): PHS is a 5-point Likert-type scale which was developed by Diamond et al. (2007) and was originally in English and whose validity and reliability tests in Turkish were performed by Kadioglu and Yildiz (2012). The scale includes 15 items and contains four factors, namely, 'center of control', 'self-awareness', 'certainty' and 'importance of health'. Items 1, 5, 9, 10, 11 and 14 are positive statements whereas items 2, 3, 4, 6, 7, 8, 12, 13 and 15 are negative statements. Positive statements were scored as in the following: "I absolutely agree=5", "I agree=4", "Neither agree,

nor disagree=3", "I disagree =2", "I absolutely disagree =1". Negative statements were inversely scored. The minimum score to be obtained from the scale is 15 whereas the maximum score is 75. Diamond et al. (2007) Cronbach's Alfa coefficients were found to be 0.90 for 'center of control', 0.91 for 'self-awareness', 0.91 for 'certainty' and 0.82 for 'importance of health'.

Implementation of the research: Research data were collected through visits paid on December 3-21, 2018, by researchers to three schools in the school year of 2018-2019. Prior to the launch of the research, meetings were held with each school administration in order to describe the purpose of the research and explain as to how the research is to be implemented, and approvals of school administrations were received. Subsequently, meetings with school counselors were organized in order to specify the best days and school hours for the application of survey form and scales. Moreover, letters were conveyed via students to their families in order to provide information on the research and to obtain their approval for the participation of their sons and daughters to the research. Later, researchers visited each classroom on the previously specified day and school hour, presented information on the research and explained how to fill in forms, and received the written and verbal approvals of students. Afterwards, survey form and scales were distributed to students who volunteered to participate in the study and whose participation was approved by their parents, and students were asked to fill in survey forms and scales completely under the supervision of researchers. So as to ensure the truthfulness of information to be given by students and to protect the confidentiality of student identities, students were asked not to write their names on survey forms and scales. Filling in the survey form and scales took a total of a school hour, namely, 40 minutes.

Data analysis: Data obtained through research were analyzed through SPSS 25.0 software. For the evaluation of research data, independent samples t-test, one-way analysis of variance and Pearson correlation were utilized. The significance level was set as 5% (p<0.05) for statistical analyses. Research data were presented as frequencies, means, standard deviations and percentages.

Ethical considerations: Prior to the research implementation, approval was obtained from the relevant schools and the University Non-Interventional Clinical Research Ethics Committee (Ethics Decision No: 2018-11/24). The principles of the Declaration of Helsinki were complied with. Verbal and written consents were obtained, and then the forms were applied.

Ethics Statement: Sivas Cumhuriyet University, Non-Interventional Clinical Studies Ethics Committee (Project Number: 2018-11/24).

Results

It was discerned that, of students participating in the research, 65.3% were aged 10-12 years, 54.2% were females, 77.7% were members of a nuclear family, 53.5% were from middle income households, 51.8% had mothers who were secondary school graduates, 66.9% had fathers who were secondary school graduates, 89.8% had no diagnosed disease, 99.8% had no disability and 81.8% had development/growth levels in normal percentiles.

It was found that the mean of overall scores obtained from SHPS by students participating in the research was 85.00±18.86 (Min:24;Max:120). As the score obtained from SHPS increases, levels of students' perception of health-promoting schools also go up. The overall scores obtained from SHPS indicate that students had approximately high levels of perception of health-promoting schools. It was discerned that students obtained the highest mean of scores from 'health education' sub-scale under SHPS (31.23±7.96). It was ascertained that the mean of overall scores obtained by them from PHS was 42.08±8.38 (Min:15;Max:75) and they had moderate levels of perception of health. It was identified that students obtained the highest mean of scores from 'center of control' sub-scale under PHS (16.13±4.53) (Table 1). It was ascertained that there was a highly statistically significant positive relationship between scores of SHPS of students participating in research and all sub-scales of the overall SHPS, namely, 'health education', 'routine health screening' and 'protection of health' whereas there was a slightly statistically significant positive relationship between students' scores of SHPS and sub-scales of PHS, namely, 'center of control' and 'certainty'. It was found that, as students had increased levels of perception of health education, routine health screenings and practices targeted to protect health at schools, their levels of perception of health-promoting schools went up considerably. It was discerned

that, as levels of students' perception of health-promoting schools increased, their scores of 'center of control' (having the self-control on being healthy) and 'certainty' (having a precise idea as to what is/are supposed to be done for keeping health good and getting healthier) were also raised. In other words, as levels of students' perception of health-promoting schools increase, levels of their perception of health also go up (Table 2). In the research, it was found that students who were females, aged 10-12 years and had no disability had high levels of perception of health-promoting schools (p<0.05). It was ascertained that students who were females and had no disability had higher levels of perception of health-promoting schools (p<0.05) (Table 3).

In the research, it was found that students who did physical exercise on a regular basis, had high levels of activity, missed no meal and had habit of washing their hands frequently had high levels of perception of health-promoting schools (p<0.05). It was ascertained that students who had high levels of activity had higher levels of health perception (p<0.05) (Table 4). In the research, it was found that students who were enrolled in the fifth and sixth grades, studied at schools with relatively low socio-economic level, lived in the proximity of their schools, commuted between school and home on foot, had high levels of school achievement and were interested in taking part in projects on promoting health at school had high levels of perception of health-promoting schools (p<0.05) (Table 5).

Table 1. The Scale for Health Promoting Schools (SHPS), Perception of Health Scale (PHS) and its Subscales Average Points of Students (n=1194)

	Minimum	Maximum	$\overline{X}$	S.D.
SHPS Total	24	120	85.00	18.86
SHPS Health Education	9	45	31.23	7.96
SHPS Routine Scans	8	40	27.28	7.06
SHPS Health Protection	7	35	26.49	6.28
PHS Total	15	75	42.08	8.38
PHS Locus of Control	5	25	16.13	4.53
PHS Self Awareness	3	15	6.64	2.66
PHS Accuracy	4	20	13.16	4.05
PHS The Importance of Health	3	15	6.14	2.52

Table 2. The Relationship Between The Scale for Health Promoting Schools (SHPS), Perception of Health Scale (PHS) and Subscale Scores of Students (n=1194)

		SHPS Tot point	SHPS Health educat.	SHPS Routine scans	SHPS Health protect.	PHS Tot point	PHS Loc.Con.	PHS S.A.	PHS Accuracy	PHS The I.H.
SHPS Tot point	r	1								
	p									
	N	1194								
SHPS Health educat.	r	.905**	1							
	p	.000									
	N	1194	1194							
SHPS Routine scans	r	.882**	.686**	1						
	p	.000	.000							
	N	1194	1194	1194						
SHPS Health protect.	r	.865**	.678**	.656**	1					
	p	.000	.000	.000						
	N	1194	1194	1194	1194					
PHS Tot	r	.020	-.005	.004	.062*	1				

point	p	.484	.861	.883	**.031**				
	N	1194	1194	1194	1194	1194			
PHS Loc Con	r	**.091****	**.070***	.031	**.150****	**.771****	1		
	p	**.002**	**.016**	.292	**.000**	**.000**			
	N	1194	1194	1194	1194	1194	1194		
PHS Self A.	r	**-.152****	**-.150****	**-.084****	**-.171****	**.369****	-.050	1	
	p	**.000**	**.000**	**.004**	**.000**	**.000**	.085		
	N	1194	1194	1194	1194	1194	1194	1194	
PHS Accuracy	r	**.176****	**.136**	**.119****	**.224****	**.706****	**.483****	**-.067***	1
	p	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.021**	
	N	1194	1194	1194	1194	1194	1194	1194	1194
PHS The I.H.	r	**-.220****	**-.203****	**-.143**	**-.243**	**.414****	.043	**.369****	**-.057***	1
	p	**.000**	**.000**	**.000**	**.000**	**.000**	.137	**.000**	**.049**	
	N	1194	1194	1194	1194	1194	1194	1194	1194	1194

* $p<0.01$, ** $p<0.05$

Table 3. Comparison of The Scale for Health Promoting Schools (SHPS) and Perception of Health Scale (PHS) Score Means According to Sociodemographic Characteristics of Students (n=1194)

Sex	**Female**	86.03±19.04	42.66±7.98	16.50±4.45	6.53±2.59	13.60±3.95	6.03±2.35
	Male	83.76± 18.58	41.39±8.80	15.70±4.59	6.77±2.73	12.64±4.11	6.27±2.70
	Statistical analysis	t= 2.075 **p= 0.038**	t=2.629 **p= 0.009**	t= 3.039 **p=0.002**	t=-1.545 p= 0.123	t= 4.102 **p=0.000**	t= -1.631 p=0.103
Age groups	**10-12 years**	87.58±18.36	41.99±8.52	15.98±4.53	6.61±2.72	13.38±4.18	6.02±2.50
	13-15 years	80.12±18.84	42.25±8.14	16.41±4.53	6.70±2.55	12.76±3.77	6.37±2.55
	Statistical analysis	t= 6.619 **p=0.000**	t= -0.508 p= 0.612	t=-1.569 p=0.117	t=-0.557 p= 0.578	t= 2.570 **p=0.010**	t= -2.281 **p=0.023**
Maternal education level	**Primary**	84.54±17.89	42.38±7.98	16.32±4.45	6.74±2.54	13.01±3.80	6.31±2.42
	Secondary	85.56±19.32	41.65±8.80	15.92±4.58	6.57±2.78	13.18±4.21	5.98±2.55
	Higher	83.18±21.64	43.76±7.19	16.66±4.71	6.59±2.49	14.21±4.34	6.31±2.87
	Statistical analysis	F=0.743 p=0.476	F=2.507 p=0.082	F=1.608 p=0.201	F=0.531 p=0.588	F=2.645 p=0.071	F=2.566 p=0.077
Family type	**Nucleus**	84.92±18.68	42.25±8.50	16.25±4.57	6.62±2.66	13.26±4.06	6.13±2.49
	Wide	86.22±18.36	41.09±8.04	15.61±4.39	6.72±2.63	12.66±4.05	6.10±2.52
	Shattered	78.97±25.16	43.89±7.00	16.50±4.37	6.89±2.91	13.83±3.74	6.67± 3.22
	Statistical analysis	F=2.335 p=0.097	F=2.645 p=0.071	F=1.945 p=0.143	F=0.304 p=0.738	F=2.541 p=0.079	F=0.819 p=0.441
Family income	**Low**	85.93±17.07	40.31±8.18	15.15±4.58	6.58±2.59	12.10±3.60	6.47± 2.91
	Average	84.15±18.65	42.49±8.24	16.28±4.46	6.76±2.61	13.20±3.94	6.26± 2.53
	High	84.99±18.86	41.76±8.57	16.05±4.62	6.51±2.72	13.24±4.23	5.95± 2.45
	Statistical analysis	F=1.371 p=0.254	F=2.469 p=0.085	F=1.803 p=0.165	F=1.233 p=0.292	F=2.151 p=0.117	F=2.566 p=0.077
Diagnosis of disease	**Yes**	83.45±19.28	42.15±8.02	16.14±4.50	6.52±2.63	13.33±4.26	6.23±2.62
	No	85.17±18.81	42.07±8.43	16.07±4.83	6.66±2.66	13.14±4.03	6.13±2.51
	Statistical analysis	t=0.952 p=0.341	t=-0.094 p=0.925	t=0.167 p=0.867	t=0.523 p= 0.601	t= -0.473 p=0.636	t= -0.407 p=0.684
Disability situation	**Yes**	56.00±7.07	20.50±2.12	16.14±4.53	3.50±0.71	4.00±0.00	3.50±0.71
	No	85.04±18.84	42.12±8.34	9.50±0.71	6.65±2.66	13.18±4.04	6.15±2.52
	Statistical analysis	t=2.179 **p=0.030**	t=3.662 **p=0.000**	t=2.072 **p=0.038**	t=1.674 p= 0.094	t= 78.468 **p=0.000**	t= 1.484 p=0.138
Father education level	**Primary**	83.68±18.01	41.99±8.18	16.24±4.52	6.74±2.55	12.92±3.94	6.08±2.54
	Secondary	85.60±19.06	42.04±8.59	16.06±4.55	6.62±2.67	13.18±4.10	6.19±2.54
	Higher	83.92±19.16	42.45±7.60	16.35±4.51	6.60±2.79	13.50±3.97	5.99±2.37
	Statistical analysis	F=1.250 p=0.287	F=0.163 p=0.849	F=0.361 p=0.697	F=0.210 p=0.811	F=0.966 p=0.381	F=0.443 p=0.642
Percentile	**Normal**	84.90±18.80	42.10±8.47	16.12±4.60	6.63±2.65	13.23±4.02	6.12±2.57
	Overweight	83.74±20.35	41.52±8.25	15.96±4.42	6.64±2.64	12.69±4.01	6.22±2.35
	Obese	87.05±17.93	42.44±7.81	16.37±4.07	6.80±2.80	13.02±4.39	6.25±2.27
	Statistical analysis	F=0.901 p=0.407	F=0.338 p=0.713	F=0.232 p=0.793	F=0.210 p=0.810	F=0.933 p=0.394	F=0.184 p=0.832

Table 4. Comparison of The Scale for Health Promoting Schools (SHPS) and Perception of Health Scale (PHS) Score Means According to The Characteristics of Students' Health habits (n=1194)

Characteristics*		SHPS Total X ± SD	PHS Total X ± SD	PHS Locus of Control X ± SD	PHS Self Aware. X ± SD	PHS Accuracy X ± SD	PHS The Imp. Health X ± SD
Regular exercise	Yes	87.33±18.57	42.15±8.18	16.31±4.55	6.99±2.58	13.44±4.13	6.41±2.68
	No	81.23±18.73	41.97±8.70	15.85±4.50	6.43±2.75	12.72±3.89	5.98±2.41
	Statistical analysis	t= -5.503 **p=0.000**	t=-0.372 p= 0.710	t=-1.719 p=0.086	t=3.576 **p= 0.000**	t=-3.029 **p= 0.003**	t=2.823 **p= 0.005**
Aktivity level	Low	76.93±20.04	41.80±8.09	15.99±4.35	6.34±2.80	13.30±3.83	5.74±2.47
	Average	84.58±17.56	42.07±8.20	16.17±4.42	6.71±2.57	12.93±3.83	6.26±2.38
	High	87.63±19.67	43.64±8.66	16.11±4.75	7.45±2.70	13.45±4.38	7.06±3.09
	Statistical analysis	F=15.649 **p=0.000**	F=3.100 **p=0.045**	F=0.082 p=0.921	F=8.693 **p=0.000**	F=2.245 p=0.106	F=14.550 **p=0.000**
Skipping meal condition	Yes	82.84±18.71	41.80±8.29	15.69±4.39	6.52±2.64	12.62±3.88	5.89±2.35
	No	86.12±18.85	42.23±8.43	16.36±4.59	6.88±2.66	13.45±4.12	6.62±2.75
	Statistical analysis	t=2.869 **p=0.004**	t=0.826 p=0.409	t=2.460 **p=0.014**	t=-2.262 **p= 0.024**	t=3.599 **p= 0.001**	t=-4.544 **p= 0.000**
Skipped meal	Breakfast	82.42±18.82	41.95±7.81	15.78±4.31	6.89±2.62	12.72±3.79	6.56±2.62
	Lunch	84.02±18.83	41.86±9.58	15.21±4.83	7.09±2.82	12.53±3.79	7.03±3.12
	Dinner	83.25±17.98	40.60±8.72	16.05±3.99	6.38±2.41	12.05±4.61	6.13±2.78
	Statistical analysis	F=0.254 p=0.776	F=0.469 p=0.626	F=0.723 p=0.486	F=1.011 p=0.365	F=0.556 p=0.574	F=1.712 p=0.182
Fast food consumpt	Yes	84.13±18.71	42.48±8.29	16.38±4.44	6.68±2.74	13.04±3.98	6.00±2.44
	No	85.47±18.94	41.85±8.43	15.99±4.59	6.62±2.61	13.23±4.09	6.39±2.64
	Statistical analysis	t=1.177 p=0.240	t=-1.243 p=0.214	t=-1.421 p=0.156	t=-0.341 p= 0.733	t=0.807 p= 0.420	t=-2.465 **p= 0.014**
Hand wash status	Frequent washing	86.06±18.70	42.24±8.26	16.35±4.54	7.50±2.65	13.32±4.05	8.63±3.93
	Very dirty washing	79.86±18.94	41.27±8.96	15.15±4.35	7.10±2.64	12.42±3.97	6.60±2.72
	Rarely washing	75.63±15.13	41.63±9.47	12.63±4.24	6.54±2.73	11.88±5.19	6.03±2.45
	Statistical analysis	F=9.807 **p=0.000**	F=1.100 p=0.333	F=8.169 **p=0.000**	F=5.621 **p=0.004**	F=4.411 **p=0.012**	F=8.055 **p=0.000**

Table 5. Comparison of The Scale for Health Promoting Schools (SHPS) and Perception of Health Scale (PHS) Score Means According to Students' Characteristics Related to Their Schools (n=1194)

Characteristics*		SHPS Total X ± SD	PHS Total X ± SD	PHS Locus of control X ± SD	PHS Self Aware. X ± SD	PHS Accuracy X ± SD	PHS The Imp. Health X ± SD
Class	5th grade	90.57±18.04	41.36±8.22	15.45±4.46	6.72±2.63	13.42±4.32	5.77±2.25
	6th grade	86.87±17.66	42.82±8.54	15.70±4.50	6.47±2.82	13.56±4.09	6.14±2.61
	7th grade	82.56±19.30	41.61±8.58	16.66±4.51	6.77±2.69	12.86±3.98	6.29±2.59
	8th grade	79.78±18.71	42.55±8.09	16.75±4.54	6.62±2.48	12.81±3.76	6.37±2.57
	Statistical analysis	F=19.235 **p=0.000**	F=2.158 p=0.091	F=6.377 **p=0.000**	F=0.751 p=0.522	F=2.683 **p=0.045**	F=3.297 **p=0.020**
Socioeconomic level of school	Low	89.38±16.87	40.88±8.53	15.69±4.52	6.80±2.54	12.54±3.73	5.86±2.51
	Average	86.64±19.10	42.26±8.56	16.17±4.50	6.67±2.78	13.19±4.15	6.23±2.53
	High	81.94±19.25	42.92±7.76	16.49±4.60	6.43±2.53	13.74±4.08	6.25±2.50
	Statistical analysis	F=17.521 **p=0.000**	F=4.718 **p=0.009**	F=2.428 p=0.089	F=1.525 p=0.218	F=6.693 **p=0.001**	F=2.571 p=0.077
Distance from school to home	Near	85.97±18.37	43.13±8.64	16.08±4.53	6.91±2.76	13.08±4.04	6.09±2.42
	Middle	83.61±19.21	41.82±8.18	16.42±4.48	6.57±2.62	13.49±4.01	6.32±2.78
	Far	75.11±23.19	38.57±9.38	14.76±4.86	5.95±2.49	12.14±4.47	5.73±2.31
	Statistical analysis	F=7.158 **p=0.001**	F=6.239 **p=0.002**	F=2.408 p=0.090	F=3.199 **p=0.041**	F=2.409 p=0.090	F=1.439 p=0.238
How to go to school	On foot	85.51±18.58	41.71±8.32	15.98±4.49	6.67±2.63	12.93±4.03	6.14±2.47
	By vehicle	82.37±20.06	43.92±8.50	16.90±4.68	6.53±2.81	14.32±3.96	6.17±2.77
	Statistical analysis	t=2.034 **p=0.043**	t=-3.405 **p=0.001**	t=-2.617 **p=0.009**	t=0.659 p= 0.510	t=-4.444 **p= 0.000**	t=-0.171 p= 0.864
School achievement	Low	76.55±21.32	40.21±9.81	14.71±4.68	6.28±2.70	11.97±4.09	5.83±2.49
	Average	85.00±18.16	41.45±8.35	15.62±4.38	6.82±2.58	12.71±3.91	6.31±2.50
	High	86.49±19.11	43.39±8.00	17.19±4.55	7.13±2.92	14.09±4.10	6.40±2.73
	Statistical analysis	F=9.316 **p=0.000**	F=9.322 **p=0.000**	F=20.750 **p=0.000**	F=6.894 **p=0.001**	F=19.671 **p=0.000**	F=5.237 **p=0.005**
Request to take part in health promotion projects	Yes	86.33±18.28	42.14±8.32	16.33±4.56	6.55±2.65	13.31±4.04	6.67±2.63
	No	81.54±19.91	41.93±8.56	15.61±4.42	6.88±2.67	12.77±4.06	5.94±2.45
	Statistical analysis	t=3.955 **p=0.000**	t=0.373 p=0.709	t=2.460 **p=0.014**	t=-1.907 p= 0.057	t=2.063 **p= 0.039**	t=-4.513 **p= 0.000**

Discussion

In the current research, the mean of overall scores obtained from SHPS by students participating in the research was 85.00±18.86, and it was found that students had approximately high levels of perception of health-promoting schools. It was discerned that students obtained the highest mean of scores from 'health education' sub-scale under SHPS (31.23±7.96) (Table 1). In a study in which the school health program was evaluated on the basis of students', teachers' and parents' perceptions and also health requirements were analyzed, it was argued that the school health program was successful in terms of implementing health-promoting initiatives for school children (Gulzar et al.,

2017). Literature information shows that school-based interventions are successful in encouraging adolescents to choose healthy foods (Wansink et al., 2012; Hanks, Just & Wansink, 2013; Ensaff et al., 2015). Findings of literature indicating that initiatives for protecting and promoting health at schools increased levels of students' perception of health-promoting schools are in a similar vein to findings of the current research. That students enrolled at schools where the current research was performed had approximately high levels of perception of health-promoting schools can be associated with the fact that these schools were parts of projects such as White Flag and Nutrition-Friendly Schools. In the current research, the mean of overall scores obtained by

students from PHS was 42.08±8.38, and it was exhibited that they had moderate levels of perception of health. It was identified that students obtained the highest mean of scores from 'center of control' sub-scale under PHS (16.13±4.53) (Table 1). The perception of health is a concept which addresses what individuals think and feel about their own health. Having high levels of perception of health by individuals shows that individuals hold positive thoughts about their own health. In a study, it was discerned that students had moderate levels of perception of quality of life at high schools (Aykit & Baba-Ozturk, 2017). In a study in which Spanish adolescents' perceptions of health were evaluated, it was demonstrated that most participants had perfectly high or high levels of perception of health irrespective of gender differences (Molinero et al., 2011). The finding that students participating in the current research had a moderate level of perception of health was in a similar vein to findings of studies focusing on Turkish adolescent students, however, it was different from the finding that Spanish adolescents had perfectly high or high levels of perception of health. It is thought that this difference is likely to be associated with differences in services and policies applied by two countries to school health and in students' socio-economic circumstances. In the current research, it was found that, as levels of students' perception of health-promoting schools increased, levels of their perception of health also went up (Table 2). In the literature, it is asserted that positive and supportive school environments promoted the health of students and enhanced their school achievements (Aldridge & Ala'l, 2013; Thapa et al., 2013; Pulimeno et al., 2020). In a study, it was noted that the practice of school-oriented health centers enhanced the attachment of students to their schools, and it was suggested that attachment to school was associated with better health conditions and academic achievements (Bersamin et al., 2019). Findings of current research are in parallel to findings in the literature which emphasize that students involved in initiatives and practices intended for promoting health at school environment had better health. In contrast to findings of current research, it was ascertained in the study performed by Kahveci and Demirtas (2012) for identifying secondary school students' perception of sanitation and hygiene that,

although students had satisfactory levels of perception of their own personal hygiene and care and perception of sanitation of classroom and school building, they had low levels of perception of cleanliness of school's physical environment. The difference in current research can be associated with the fact that practices of health-promoting schools were more often targeted to the internal part of schools or were perceived by students as school environment of that areas outside the school building. In the current research, it was ascertained that students who were females and had no disability had higher levels of perception of health (Table 3). In a study which is supportive of findings of the current research, it was reported that 27% of children who received special education support, were aged 7-12 years and were mostly males perceived their own health conditions as bad or very bad (Rezende, Lemos & Medeiros, 2017). In a study conducted on primary school students, it was indicated that around one fourth of students had moderate or lower levels of perception of health. In same study, it was found that, unlike findings of current research, there was no statistically significant relationship between students' gender and perception of their own health whereas, in parallel to findings of current research, the perception of health of students who had health problems and kept using medications on a constant basis was negatively affected (Onal et al., 2009). In contrast to findings of the current research, it was discerned in two different studies focusing on adolescents that female students had higher levels of negative perception of health than male students (Wu et al., 2018; Silva et al., 2019). In a study conducted in a boarding secondary school, it was asserted that there was no statistically significant difference in perceptions of sanitation and hygiene between female and male students (Firinci & Coban, 2016). In studies performed on the perception of school climate which is a concept reflecting students' perception of school, it was argued that female students had higher levels of perception of school climate than male students (Donmez & Tayli, 2018; Bayik-Temel & Eren, 2019). Also in other study, it was revealed that female students had higher levels of perception of healthy nutrition, sufficient physical exercise and health and higher scores of wellness than male students (Kim & Kim, 2019). The finding of most studies alleging that female students had higher levels of perception of health

than male students is in a similar vein to findings of current research. In the current research, it was ascertained that students who had high levels of activity had higher levels of health perception (Table 4). In systematic reviews addressing studies focusing on adolescents, it was observed that most studies indicated there was a statistically significant relationship between physical activity and positive perception of health (Vancea et al., 2011; Granger et al., 2017). Findings of literature are supportive of research findings. In the current research, it was found that students who were enrolled in the fifth and sixth grades, studied at schools with relatively low socio-economic level, lived in the proximity of their schools, commuted between school and home on foot, had high levels of school achievement and were interested in taking part in projects on promoting health at school had high levels of perception of health-promoting schools (Table 5). In a similar vein to findings of current research, it was found in a study focusing on secondary school students that junior students had more positive perceptions of school than senior students (Karaman & Yurtal, 2015). The reason for this finding can be explained with likelihood that senior students expected more from the school and its environment than junior students did. In a study supportive of findings of current research, it was discerned that school-oriented health centers had positive effects on the development of positive feelings by low income students towards school and they also affected positively their attachment to the school which implied that they would be active participants of school activities (Arastaman, 2009; Bersamin et al., 2019).

Conclusion: It was found that students participating in the research had an approximately high level of perception of health-promoting schools. It was discerned that, as levels of perception of health-promoting schools by students increased, levels of their perception of health also went up. It can be recommended that health services such as health education and routine screenings to be provided at schools should be applied and school programs for promoting health should be implemented in order to promote the health of students and to raise levels of perception of health of students who form the majority of the school community.

The primary implication for school health is the importance of implementing programs to improve students' health. Teachers, administrators, and school-based health center staff are uniquely positioned to raise students' perceptions of health and turn schools into health-promoting schools. Secondary implication for school health, is that it is necessary for health professionals and educators to cooperate in achieving the goal of promoting health. This research guides health promotion professionals in planning future initiatives to improve the health of schoolchildren, taking into account children's perceptions.

Limitations of this study: Study findings are limited to students studying at three secondary schools and students' own reports.

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