

## Determining health promoting behaviours, self-rated health, life satisfaction and loneliness among older persons

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### Abstract

**Objective:** To determine relationship between health-promoting behaviours and loneliness, and between life satisfaction and self-rated health among the elderly.

**Method:** The cross-sectional study was conducted from June to November 2020 in Aydin, Turkey, after approval from the ethics review committee at Ege University, Izmir, Turkey, and comprised individuals of either gender aged >65 years. Data was collected through face-to-face interviews using a data-collection form with questions to identify independent variables and the geriatric health protective behaviour scale. Data was analysed using SPSS 23.

**Results:** Of the 661 subjects, 334(50.5%) were females and 327(49.5%) were males. The largest group was of those aged 65-69 years 270(40.8%), while the smallest group comprised those aged 74-79 years 94(14.2%). Overall, 19(2.9%) subjects perceived their health as very good, while 161(24.4%) described it as good. Subjects aged 65-69 years, who had secondary education, whose perception of household income was good, who were not disabled, who did not feel lonely and who were regularly visited had higher scores ( $p < 0.05$ ).

**Conclusion:** Health-promoting behaviours are affected by an individual's socioeconomic conditions as well as their life satisfaction, feeling of loneliness and perception of health.

**Keywords:** Geriatrics, Geriatric health promotion scale, Health promotion, Health of the elderly. (JPMA 72: 1518; 2022) DOI: <https://doi.org/10.47391/JPMA.3447>

### Introduction

Healthy aging is described as a life-long process aimed at optimisation of opportunities for improving and maintaining health and ensuring a successful life. It is important to consider healthy aging as an objective of public health.<sup>1,2</sup> Health-promoting activities have increased importance for maintaining extended lifetime in an independent and healthy manner upon increase in life expectancy. Health-promoting behaviours allow the elderly to live without depending on any other individual in their daily life.<sup>3,4</sup> Many health issues observed among the elderly may be prevented through lifestyle modifications. Healthy lifestyle allows wellness of an elderly person and recovery, maintenance and improvement of health. It is never too late to stop with risky behaviours. It is possible to start a healthy lifestyle during old age, like exercising, healthy diet, quitting smoking, etc.<sup>5</sup>

Health-promoting behaviours increase self-rated health and life satisfaction.<sup>6</sup> Self-rated health is characterised as a global assessment of individual perception of health as a particular domain of life. Self-rated health and life satisfaction are recognised as indicators of global health and wellbeing. Both are indicators of future health status and functional limitations of the elderly.<sup>7</sup>

Life satisfaction is determined by understanding the current

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situation in relation to expectations, aspirations and ideal status. Life satisfaction is important because this concept is in full interaction with health. Life satisfaction in the elderly can be affected by various factors, such as health, participation in activities, nutrition, physical activity, wellbeing and appropriate health behaviours. Older people with higher life satisfaction are more likely to engage in health-promoting behaviours. Social support is positively associated with life satisfaction and perceived health.<sup>8,9</sup>

Loneliness, which is a subjective phenomenon resulting from the inconsistency between the actual and desired levels of social contact, is defined as a painful experience accompanied by negative emotions.<sup>10</sup> Loneliness has adverse effects on individuals' health, wellbeing, life satisfaction and health-promoting behaviour. Loneliness is especially important for the elderly because of their physiological changes, special aging conditions and vulnerabilities.<sup>11</sup> A vicious circle between social isolation and low-level health-promoting behaviours can eventually lead to negative health outcomes. Lower levels of social integration and social contact can affect older adults' health-promoting behaviour.<sup>12</sup>

The proportion of Turkish older adults aged 60 and over reached 9.5% of the country's population in 2020. The elderly population has increased by 22.5% in the last five years in Turkey. Of the older people, 18.6% live alone at home.<sup>13</sup> Changes in economy and culture in Turkish society in recent years and life events in the aging process have made the

shrinkage of social networks more evident among the elderly. Social isolation, which is one of the important factors related to the health of the elderly, arise from these facts, defined as the absence of a support system, minimal contact with others, and/or generally low participation in community life.<sup>12</sup>

Old age is a period during which people are most vulnerable and weak. However, old age should not be associated with being unhealthy. Being healthy is not only an individual concern, but is a social responsibility.<sup>14</sup> Therefore, it is important to determine factors that have positive and triggering effect on health improvement practices, and causes that prevent these efforts.

The current study was planned to determine the relationship between health-promoting behaviours and loneliness, and between life satisfaction and self-rated health among the elderly.

## Subjects and Methods

The cross-sectional study was conducted from June to November 2020 in Aydin, Turkey. After approval from the ethics review committee at Ege University, Izmir, Turkey, the sample size was calculated using Epi-Info 7.0 with 95% confidence interval (CI) and 50% prevalence. The target group was elderly individuals aged >65 years living in the Aydin province where the population of the elderly is 12.8%.<sup>13</sup> Those included were those aged >65 years regardless of gender with the ability to establish communication and willing to participate in the survey and answer the questionnaires that were completed through home visits and face-to-face interviews after furnishing informed consent.

The study questionnaire had two sections. The first section consisted of 20 questions aimed at determining age, gender, educational status, marital status, children, housing status, income perception, chronic diseases, satisfaction with life, social support status, health perception and disability, if any. Geriatric health protective behaviour scale (HPBS) was used. The scale was developed by Wang et al, and validity-confidence studies in Turkish were performed by Gulsoy.<sup>14,15</sup> HPBS consists of 22 items and is scored on a 4-point Likert scale; 1 = Never, 2 = Sometimes, 3 = Frequently and 4 = Regularly. The total score ranges 22-88. HPBS has for subscales; Health patterns, Social participation, Responsibility for health, Healthy diet, Regular exercise and Dental health. HPBS score is the total score of the subscales, with high scores indicating better behaviours that promote health in connection with each subscale. In this study, Health patterns, Social participation, Responsibility for health, Healthy diet status of the elderly were evaluated. Cronbach alpha factors of sub-dimensions in the original scale vary between 0.64 and 0.94, while the scale's total Cronbach alpha value is 0.87.<sup>7,11</sup>

Life Satisfaction was assessed with a question concerning

the level of overall life satisfaction on the basis of responses from low satisfied to very satisfied. Self-rated health was assessed by a single item asking, "In general, how do you evaluate your health at present?" The answer ranged from very poor to very good. Loneliness was determined with a single yes-or-no question. "Do you feel lonely?"

Simple random sampling was used to select one eligible older person among permanent residents. The elderly who could not communicate cognitively were excluded.

Data was analysed using SPSS 23. Descriptive statistics were expressed as frequencies, percentages, mean and standard deviation. In addition, t-test and variance analyses were performed for independent groups. Since the data had normal distribution, parametric tests were used. Statistical significance was taken as  $p \leq 0.05$ .

## Results

Of the 661 subjects, 334(50.5%) were females and

**Table-1:** Socio-demographic characteristics.

Characteristics	n	%
<b>Gender</b>		
Female	334	50.5
Male	327	49.5
<b>Age groups (years)</b>		
65-69	270	40.8
70-74	165	25.0
74-79	94	14.2
80+	132	20.0
<b>Educational status</b>		
Illiterate	137	20.7
Literate	72	10.9
Primary School	276	41.8
Secondary School	78	11.8
High School	48	7.3
University and higher	50	7.6
<b>Marital status</b>		
Married	428	64.8
Single	23	3.5
Widow	210	31.8
<b>Social security</b>		
Yes	551	83.4
No	110	16.6
<b>Income</b>		
Yes	585	88.5
No	76	11.5
<b>Income perception</b>		
Very good	22	3.3
Good	136	20.6
Moderate	345	52.2
Bad	132	20.0
Very bad	26	4.0
<b>Housing status</b>		
Owner	588	89.0
Tenant/other	73	11.0

**Table-2:** Health characteristics of the participants.

Characteristics	n	%
<b>Health perception</b>		
Very good	19	2.9
Good	161	24.4
Moderate	301	45.5
Bad	144	21.8
Very bad	25	3.8
Unanswered	11	1.7
<b>Chronic disease</b>		
No	51	7.7
Yes	610	92.3
<b>Regular medication</b>		
Yes	576	87.1
No	85	12.9
<b>Disability</b>		
Yes	78	11.8
No	583	88.2
<b>Assisting tools</b>		
Yes	513	77.6
No	148	22.4
<b>Satisfaction with life</b>		
Very good	41	6.2
Good	197	29.8
Moderate	281	42.5
Bad	113	17.1
Very bad	29	4.4
<b>Loneliness</b>		
Yes	373	56.4
No	288	43.6
<b>First applying for health</b>		
Public	636	96.2
Private	25	3.8
<b>Delay of medical assistance</b>		
Yes	158	23.9
No	503	76.1
<b>Regular exercise</b>		
No	305	46.1
Yes	356	53.9
<b>Visitors</b>		
Yes	549	83.1
No	112	16.9
<b>Smoking</b>		
Yes	109	16.5
No	552	83.5
<b>Alcohol</b>		
Yes	18	2.7
No	643	97.3

327(49.5%) were males. The largest group was of those aged 65-69 years 270(40.8%), while the smallest group comprised those aged 74-79 years 94(14.2%) (Table-1).

Overall, 19(2.9%) subjects perceived their health as very good, while 161(24.4%) described it as good, and 373(56.4) felt lonely (Table-2).

Regarding all activities, mean HPBS score was  $54.80 \pm 11.65$ . Of the total, 55(8.3%) exercised for 30 minutes every day, while 46(7% exercised 30 minutes 3 times a week (Table-3). Subjects aged 65-69 years, who had secondary education, whose perception of household income was good, who were not disabled, who did not feel lonely and who were regularly visited had higher scores ( $p < 0.05$ ).

Subscale scores and overall HPBS scores were stratified according to socio-demographic status (Table-4) and health status (Table-5) of the participating individuals.

## Discussion

In the current study conducted in Aydin, Turkey, mean value of the score on health-promoting behaviours was at a good level ( $54.80 \pm 11.65$ ). Higher mean values were obtained in studies conducted in 2 different locations in Turkey by using the same scale.<sup>15,16</sup> It is emphasised that regulations in the life of the elderly and the place they live in affect health-promoting behaviours. Social and cultural factors are underlined in connection with behaviours that promote health. Cultural norms, religious beliefs affect the way of thinking, believing, decision-making and acting; thus, they also affect health and healthy aging.<sup>17</sup>

Elderly individuals in the current survey recorded the lowest score with exercise which is a healthy living habit. Researchers reference factors beyond the control of an individual as external impediments before improvement of lifestyle, and consider internal impediments to be factors that are based on self-decision mechanism.<sup>18</sup> In particular, it is more advantageous to attain these behaviours before transition to the old-age period. However, work and household chores, as well as attitude of the patriarchal society are the most important impediments for women. Economic dependence of women, social suppression in many aspects of life and discrimination based on gender are other factors in this regard. A study in Iran suggested that women cared about expectations of their parents, children, grandchildren and spouses before their own health.<sup>19</sup>

Females and males scored different points in all fields of the scale used in the current study. Males scored significantly higher points only in terms of social participation. Some studies suggest that females scored higher in the subgroup of healthy diet.<sup>20</sup> In a study in Iran, the score of health-promoting behaviours was higher for females without any significant difference.<sup>21</sup>

The age group 65-74 years scored higher in the current study. This result may be the outcome of the fact that functional skills are better and chronic diseases are less in

**Table-3:** Distribution of HPBS items.

Sub-dimensions of scale	Never		Sometimes		Frequently		Regularly	
	n	%	n	%	n	%	n	%
I have breakfast everyday	5	0.8	42	6.4	152	23.0	462	69.9
I eat 3 times a day	24	3.6	152	23.0	194	29.3	291	44.0
I sleep enough	10	1.5	96	14.5	234	35.4	321	48.6
I wear comfortable shoes	30	4.5	132	20.0	209	31.6	290	43.9
I wear non-sliding shoes	40	6.1	137	20.7	197	29.8	287	43.4
I know headman of the neighbourhood	52	7.9	54	8.2	94	14.2	461	69.7
I always contact my friends	95	14.4	169	25.6	189	28.6	208	31.5
I participate in exercising programmes and activities	390	59.0	193	29.2	51	7.7	27	4.1
I participate in mass programmes	355	53.7	199	30.1	59	8.9	48	7.3
I participate in health education programmes	417	63.1	192	29.0	34	5.1	18	2.7
I participate in local (town, village, administration) activities	254	38.4	301	45.5	58	8.8	48	7.3
I participate in cultural and religious activities	210	31.8	306	46.3	92	13.9	53	8.0
I have my cholesterol levels checked regularly	168	25.4	266	40.2	124	18.8	103	15.6
I have my blood pressure levels checked regularly	61	9.2	185	28.0	244	36.9	171	25.9
I have my blood sugar levels checked regularly	86	13.0	226	34.2	194	29.3	155	23.4
I have a balanced diet consisting of six groups of nutrients	26	3.9	213	32.2	248	37.5	174	26.3
I eat 1.5 portions of vegetables every day.	20	3.0	282	42.7	232	35.1	127	19.2
I eat two hand-size fruits every day.	31	4.7	283	42.8	217	32.8	130	19.7
I exercise for 30 minutes every day.	324	49.0	174	26.3	108	16.3	55	8.3
I exercise for at least 30 minutes 3 times a week	359	54.3	164	24.8	92	13.9	46	7.0
I brush my teeth before sleep.	201	30.4	164	24.8	145	21.9	151	22.8
I brush my teeth 3 times a day.	337	51.0	185	28.0	59	8.9	80	12.1

\*Row percentages. HPBS: Health protective behaviour scale.

**Table-4:** Distribution of HPBS and sub-dimension scores of elderly individuals according to socio-demographic characteristics.

Characteristics	Health Patterns			Social Participation			Responsibility for Health			Healthy Diet			Oral Health			Total		
	Mean	SD	p	Mean	SD	p	Mean	SD	p	Mean	SD	p	Mean	SD	p	Mean	SD	p
<b>Gender</b>																		
Female	16.51	3.12		14.48	4.20	t:-1.972	7.61	2.45	p>0.05	8.37	2.18	p>0.05	4.21	1.97	p>0.05	54.55	11.38	p>0.05
Male	16.12	3.04	p>0.05	15.12	4.22	p:0.049	7.72	2.59		8.11	2.21		4.17	2.06		55.06	11.93	
<b>Age Group (Years)</b>																		
65-69	16.69	2.86	F:16.24	15.69	3.79	F:40.06	7.75	2.45		8.40	2.06	F:8.432	4.66	1.81	F:19.93	57.08	10.24	F:28.59
70-74	16.68	3.07	p:0.000	15.95	4.21	p:0.000	7.78	2.75	p>0.05	8.55	2.26	p:0.000	4.39	2.05	p:0.000	57.15	12.13	p:0.000
74-79	16.88	2.63		14.77	3.33		7.44	2.46		8.40	2.18		4.00	2.06		55.10	9.48	
80+	14.70	3.32		11.56	4.03		7.50	2.39		7.4015	2.23		3.1136	1.92		47.00	11.91	
<b>Education</b>																		
Illiterate	15.35	3.63	F:8.53	12.81	4.00	F:14.017	6.99	2.32		7.74	2.31	F:4.533	3.65	2.03	F:12.987	49.27	11.63	
Literate	15.50	2.99	p:0.000	13.54	4.11	p:0.000	7.62	2.30	F:4.793	7.77	1.98		3.45	1.92		51.09	11.55	F:17.97
Primary School	16.38	2.84		15.46	4.18		7.76	2.58	p:0.000	8.34	2.19	p:0.000	4.19	1.95	p:0.000	55.84	10.79	p:0.000
Secondary School	17.01	2.97		14.85	3.43		7.69	2.57		8.32	2.13		4.28	1.76		55.71	10.65	
High School	17.20	2.52		16.04	4.39		7.7708	2.76		8.89	2.28		5.33	1.96		59.66	11.68	
University And Higher	17.97	2.32		17.27	3.61		8.9792	2.22		9.08	1.86		5.64	1.75		64.12	8.852	
<b>Marital Status</b>																		
Married	16.62	2.86	F:6.105	15.26	3.87	F:7.507	7.56	2.48	F:2.778	8.21	2.09	p>0.05	4.23	1.95	p>0.05	55.64	10.76	F:3.293
Single	16.17	2.93	p:0.002	13.82	4.66	p:0.001	8.78	2.81	p:0.06	9.00	2.25		3.47	1.90		54.52	12.62	p:0.038
Widow	15.72	3.45		13.96	4.69		7.76	2.53		8.20	2.40		4.18	2.14		53.13	13.09	
<b>Income</b>																		
Yes	16.45	3.02	t:3.111	15.04	4.10	t:4.175	7.71	2.51	p>0.05	8.28	2.23	p>0.05	4.27	2.01	t:3.375	55.44	11.40	t:4.035
No	15.28	3.32	P:0.002	12.89	4.71	p:0.000	7.29	2.55		7.89	1.95		3.44	1.84	P:0.001	49.70	12.44	P:0.000
<b>Household Income Perception</b>																		
Very Good	17.72	2.22	F:58.470	15.40	3.51	F:34.760	9.31	2.69	F:8.608	9.31	1.70	F:24.144	5.45	1.84	F:31.853	61.40	7.85	F:55.729
Good	17.41	2.63	p:0.000	17.08	4.42	p:0.000	7.91	2.73	p:0.000	8.97	2.39	p:0.000	5.04	1.99	p:0.000	60.61	12.07	p:0.000
Moderate	16.95	2.61		15.08	3.71		7.78	2.53		8.47	2.01		4.38	1.94		56.39	9.62	
Bad	14.37	2.77		12.63	3.60		7.20	1.91		7.11	1.90		2.93	1.52		47.02	9.04	
Very Bad	10.64	3.12		9.52	3.79		5.60	2.06		6.00	1.91		2.36	1.31		36.52	11.84	

HPBS: Health protective behaviour scale.

**Table-5:** Distribution of HPBS and sub-dimension scores of elderly individuals according to health characteristics.

	Health Patterns			Social Participance			Responsibility for Health			Healthy Diet			Oral Health			Total		
	Mean	SD	p	Mean	SD	p	Mean	SD	p	Mean	SD	p	Mean	SD	p	Mean	SD	p
Health Perception	17.06	4.16	F:53.853	18.33	4.83	F: 63.158	7.46	3.15	F: 9.358	9.20	2.39	F:28.661	5.13	2.16	F:50.670	62.93	12.48	F:82.055
Very Good	17.82	2.35	p:0.000	17.03	3.87	p:0.000	7.74	2.84	p:0.000	9.18	2.08	p:0.000	5.28	1.95	p:0.000	61.27	10.17	p:0.000
Good	16.75	2.49		15.37	3.70		8.13	2.36		8.42	2.02		4.41	1.89		56.85	9.77	
Medium	14.42	3.13		11.55	2.95		6.93	2.13		6.98	2.03		2.72	1.26		45.10	8.12	
Bad	11.04	3.10		9.42	2.48		5.71	2.07		6.38	1.53		2.14	0.47		36.85	7.15	
Very Bad	17.06	4.16		18.33	4.83		7.46	3.15		9.20	2.39		5.13	2.16		62.93	12.48	
<b>Presence Of Chronic Disease</b>																		
Chronic Disease Is Available	16.84	3.25		16.64	3.94	t:3.261	6.15	2.75	t:4.558	8.64	2.13		4.78	1.90	t:2.227	57.27	10.86	
Chronic Disease Is Not Available	16.27	3.06	p>0.05	14.64	4.22	p:0.001	7.81	2.46	p:0.000	8.21	2.21	p>0.05	4.13	2.01	p:0.023	54.59	11.73	p>0.05
<b>Medication</b>																		
Regular Medication Is Available	16.27	3.10	p>0.05	14.64	4.25	t:-2.510	7.85	2.46	t:4.929	8.22	2.21		4.12	2.01	t:-2.282	54.66	11.83	p>0.05
Regular Medication Is Not Available	16.61	2.99		15.87	3.87	p:0.012	6.43	2.55	p:0.000	8.37	2.13	p>0.05	4.65	1.97	p:0.022	55.77	10.39	
<b>Disability</b>																		
Disabled	14.61	3.43	t:5.356	12.43	4.45	t:-5.388	7.65	2.38	t:-2.550	7.65	2.38	t:-2.550	3.56	1.92	t:-2.964	49.82	13.28	t:-104
Not Disabled	16.56	2.96	p:0.000	15.12	4.09	p:0.000	8.32	2.16	p:0.011	8.32	2.16	p:0.011	4.28	2.02	p:0.003	55.51	11.26	p:0.00
<b>Use Of Assisting Tools</b>																		
Assisting Tool Is Available	16.28	3.12		14.69	4.30		7.73	2.56		8.24	2.24		4.27	2.04	t:2.023	54.78	11.99	
Assisting Tool Is Not Available	16.44	2.96	p>0.05	15.10	3.86	p>0.05	7.43	2.36	p>0.05	8.24	2.06	p>0.05	3.89	1.92	p:0.038	54.73	10.42	p>0.05
<b>First Healthcare Institution Applied</b>																		
Public	16.28	3.12	p>0.05	14.77	4.21	p>0.05	7.63	2.51	p>0.05	8.21	2.21	p>0.05	4.17	2.00	p>0.05	54.68	11.70	p>0.05
Private	17.12	1.89		15.16	4.32		8.58	2.55		9.00	1.88		4.50	2.20		57.50	10.08	
<b>Delay Of Medical Assistance</b>																		
Yes	15.86	3.19	t:2.067	15.27	4.29	p>0.05	7.12	2.68	t:-3.155	7.98	2.33	p>0.05	4.48	1.78	t:2.202	54.27	11.32	p>0.05
No	16.44	3.02	p:0.039	14.62	4.17		7.84	2.44	p:0.000	8.31	2.15		4.07	2.06	p:0.0028	54.89	11.69	
<b>Exercise</b>																		
No	15.08	3.10	t:-10.25	12.77	3.51	t:-12.781	6.96	2.43	t:-6.880	7.52	2.19	t:-8.07	3.22	1.61	t:-12.71	47.57	9.04	t:-18.01
Yes	17.38	2.64	p:0.000	16.54	3.99	p:0.000	8.27	2.43	p:0.000	8.85	2.02	p:0.000	5.02	1.96	p:0.000	61.00	9.96	p:0.000
<b>Smoking</b>																		
Yes	15.92	3.28		15.41	3.27		7.44	2.72		8.00	2.15		4.33	1.90		54.93	11.11	
No	16.40	3.04	p>0.05	14.68	4.37	p>0.05	7.71	2.47	p>0.05	8.28	2.21	p>0.05	4.16	2.04	p>0.05	54.78	11.77	p>0.05
<b>Visitors</b>																		
Yes	16.83	2.73	t:10.14	15.30	4.04	t:7.099	7.74	2.55		8.43	2.15	t:5.034	4.41	2.01	t:6.549	56.49	10.91	t:8.680
No	13.81	3.48	p:0.000	12.31	4.18	p:0.000	7.29	2.30	p>0.05	7.30	2.20	p:0.000	3.08	1.66	p:0.000	46.54	11.69	p:0.000
<b>Satisfaction With Life</b>																		
Very Good	18.41	1.97	F: 70.91	18.14	4.18	F: 58.20	8.63	2.99	F: 7.979	9.97	1.72	F:34.515	5.68	1.96	F:52.449	65.82	9.23	F: 87.549
Good	17.44	2.65	p:0.000	16.56	4.04	p:0.000	7.97	2.89	p:0.000	9.01	2.20	p:0.000	5.12	1.93	p:0.000	60.06	10.7	p:0.000
Medium	16.67	2.53		14.92	3.52		7.74	2.33		8.19	2.03		4.14	1.81		55.37	9.05	
Bad	14.14	2.83		11.56	3.15		7.08	1.82		6.84	1.82		2.70	1.43		44.90	8.47	
Very Bad	10.75	2.33		9.48	2.55		5.82	1.83		6.41	1.35		2.00	0.00		36.58	6.80	
<b>Feeling Of Loneliness</b>																		
Feels Lonely	15.47	3.21	t:-8.671	13.91	4.14	t:-6.511	7.54	2.39		7.78	2.19	t:-6.272,	3.79	1.99	t:-6.023	51.72	11.80	t:-8.326
Does Not Feel Lonely	17.46	2.46	p:0.000	16.00	4.01	p:0.000	7.86	2.66	p>0.05	8.84	2.06	p:0.000	4.72	1.92	p:0.000	58.96	9.99	p:0.000

HPBS: Health protective behavior scale.

the youngest group among the elderly. Other studies report age as the most important factor determining health-promoting behaviours.<sup>15,21</sup> The present study determined that individuals at secondary education level scored higher on scale and subscale terms. Previous studies emphasised that the elderly can attain and implement healthy behaviours through education.<sup>21,22</sup> In the present study, married individuals scored higher points in subscales of healthy habits and social

participation. Single individuals scored differently in the subscale related to responsibility for health. Previous studies also reported that married individuals usually scored higher.<sup>3,6</sup> In the current study, income also appeared to be a very important factor. Previous studies suggested that lack of income or low income were risk factors.<sup>1</sup> The current study showed that elderly individuals with chronic disease scored higher points. As individuals suffering from chronic diseases are subject to frequent

follow-ups and health warnings, they are likely to achieve better results in improving their attitude toward protecting and maintaining health. Similar findings have been reported earlier.<sup>15</sup>

The present study revealed that social support and visitors were important for health-promoting behaviours as much as they are important for not feeling lonely. Similar situations have been emphasised in other studies.<sup>15</sup> In a study conducted in Turkey, it was revealed that the prevalence of loneliness in the elderly ranged from 26.3% to 61.8%.<sup>23</sup> The feeling of loneliness intensified due to the increase in social isolation of the elderly during the coronavirus disease-2019 (COVID-19) pandemic process which coincided with the duration of the current study.

The present study revealed a positive correlation between life satisfaction scores and HPBS scores of the elderly. It has been suggested that happy elderly individuals enjoying life can protect their physical and mental health better.<sup>24</sup> In Turkey, 57.7% of the elderly declared that their life satisfaction was good.<sup>13</sup>

The current study revealed a positive correlation between self-rated health and HPBS scores of the elderly. It is emphasized in the literature that the elderly with better health perception have better health promotion behaviours.<sup>1,25</sup> The present study showed that oral health score affected many aspects among the elderly and they scored lower points in this regard. Oral and dental health affects overall physical health. It has been stated that the elderly frequently experienced dental health problems, and protective services and services aimed at promoting oral health need to have higher priority.<sup>26</sup>

Those who manage to live a healthy life can achieve functional independence, self-care through self-management, social development, and make social contribution. The need is to develop programmes to promote health through daily activities or lifestyle among the elderly.<sup>27</sup> Practicable and cost-effective policies in this regard are important.<sup>[28</sup> In particular, it has been underlined that programmes are needed that will allow transformation of gender dynamics in a patriarchal society.<sup>21</sup>

The limitations of the current study included its single-city approach, and self-reported data which has a chance of bias. Besides, the descriptive design did not allow the study to explore causality. However, despite the limitations, the study gives an idea about Turkish people in terms of cultural status, social patterns and religion.

Nurses are competent to offer routine health promotion

services for all age groups and in any healthcare environment. Health promotions services provided to the increasing elderly population by nurses and all healthcare employees hold the key to offering sustainable healthcare and social services.

## Conclusion

Health-promoting behaviour among the elderly was found to be affected by an individual's socioeconomic conditions as well as their life satisfaction, feeling of loneliness and perception of health. Health-promoting interventions for the elderly should be aimed at increasing life satisfaction and developing social support.

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