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Relationship between healthy lifestyles awareness, health perception and mental well-being: A cross-sectional study on thermal tourism service recipients

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ABSTRACT

This study aims to reveal the levels and determinants of awareness, health perception and mental well-being of individuals receiving services in thermal facilities in Türkiye. The study was cross-sectional. The data were collected through face-to-face interviews between November 1, 2023 and January 30, 2024 from individuals receiving services in thermal facilities in Samsun and Kütahya provinces. A questionnaire form consisting of 4 sections was used to collect the data. The form consisted of personal information, healthy living awareness, health perception and mental well-being. As a result of the study, 388 questionnaire forms were analyzed. 38.4% of the participants were between the ages of 60-69 and 57.5% were female. There was a statistically significant difference between age, marital status, chronic disease, health perception, healthy living awareness and mental well-being. The mean value of the health perception of the participants was X̄=2.86 before thermal and X̄=3.24 after thermal. A statistically significant, positive and strong relationship was found between healthy living awareness, mental well-being and health perception (r>0.500, p<0.01) as a result of correlation analysis. Multiple regression analysis revealed that health perception and healthy life awareness predicted mental well-being (p<0.01). The most important result of the study was that mental well-being increased as health perception and healthy life awareness increased. The other important result of the study is that the level of health perception, healthy life awareness and mental well-being decreases as age increases. In addition to healthy life awareness and mental well-being, those with chronic diseases had lower levels of health perception.

Contribution/Originality: Türkiye is one of the richest countries in the world in terms of geothermal resources. There is no study in the literature that investigates the level of wellness awareness, health perception and mental well-being of individuals receiving services in thermal facilities.

1. INTRODUCTION

According to the definition of mental well-being made by the WHO (2004), individuals should be aware of their capacities to cope with the stress in their lives, their capacities to be productive and valuable in business life and their abilities to contribute to society in line with their abilities (WHO, 2004). This definition emphasises that the absence of psychological diseases is insufficient and a functional state is essential. Scientists working in the field of positive psychology have developed concepts such as "psychological well-being" or "mental well-being" in line with these views of the World Health Organization (WHO) (Keldal, 2015).

Studies have shown that people with high levels of mental well-being have better psychological and physical health and a higher quality of life (Demir et al., 2021; Long et al., 2021; Topaloğlu, 2020). Research has shown that these people have higher levels of creativity and immunity, can establish stronger relationships with others are more productive at work and live longer lives (Salehi, Seyyed, & Farhangdoust, 2020). These findings reveal that mental well-being is influential on individuals, the environment and society. Studies also reveal that the level of mental well-being is affected by many variables. Some of these variables are fear, anxiety, health perception and a healthy lifestyle (Firouzbakht, Hajian-Tilaki, & Moslemi, 2020; Özer & Yılmaz, 2020; Paredes, Apaolaza, Fernandez-Robin, Hartmann, & Yañez-Martinez, 2021).

A healthy lifestyle is defined as managing all health-related behaviours of a person and regulating daily activities with behaviours that are appropriate to their health status. Many studies have examined the impact of healthy lifestyle behaviours on the development of diseases, deaths from various causes and health outcomes such as chronic diseases. Studies have shown that people who adopt healthy lifestyle behaviours show a significant reduction in the morbidity and mortality risks of chronic diseases compared to those who do not adopt these behaviours. People can preserve and improve their present state of health when they incorporate healthy lifestyle practices into their daily lives. Therefore, developing and maintaining healthy lifestyle behaviours is essential to maintaining good health and preventing diseases (Köse Tosunöz, 2021; Loef & Walach, 2012; Rasmussen et al., 2020; Yorulmaz & Erdem, 2021).

Health promotion is based on lifestyle behaviours such as attention to dietary habits, the ability to express oneself in social situations, taking responsibility for personal health, regular exercise, interpersonal support and effective stress management (WHO, 2004). The process of health promotion includes individuals' access to education, economic status, organisational and environmental supports so that they can control and improve their health (Demir et al., 2021; Topaloğlu, 2020). Risk reduction and health promotion not only minimise the risks of death and disability but also create an environment that contributes to the strengthening of social values through government and community involvement (Long et al., 2021; Salehi et al., 2020). In recent years, people have found different solutions to improve and maintain health and reduce risks. Spa, wellness and thermal tourism are sub-branches of health tourism as a result of the development of health tourism.

The worldwide thermal tourism sector has emerged in response to the increasing need for experiences that provide people with relaxation and regeneration especially after the pandemic (Bočkus, Vento, Tammi, Komppula, & Kolesnikova, 2023). Thermal tourism is a type of health tourism that allows people to relax, protect and improve their health while receiving therapy and rehabilitation services. One of the largest global markets for thermal and mineral water is found in Asia particularly with the region's rich thermal resources and extensive tradition of bathing. These countries recognise the value of these resources for health tourism and economic development. Many destinations offer their own spa attractions to international tourists including countries such as Japan, Taiwan, New Zealand, Australia, Vietnam and Laos (GWI, 2017). Similarly, in Europe, thermal and mineral spas have long formed an important part of health and healing rituals and are closely associated with bathing culture and traditions that are deeply rooted across the continent. The range and scope of water-based natural therapies are comprehensive and include balneotherapy, thalassotherapy, mud, salt and algae treatments (GWI, 2017). In Europe, a sizable sector of state-funded sanatorium-style health centres is being renovated, privatized and diversified.

Investments in thermal resorts and spas across Europe include the expansion of some well-established venues. For instance, investments in the famous Blue Lagoon in Iceland include underground hot springs, Retreat Lagoon, hotels and restaurants. Investments also include offering Europeans multicultural bathing experiences, such as Japanese Onsen or Turkish baths. In addition, many resorts are being renovated to attract more visitors with a wide range of services such as restaurants serving healthy food, beauty treatments, fitness studios and mind-body exercises (Bočkus et al., 2023; Kültür ve Turizm Bakanlığı, 2009; Shokri Garjan, Paydar, & Divsalar, 2023).

Türkiye is recognised as the fourth most popular thermal tourism destination in Europe located at the midpoint of Europe and Asia. The country has three main fault lines: Northern Anatolia, Eastern Anatolia and Western Anatolia. These fault lines contribute to Türkiye's being a country rich in hot springs, thermal springs and mineral waters. Turkey which has more than 1400 thermal springs values this industry highly to improve thermal tourism revenue and make better use of its natural resources. In this sense, investments in thermal tourism are strengthened through various incentive and support programmes of the Ministry of Culture and Tourism (GWI, 2017; Kültür ve Turizm Bakanlığı, 2009). According to GWI (2017) it is estimated that Türkiye generates approximately USD 667.3 million in thermal tourism revenues through 295 establishments. Worldwide, thermal tourism revenues are estimated to be USD 56.2 billion. It is emphasised that China and Japan have the largest share of this market with 54%. Japan hosts two-thirds of the thermal facilities in the world with 20,972 Onsen (Japanese hot springs or spas).

Health and wellness are closely linked to overall satisfaction and quality of life which increases the demand for specialised wellness services in most thermal regions (Liu, Li, Kralj, Moyle, & He, 2022; Shokri Garjan et al., 2023). Wellness holidays can offer satisfying experiences that enhance personal well-being by reducing stress and contributing to balancing body, mind and spirit (Backman, Huang, Chen, Lee, & Cheng, 2023). Therefore, individuals will seek more holistic approaches to protecting, improving and rehabilitating their physical, mental and spiritual health (Tiwari & Hashmi, 2022). Therefore, wellness tourism destinations, especially thermal tourism destinations need to offer differentiated services (Chen, Huang, & Ye, 2023). For these reasons, this study aims to reveal the levels and determinants of wellness awareness, health perception and mental well-being of individuals receiving services in thermal tourism in Türkiye. For this purpose, the research model is shown in Figure 1.
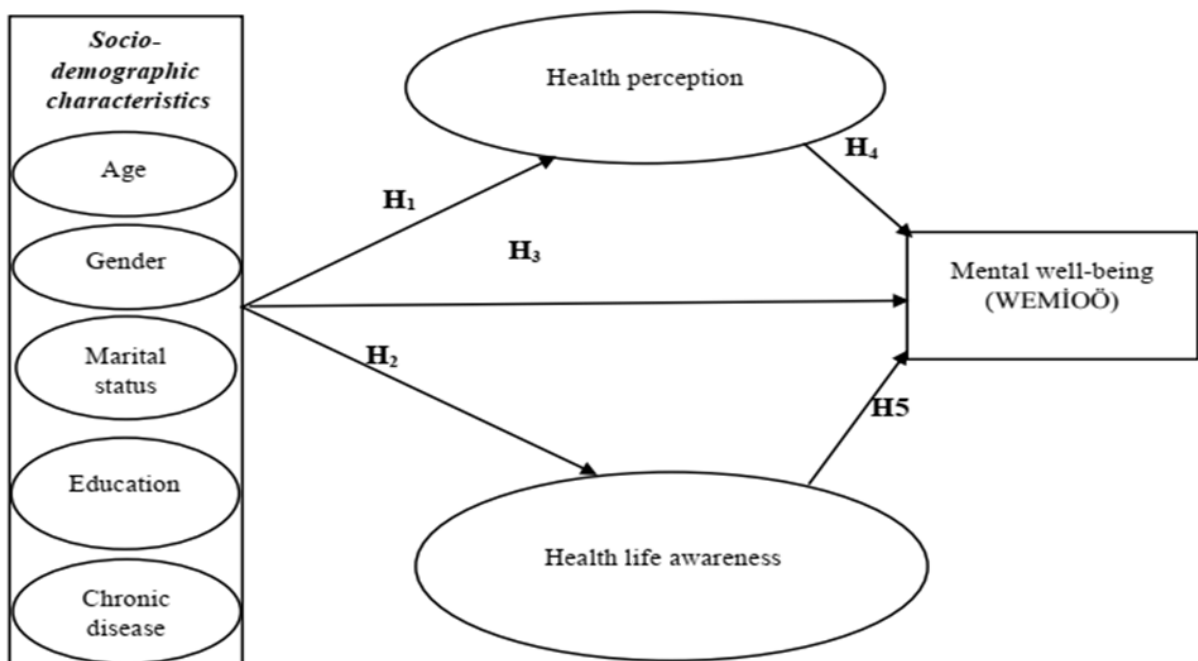

Figure 1. Research model.

According to the model previously discussed, the following hypotheses have been proposed:

H₁: *There is a statistically significant difference between socio-demographic characteristics and health perception.*

H₂: *There is a statistically significant difference between socio-demographic characteristics and healthy life awareness.*

H₃: *There is a statistically significant difference between socio-demographic characteristics and healthy mental well-being.*

H₄: *Mental well-being is affected by health perception.*

H₅: *Mental well-being is influenced by healthy living awareness.*

2. METHODS

2.1. Population and Sample of the Study

The cross-sectional study population consisted of individuals receiving services in thermal spas in Kütahya and Samsun provinces. The study included individuals who volunteered to participate in the research, stayed in thermal facilities in these provinces for at least three days and benefited from the facility's thermal resources. The data were collected by face-to-face and drop-and-collect methods between 01.12.2023 and 15.01.2024.

2.2. Data Collection Tools

A total of 388 fully completed questionnaires were analysed in this study. The data for the study were collected in a methodical manner using a series of assessment tools such as the "personal information form ", "healthy living awareness scale ", "mental well-being scale" and "health perception scale ". These instruments played a crucial role in obtaining detailed information on the personal characteristics of the participants in the study. This methodological approach enabled a comprehensive assessment of individual characteristics relevant to the research objectives.

Personal introduction form: It consists of nine statements that will reveal the socio-demographic characteristics and health status of the patients.

Healthy life awareness scale: It was developed by Özer and Yılmaz (2020). The scale consists of 15 statements and 4 sub-dimensions. "1-5 expressions refer to the sub-dimensions of "change ", "6-9 expressions refer to "socialization ", "10- 12 expressions refer to "responsibility ", "13-15 expressions refer to "nutrition". The scale is scored as a 5 Likert type "from 1 (strongly disagree) to 5 (strongly agree)". The lowest score to be obtained from the scale is 15 and the highest score is 75. A high score on the scale is considered a high level of healthy life awareness (Özer & Yılmaz, 2020). In this study, the Cronbach alpha value of the scale was 0.87.

Warwick-Edinburgh Mental Well-being Scale (WEMWBS)*:* The Warwick-Edinburgh Mental Well-being Scale (WEMWBS) was developed by Tennant and colleagues in 2007 to assess the mental well-being levels of individuals in England. The Turkish validation and reliability of the scale were established by Keldal (2015). Comprising 14 items, the WEMWBS evaluates positive mental health by encompassing aspects of psychological well-being and subjective well-being. It uses a 5-point Likert scale with total scores ranging from 14 to 70. All the items on the scale are phrased positively (Keldal, 2015; Tennant et al., 2007). In this study, the Cronbach alpha value of the scale was 0.89.

Health Perception: Perceptions of health were assessed with the question, "Overall, would you say your health is excellent, very good, good, fair, or poor?" This item was reverse-coded for evaluation on a 5-point Likert-type scale where 5 represents 'poor' and 1 represents 'excellent'. This method of measurement is extensively used in health research (Han, Kim, & Kim, 2021; Kim, Kim, MaloneBeach, & Han, 2016; Lee et al., 2019).

2.3. Statistical Analysis

In the statistical analysis phase of the study, the collected questionnaire forms were meticulously transferred to SPSS (Statistical Package for the Social Sciences) version 26.00 for data processing and evaluation. Various statistical techniques such as percentage, frequency, paired t-test, correlation and multiple regression analysis were adopted to analyse the data.

3. RESULTS

38.4% of the participants were between the ages of 60 and 69, 57.5% were female, 40.5% were primary school graduates and 87.9% were married. 71.9% of the participants have a chronic disease and 71.6% have musculoskeletal diseases. In addition, 80.9% of the participants preferred the thermal facility for health (see Table 1).

Table 1. Socio-demographic characteristics of participants.

Variables	N (388)	%
Age		
30-39	25	6.4
40-49	58	14.9
50-59	98	25.3
60-69	149	38.4
70 +	58	14.9
Gender		
Female	223	57.5
Male	165	42.5
Education		
Primary education	157	40.5
High school	148	38.1
University	81	20.9
Postgraduate	2	0.5
Marital status		
Married	341	87.9
Single	47	12.1
Smoke		
Yes	78	20.1
No	310	79.9
Alcohol		
Yes	45	11.6
No	343	88.4
Chronic disease		
Yes	279	71.9
No	109	28.1
What is your chronic disease?		
Diabetes and hypertension	24	7.9
Diabetes, hypertension and musculoskeletal diseases	26	8.4
Hypertension	17	5.6
Musculoskeletal diseases	233	71.6
Other	20	6.5
Total	312	100.0
Why did you prefer the thermal facility?		
Holiday (Recreation-entertainment)	59	15.2
Health	314	80.9
Leisure time activity	15	3.9

A statistically significant difference was found between age, marital status, chronic disease and health perception, healthy life awareness and mental well-being ($p < 0.05$) in the comparison of the socio-demographic characteristics of the participants and the scales. The age variable determined that the mean scores of health perception, healthy life awareness and mental well-being of people aged 30-39 years were higher than the other groups. It was determined that the mean scores of health perception, healthy life awareness and mental well-being of single people and people without chronic diseases were higher than those of the other groups (see Table 2).

Table 2. Comparison of socio-demographic characteristics and scales.

Variables	Health perception		Healthy lifestyle awareness		Mental well-being	
	$\bar{X}$	SS	$\bar{X}$	SS	$\bar{X}$	SS
Age						
30-39	2.95	0.86	58.60	11.44	53.12	8.58
40-49	2.93	0.87	57.63	7.38	52.98	8.60
50-59	2.91	0.89	57.56	7.37	51.96	8.67
60-69	2.76	0.87	57.06	6.54	51.33	8.02
70 +	2.68	0.78	56.99	6.27	49.36	8.37

Variables	Health perception		Healthy lifestyle awareness		Mental well-being	
	X̄	SS	X̄	SS	X̄	SS
p	0.003**		0.000**		0.000**	
Gender						
Female	2.87	0.838	58.3318	7.59	51.39	8.28
Male	2.86	0.903	57.5394	6.78	51.37	8.54
p	0.956		0.289		0.985	
Education						
Primary education	2.92	0.84	58.45	6.93	51.29	8.16
High school	2.76	0.88	58.05	6.65	51.28	8.56
University	2.93	0.86	56.83	8.76	51.58	8.51
Postgraduate	3.00	1.41	65.00	7.07	57.50	12.02
p	0.362		0.205		0.766	
Marital status						
Married	2.82	0.88	57.94	7.47	51.45	8.35
Single	3.15	0.72	58.36	5.60	51.85	8.64
p	0.016*		0.006*		0.036*	
Chronic disease						
Yes	2.83	0.88	57.37	6.69	51.36	8.56
No	2.95	0.83	58.05	8.53	52.42	7.93
p	0.000*		0.000*		0.000*	
* t testi	**Anova					

Note: * t testi, ** One-way anova test.

Table 3 shows the health perceptions of the participants before and after the thermal programme. The mean health perception of the participants before thermal is **X̄=2**. 86 and the mean health perceptions after thermal is **X̄=3**. 24. A statistically significant difference was determined between the health perception of the research group before and after the thermal. It is seen that the health perception of the participants increased after thermal compared to before thermal (p<0.05) (see Table 3).

According to the scale means, healthy life awareness X̄=57.99, mental well-being X̄=51.37, health perception before thermal X̄=2.86 and health perception after thermal X̄=3.14 were determined (see Tables 3 and 4).

Table 3. Participants' perceptions of health before and after thermal.

"1" bad -"5 "excellent "	X̄	SS	t	p
How do you assess your health?				
Before thermal	2.86	0.86	28.99	0.000*
After thermal	3.14	0.79		

Note: *p<0.01.

When the results of the correlation analysis were analysed, a statistically significant positive and strong relationship was found between healthy living awareness, mental well-being and health perception (r>0.500, p<0.01) (see Table 4).

Table 4. Scale averages and correlation analysis.

Scales and sub-dimensions	Items	Min-max.	X̄	SS	1	1.1.	1.2.	1.3.	1.4.	2	3
1. Healthy lifestyle awareness	15	15-75	57.99	7.26	1	0.770*	0.766*	0.793*	0.780*	0.689*	0.649*
1.1. Change	5	5-25	20.23	2.61		1	0.380*	0.680*	0.307*	0.696*	0.613*
1.2. Socialization	4	4-20	15.01	2.64			1	0.494*	0.41*	0.552*	0.537*
1.3. Responsibility	3	3-15	12.04	1.71				1	0.364*	0.561*	0.517*
1.4. Nutrition	3	3-15	10.71	2.63					1	0.437*	0.504*
2. Mental well-being (WEMWBS)	14	14-70	51.37	8.37						1	0.544*
3. Health perception	1	1-5									1

Note: *the correlation is significant at the 0.01 level.

The multiple regression model to determine mental well-being and its determinants was statistically significant (F $(2,385)$ =24.182, p<0.01). According to the results of the analysis, the independent variables (healthy living awareness and health perception) explain 26.4% of the change in the dependent variable (mental well-being). According to these results, mental well-being is affected by healthy life awareness and health perception (see Table 5).

Table 5. Mental well-being and its determinants and multiple regression analysis.

Variables	B	SH	β	t	p	Tolerance	VIF
Constant	16.854	4.885		4.885	0.000		
Healthy lifestyle awareness	0.942	0.151	0.470	5.583	0.000	0.73	1.40
Health perception	1.653	0.435	0.171	3.801	0.000	0.76	1.35
Adjusted R²=0.264	F=24.182				p<0.05		

Note: Dependent variable: Mental well-being (WEMWBS).

4. DISCUSSION

Thermal spas are especially common with people who have musculoskeletal issues. In recent years, rheumatology, physical medicine and rehabilitation specialists have been directing patients to these places to receive certain cure treatments especially in the health system. Moreover, an increasing number of patients are being referred to thermal spas due to the growth of medical ecology and hydroclimatology specialists. Medical ecology and hydroclimatology science treat patients with thermos mineral waters, gases, peloids and other elements besides drug treatment. Increased interest in thermal areas has resulted from the creation of a physiotherapy center in the hot spring region, particularly in the Havza district and the presence of a physician from this branch in the province of Samsun where the study was conducted. In addition, patients and individuals who want to benefit from the benefits of thermal waters and other elements prefer thermal regions to protect and improve their health. In addition, travelling to thermal regions will increase with the ageing of the population. Analysis of the study's findings reveals that 80.9% of people prefer thermal waters for health , 38.4% are in the 60–69 age range and 71.9% have chronic diseases. In the study conducted by Aytuğar and Çılğınoğlu (2021) on thermal enterprises in Bolu, it was determined that 24.2% of the participants were 55 years of age and over and 39.4% of them preferred thermal enterprises for treatment purposes (Aytuğar & Çılğınoğlu, 2021). Sevgel and Misirlioğlu (2023) determined in their study conducted in Sivas province that 50% of the participants were between the ages of 60 and 69 and 68.4% of them had a chronic disease (Sevgel & Misirlioğlu, 2023). In the study conducted by Dülgaroğlu (2021) with the interview method on tourists who prefer thermal facilities, it was determined that 21.2% of the participants preferred thermal facilities for health protection and treatment (Dülgaroğlu, 2021). As a result of the studies conducted in recent years, thermal facilities are generally preferred by individuals over the age of 50 with chronic diseases for treatment and health protection. From these results, it can be stated that individuals' awareness level about the benefits of thermal waters is low. For this reason, it is necessary to raise public awareness about thermo mineral waters, peloids, gases and other thermal tourism branches. Türkiye, which is especially rich in geothermal resources needs to promote these regions by making new investments for tourists with SPA, wellness and thermal tourism potential.

The study's findings revealed a statistically significant difference between the perceptions of one's health, awareness of healthy living and mental well-being and factors including age, marital status and chronic diseases. According to Lee et al. (2019) a statistically significant difference was found between age and health perception (Lee et al., 2019). Yaman and Atalay (2020) found no significant difference between chronic disease status, gender and health perception (Yaman & Atalay, 2020). In the study conducted by Duman, Göksu, Köroğlu, and Talay (2020) and Gönener, Öztürk, and Yilmaz (2017) no statistically significant difference was found between socio-demographic characteristics and mental well-being (Duman et al., 2020; Gönener et al., 2017). Gökbulut and Bal (2021) found a statistically significant difference between chronic disease and income perception and mental well-

being, age, gender, marital status and awareness of chronic disease and healthy life (Gökbulut & Bal, 2021). In the study conducted by Koskinen and Wilska (2019) on visitors to thermal facilities in Finland, it was determined that age, gender and education level variables predicted the healthy lifestyle of the participants (Koskinen & Wilska, 2019). The different results in the studies can be interpreted due to the different socio-demographic characteristics of the sample group included in the study.

Another result of the study is that the participants' health perception mean scores increased after thermal tourism. Thermal tourism services are tourism services associated with improving the healthy behaviours of the individual, being physically, mentally and spiritually healthy, relaxing and rewarding oneself (Kay Smith & Diekmann, 2017; Smith & Puczkó, 2014). According to research presented in the literature, providing spa, wellness, and thermal services all simultaneously improves people's perceptions of their health and promotes mental relaxation (Kay Smith & Diekmann, 2017; Koskinen, 2019; Koskinen & Wilska, 2019; Smith & Puczkó, 2014). Studies conducted with thermal visitors in Finland and Estonia determined that there were positive changes in the health perceptions and healthy life behaviours of individuals after thermal tourism (Koskinen, 2019; Koskinen & Wilska, 2019). In addition, adults who made thermal visits to Finland stated that they made their visits routine and that this situation made them feel much happier (Koskinen & Wilska, 2019).

The other result of the study was that the mean value of the participants' healthy life awareness was 59.77±7.26 and the mean value of mental well-being was 51.37±8.37. According to this result, it can be said that the mean values of the participants (Healthy Living Awareness Scale (HLAS), 15-75, WEMWBS, 14-70) are at a good level. In addition, a statistically significant and strong relationship was found between mental well-being and healthy life awareness. In the study conducted by Gökbulut and Bal (2021) the mean score of the mental well-being scale was 51.24±8.73, and the mean score of the healthy life awareness scale was 60.80±8.89.38. In the study conducted by Kaplan Uyan, Çaynak, and Keser (2023), the mean score of the healthy life awareness scale was 50.70±9.91 (Kaplan Uyan et al., 2023). According to Kaplan Uyan et al. (2023) the mean score of the mental well-being scale was 68.49±6.46 (Karaçam, Orhan, Özdemir, Sabuncu, & Mereută, 2023). Studies conducted in the literature have shown a statistically beneficial relationship between mental well-being and healthy living awareness which is similar to our research's findings (Gökbulut & Bal, 2021; Kaplan Uyan et al., 2023).

As a result of the study, it was determined that mental well-being is affected by health perception and healthy life awareness. Moreover, health perception and healthy life awareness positively affect mental well-being. A comprehensive literature review found no study examining the effect of healthy life awareness on mental well-being. The study conducted by Gökbulut and Bal (2021) examined the relationship between healthy life awareness and mental well-being (Gökbulut & Bal, 2021). The findings of this study are consistent with the findings of many other studies on health perception and mental health in the literature (Gül & Yeşiltaş, 2022; Leite, Ramires, Moura, Souto, & Maroco, 2019; Lin, 2014; Teh, Archer, Chang, & Chen, 2015). These findings indicate that people who have high levels of mental well-being will also have high levels of health perception and healthy living awareness.

5. CONCLUSION

The study's findings showed that awareness of a healthy life and health perception had a positive impact on mental well-being. Health perception, healthy life awareness and mental well-being were perceived differently according to age, chronic disease, and marital status variables. In addition, it was determined that health perception increased after thermal service compared to before thermal service.

6. PRACTICAL IMPLICATIONS

People are looking for innovative ways to enhance their physical, mental, and social health as well as their age primarily in the post-pandemic era when health and well-being are more important. This shift highlights the health promotion potential of tourism, especially health-centred tourism such as thermal mineral waters. It is crucial to

develop investment and marketing strategies that make this tourism more accessible and emphasise its health benefits. Türkiye, rich in geothermal resources is particularly well placed to lead in this area. Türkiye can adapt to global health trends, revitalise the tourism sector, stimulate economic growth and improve the well-being of both tourists and residents by accelerating geothermal tourism investments.

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