Humanities & Social Sciences Communications

ARTICLE

https://doi.org/10.1057/s41599-023-01943-0 OPEN

Sustainable rural development in Northwest Iran: proposing a wellness-based tourism pattern using a structural equation modeling approach

Hossein Esfandyari[1], Shahla Choobchian[1✉], Yadgar Momenpour[1] & Hossein Azadi[2]

Today, wellness tourism has become a thriving industry. In wellness tourism, the tourists travel to relieve the pressures of ordinary life and become refreshed with no medicinal intervention. In wellness tourism, tourists seldom have any specific physical illnesses; rather, they are interested in enjoying the healing properties of certain regions. In this non-experimental research, a structural equation model was used to analyze the data to explore various aspects of well-being and identify the variables that influence wellness tourism. The statistical population included 237,415 tourists who visited the tourist attractions of Sarab County in Iran. The sample size was determined 384 subjects. The results showed that destination location in terms of climate, positive image of the region, excellent food, as well as physical, traditional, and historical appeals of the region, were the factors that had the highest effect on determining the destination of wellness tourism. In general, this study contributed to the development of wellness tourism in the world including Iran. The practical steps were taken based on the strategies, and approaches presented to reduce stress which enhances well-being during the COVID-19 outbreak.

[1] Department of Agricultural Extension and Education, Tarbiat Modares University, Tehran, Iran. [2] Department of Economics and Rural Development, Gembloux Agro-Bio Tech, University of Liège, Gembloux, Belgium. ✉email: shchoobchian@modares.ac.ir

Introduction

Nowadays, rapid industrialization, technological advancements, and increasing urbanization have created various challenges, particularly in developing countries. Although some people may appear content and joyful, those who play minor roles and find contemporary life monotonous often suffer from boredom and sadness (Kaushal and Srivastava, 2021). When citizens enjoy good physical and mental health, they have dynamism in life. Yet, the contemporary era, which is rooted in proficiency, and technology, which is known as the era of tension, fretfulness, and neurological confusion, has adverse effects on individuals' well-being and has created new societal, and wellness concerns in societies (Zabihkhah and Afshar, 2015). World Health Organization (WHO) has set a target to expand public health worldwide; Based on WHO (2018), health is not just about the absence of disability or illness in people, but also about the state of social, mental, and physical well-being that some researchers try to improve. Some scholars try to develop tourism well-being with two sub-categories, which are typically outlined as (1) medicinal tourism and (2) health tourism, while others are promoting it with three sub-groups: (1) wellness, (2) therapeutic, and (3) medicinal tourism (Yan and He, 2020; Büyüközkan et al., 2020; Charak, 2019). However, "health tourism" is used in most countries by industry players for wellness tourism (WT) concepts. The absence of feeling good in WT alters the optimal mood for maintaining good health. WT encompasses a wide range of health indicators, including the physical, subjective, and communal well-being of individuals (Lim et al., 2015). It is important to note that wellness vacations typically take place in pristine locations with picturesque scenery, favorable weather, and nutritious cuisine that are conducive to healthy activities like walking and yoga (GWI, 2018). In WT, there is a feeling of harmony in physical, mental, emotional, and spiritual well-being. Wellness services, especially the features of a healthy lifestyle and hydrotherapy properties which include local landscapes, and cultures, enjoyment of nature, foods with high quality, exercise, and relaxation were considered in current years (Luo et al., 2018; Koncul, 2012; Cohen and Bodeker, 2008; Deng et al., 2020). The new tourism industry creates great chances for the development of rural districts where there is a high potential for tourism attraction (Hoang et al., 2020).

However, the shock caused by the COVID-19 pandemic created an unforeseeable crisis in the tourism industry. Referring to Organization for Economic Cooperation and Development (OECD), the pandemic led to a 60% failure in the global tourism industry in 2020. If the trend continues, this number could reach 80%. Meanwhile, 75% of the OECD tourism sector belongs to national tourism, which is projected to improve more rapidly. Due to its diverse tourist attractions in various provinces, Iran has been recommended as a potential destination for both domestic and international tourists (Esiyok et al., 2017). However, COVID-19 has disturbed more than 80% of the tourism industry in this country. In early June 2020, Iran reported the second uppermost level of COVID-19 transmission, with nearly 149,000 cases and the highest number of deaths in Asia (WHO, 2020, Abbaspour et al., 2021). This country experienced a sharp increase in the number of travelers, and tourists in 2019, which was predicted to keep up its growth even at a faster pace in 2020. However, with the outbreak of COVID-19, not only did the number of tourists not increase, but also dropped by 90% compared to the previous year. The tourism industry has endured heavy irreparable damage in all cities of Iran. East Azerbaijan province, with its pristine natural environment and medicinal properties such as medicinal plants in the foothills of Sabalan and mineral springs, has great potential to attract both domestic and foreign tourists. However, the COVID-19 pandemic has severely impacted the tourism industry in the region. In current times, wellness tourism (WT) places greater emphasis on the natural and scenic attractions of destinations. As overcrowding is discouraged to preserve the environment, this approach may offer a viable solution in the context of the COVID-19 pandemic. WT encompasses the connections made throughout the travels by people or groups driven by a desire to maintain or improve their health, and well-being. All societal members have suffered severe psychological harm as a result of the coronavirus (Dubey et al., 2020). The COVID-19 pandemic has not only caused global health concerns but has also led to a rise in several psychological disorders, such as anxiety, depression, and post-traumatic stress disorder (Shahyad and Mohammadi, 2020). Additionally, studies have suggested that individuals who contract the virus may experience a decline in cognitive function. Moreover, because of the contemporary situation of COVID-19, affected people are severely subjected to mental syndromes, such as anxiety, fear, hopelessness, and depression which can be overcome by developing WT (Yao et al., 2020). Furthermore, this pandemic has led to the bankruptcy of many economic enterprises (Prokopy et al., 2020; Uğur and Akbıyık, 2020). The pandemic has caused an economic failure for many famous businesses as clients got stuck at home, and markets were shut down (Corbet et al., 2021; Tucker, 2020; Kumar and Kumara, 2020; Tucker, 2020), with people, especially villagers, being severely affected (Prokopy et al., 2020), which can be tackled by attracting tourists to the pristine nature of rural areas (Huang and Xu, 2018). In light of this, regional WT will start to redistribute income and resources to less developed industries during the COVID-19 epidemic. The development of wellness-based tourism (WBT) has the potential to boost the economy and enhance the country's competitiveness as a well-being destination (Mangwane and Ntanjana, 2020). National and local tourism plays a crucial role in sustaining economic growth at the local level, creating employment opportunities, stimulating business growth, and promoting infrastructure development (Prentice and Hsiao, 2021). The COVID-19 pandemic affected the international economy, including Iran's economy and trade. Currently, the economic situation is confronted with damage and threats, and to find the best solution to deal with it, the current situation should be evaluated by drawing on past experiences (OECD, 2020). Major crises, such as the COVID-19 epidemic, create chances for systems to be revised to make them resilient to future shocks. The importance of rural areas in sustaining the economy and supporting public health has been highlighted during the COVID-19 pandemic. Rural economic institutions have provided essential goods and services to homes, hospitals, and healthcare facilities throughout the crisis. In some countries, rural areas are perceived as safe havens and urban residents use them as temporary retreats to escape the hustle and bustle of city life. Attending to the future, this epidemic could change patterns in consumption, and production activities, as well as promote habits of remote working and forms of mobility, which may open up new opportunities for sustainable development in rural areas. New opportunities will be created in some rural areas by revisiting the globalization of production chains (Agnoletti et al., 2020; Barbier and Burgess, 2020).

However, businesses and rural residents are facing several pressures, including epidemic pressures and related containment measures (Wilkinson, 2020). Rural areas face unique challenges in responding to the COVID-19 pandemic, including demographic features such as a larger share of the elderly population, as well as geographical characteristics that result in greater distances to healthcare facilities. Additionally, reduced staffing and available healthcare facilities further impede their capacity to respond effectively to the crisis. As a result of their growing dependence

on commercial activities like tourism, trade, and worldwide demand is predicted to fall even further, which will hurt the rural economy (Chiwona-Karltun et al., 2021). Furthermore, the general reduction in aggregate demand has had an impact on several critical sectors. WT is closely linked to the well-being and satisfaction of tourists, making it an excellent solution for creating job opportunities in tourism destinations and improving overall economic welfare. Thus, it can be very useful to identify the determinants of destination choice in WT, as well as enumerate capabilities and attractions. The present study focuses on improving the tourism market in rural areas, which will contribute to poverty alleviation and rural development. The flow of life in the villages, and small towns continues in its traditional way, and most of the natives of these areas preserved the customs of their ancestors. Such customs can be of great help to rural tourism. This is why World Tourism Organization has named this year "Tourism and Rural Development" which is working to help rural communities regain their forgotten traditions. Especially during the COVID-19 outbreak, the term "tourism and rural development" might serve as a reminder of the enormous ability of communities to attract visitors. The COVID-19 pandemic has caused significant damage to the global tourism industry. However, there are always ways to improve the situation, and rural areas may serve as a viable solution. Compared to large cities, rural areas are less crowded and are less likely to transmit the virus, making them an attractive option to recover from the pandemic's impact (OECD, 2020). Based on previous studies in this field (Table 1), no study was done on the WBT model in rural areas. Therefore, no research has ever addressed the dimensions, and factors concerning the selection of WT purposes simultaneously. Therefore, this study aimed to identify several dimensions and use the structural equation model to look into the variables impacting WT in Northwest Iran. It is possible to develop rural areas and ease tensions brought on by current circumstances by precisely identifying and prioritizing the factors affecting the choice of tourist locations.

A brief review of the literature

Kangas (2010) contends that expressions for remedial tourism vary from therapeutic tourists to healing ones. Lunt and Carrera (2011) stated that health tourism is associated with the overview of an individual journey to another country for remedial practices with a concentration on medical and hospital preparation. Gan and Frederick (2011) define medical tourism companies as organizations that specialize in identifying the best overseas clinics and hospitals for medical treatment, as well as arranging transportation and lodging during recovery. Furthermore, Hall (2011) stated the presence of convinced relationships among different fields of health, wellness, and medical tourism, comprising welfare tourism, and transplant tourism. Various scholars showed that the idea of health tourists concerns those people attempting to prevent and postpone medication. Therefore, Wu and Baleanu (2014) stated that wellness tourists are mostly people who choose to escape from the city to calm down, enrich body health, and participate in social behaviors. Perkumienė and Pranskūnienė (2019) define well-being tourism (WT) as a rapidly growing industry that encompasses a diverse range of travel experiences, from leisurely trips to destinations focused on physical and mental health care services. Lee et al. (2019) differentiate between remedial travel, which involves traveling to various countries for prevention or vaccination, and medical travel, which is focused on health checkups, surgeries, and medical treatment. Based on Khan et al. (2020), global medical travel is defined as the residents of their home country traveling to overseas destination clinics with the individual intent of earning the required medical treatment. Several other academics contended that India, Malaysia, Thailand, and many other countries advertise

Table 1 A brief review of the theoretical framework.

Researcher	Research variables	Method	Limitations
Ozturk et al. (2023)	The environmental and economic situation of any economy; Tourist arrivals and CO_2 emission	Quantile-on-quantile regression and Granger causality in quantiles	Not using the Bayesian network
Zhao et al. (2022)	Economic policy uncertainty (EPU) and Pandemic uncertainty (PU)	The wavelet decomposition method	Mostly related to the unprecedented character of the present crisis
Norouzi et al. (2022)	Nature-based tourism	Bayesian network	The Bayesian network led to the calculation of the least necessary contribution of key factors to achieve the certain index
Ghasemi et al. (2021)	Improved access and medical care, E-learning, and remote monitoring.	In-depth literature and earlier research reviews	The emphasis of the study is on social interaction, and individual factors are not studied.
Mangwane and Ntanjana (2020)	Meditation, beauty treatments, lifestyle therapies, and sports and fitness.	Secondary literature review	The research is a literature review, and research variables are not measured and refined.
Hunt and Harbor (2019)	Adventure, wellness, and ecotourism; Knowledge, Attitude, and Behavior of Visitors.	Exploratory case study	The research pays attention to the psychological aspects.
Dillette et al. (2018)	Positive feelings, communication, connections, importance, achievement, well-being, pleasure, negative emotions, and the length of accommodation.	Using structural modeling to confirm the relationship among PERMA, health, negative emotion, and quality of life	The physical dimension is ignored.
Romão et al. (2018)	Pleasure, profound experiences, and public participation.	Presenting an explanatory model	Individual and physical dimensions are not considered.
Global Wellness Institute, (2018)	Wellness comprises religious, emotive, psychological, spiritual, communal, and ecological components.	Descriptive statistics and schematic model	Components influencing the choice of health destinations are not considered.
Luo et al. (2018)	Magnificence destination, new equipment, personal development, and avoidance of negative feelings	Using structural equation modeling for destination selection	The physical aspect is ignored.

themselves as main destinations for health tourism (Turner et al., 2020).

Recent years have seen the emergence of Iranian visitors and foreign patients as a subject of documentaries and field studies, with administrative and formal control still in its early stages. This study has played a crucial role in establishing the initial criteria for WT. The weights given to the criterion were checked in the next stage using quantitative techniques. The contributions of the paper include recognizing criteria linked to sustainability in the context of WBT, ranking tourism destinations, examining the potencies and the dimensions of WT destinations constructed on sustainable components, and applying the model to a practical case study. Hence, the present research was conducted to address the following queries:

1. What are the most important aspects of WBT after the pandemic?
2. What are the most prominent determinants influencing the dimensions of WT after the pandemic?

Theoretical and research background. According to Seongsoo and Jinwon (2022), well-being tourism (WT) accounts for USD 639 billion of the global market share, with its growth rate twice as fast as that of the tourism industry overall. Between 2015 and 2017, WT experienced an annual growth rate of 5.6%. In 2017, wellness tourists made 830 million trips, which is 139 million more than the number of trips made in 2015. The growth rate is related to the increasing desire of consumers to choose a wellness-based approach and increasing engagement in exploring and traveling to untouched nature (Global Wellness Institute, 2018).

With 600.4 thousand overall travels, 272.3 thousand domestic and international trips, and 328.1 thousand international trips in 2017, Iran was rated tenth among the WT markets in the Middle East and North Africa (Global Wellness Institute, 2018). Based on World Tourism Organization (WTO), the tourist population in Iran increased from 2013 to 2015 and decreased from 2015 to 2017 (Fig. 1). The upward trend in WT is significant when compared to global statistics (World Tourism Organization, 2019). While general tourism statistics show a significant decline between 2015 and 2017, WT is not exempt from this decrease, although accurate information on this trend is unfortunately not available.

WT has gained a specific status in the world (Cvikl, 2022). WT has significant potential in Iranian villages, particularly those located in Sarab County. Given this potential, WT can serve as a crucial tool for implementing macro-policies based on Iran's Twenty-Year Vision, which anticipates growth in tourism and cultural heritage (Garjan et al., 2023). Tourism research states that Iran intends to welcome 20 million international visitors over 20 years by 2025. This is despite even though million foreign travelers attended Iran in 2017 (World Tourism Organization, 2019), of whom only 272.3 thousand, i.e., 5.44%, were international wellness tourists (World Health Organization, 2018).

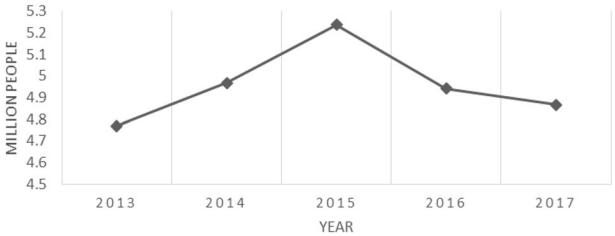

Fig. 1 The number of general tourists visiting Iran. The line graph depicts the number of general tourists visiting Iran from 2013 to 2017 in million people.

A conceptual/theoretical framework

WT was discussed in various studies, some of which are presented in Table 1. There are few research studies about WT destinations. Considering the significance of the issue, the analysis of WT can be useful in taking measures to identify and improve priority areas, strengthen capabilities in this industry, and ultimately, attract more wellness tourists.

The dimensions of health tourism have been identified as physical (healthy nutrition and physical fitness), social (social interaction and community engagement), and individual (mental, psychological, and emotional well-being) based on relevant studies, opinions, and models (Romeo et al., 2018; World Health Organization, 2018). Moreover, external factors were identified as marketing and price (NajafiNasab et al., 2018), place, quality, and facilities (Tharakan, 2014). Further, the satisfaction of visitors with the facilities experienced can be an efficient factor (Choi et al., 2015) to determine WT destination. Even though "Satisfaction" is one of the most important criteria, most models overlook it (Tahanisaz, 2020). But it was included in this research. As displayed in Fig. 2, three dimensions of wellness include (i) the physical dimension composed of physical activity, using fresh, healthy, and local food, and the feeling of refresher and relief of physical pain, (ii) social dimensions including building friendly

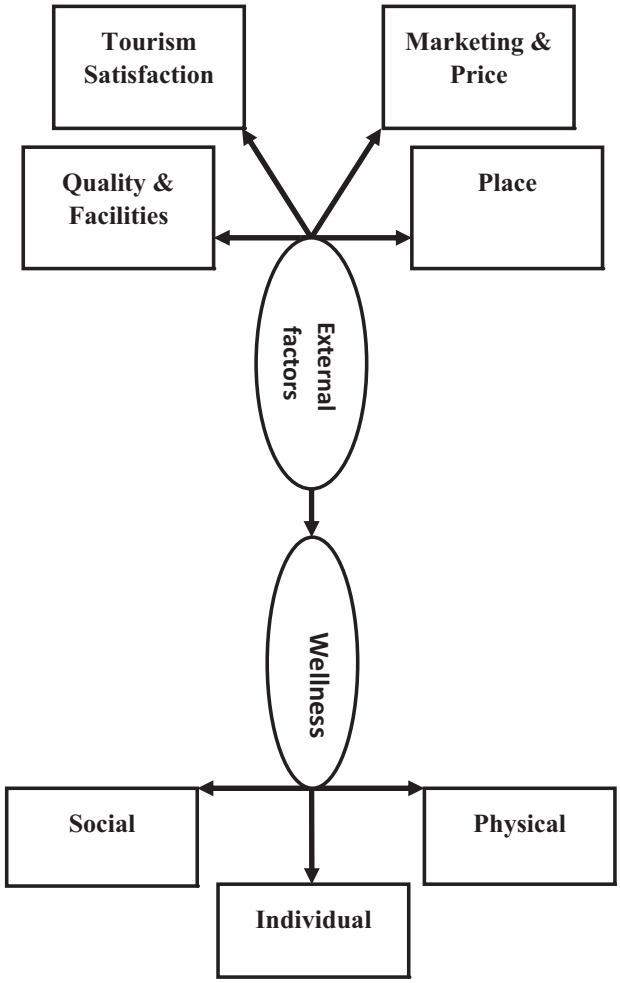

Fig. 2 The conceptual model of WT. The figure is extracted from previous literature and concepts. It shows factors affecting WT and wellness dimensions.

and positive relationships, filling leisure time with family and friends, as well as meeting local and new people, and (iii) the individual dimension composed of the feelings of inner peace, and stress relief, the improvement of individual skills and abilities, having new, attractive, and enjoyable experiences, avoiding everyday tasks, along with resting and relaxation. Furthermore, it indicates the external components that affect the destination selection consisting of (i) places (e.g., climatic and natural attractions, cultural heritage and historical attractions of the area, and an attractive image of the region and healthy local food), (ii) quality, and facilities (including access to facilities and infrastructures, quality of equipment and facilities, and the variety of recreational and wellness facilities), (iii) tourism satisfaction (satisfaction with the services including satisfaction of wellness tourists with the value of hotel at the paid price and satisfaction with the services, security, and cleanness of the environment), and (iv) marketing, and price (including the reasonable price of accommodation and services, the existence of marketing of tourism-related organizations, and the attendance of active representatives to attract wellness tourists in this area.

Methods

Research design. This study serves its intended goal since a variety of stakeholders, including managers of tourism sites, rural development, managers of health organizations, and visitors, may use the findings and recommendations. This study adheres to the positivist paradigm and is quantitative in nature, employing a survey and cross-sectional design to collect data. The data analysis method is both descriptive and causal-relational. Additionally, the study is considered a field study, as it examines all variables under natural conditions while surveying and controlling for relevant factors.

Study area. East Azerbaijan province can be considered one of the important tourism capacities in Iran because of the annual and desired climate conditions. Sarab City is the third largest city in East Azerbaijan province. With an area of 3452 km^2, it is one of 20 cities that occupy 7.59% of the entire area of the province. Sarab County is 134 km away from Tabriz, the capital of East Azerbaijan province. Due to its ideal geographic and climatic circumstances, proximity to the Sabalan and Bozqush Mountains, and appealing natural surroundings, the county has a strong potential to draw visitors (MPO, 2015). Despite the natural, historical, and cultural attractions, unique climate, healthy foods, and pristine nature of Sarab County, its rural areas are facing depopulation due to a lack of employment opportunities. Based on the data (Fig. 3), due to rising unemployment, and poor income in these areas, the rural population of Sarab County fell from 131,366 people in 1986 to 66,033 people in 2016 (Statistics Center of Iran, 2019). Sarab, in terms of its very pleasant and mountainous climate, as well as its ancient historical background, has many historical and natural attractions, such as the Urartian inscription (near the village of Qirkhoghizlar in the northeast of Sarab), Qirkhoghizlar inscriptions, Razliq inscription, Sarab Mosque (related to the ninth century AH), the ancient hill of Qala-e-Jooq (2.5 km north of Sarab along the road from Razliq to Sarab), the Sassanid chamber of Aghmion, the Mongolian tomb of Esfestan (6 km east of Sarab attributed to the Mongol period), "Gavdoshabad Oghan" Bridge, "Allah-hagh", and "Asb-frooshan" waterfall.

The establishment of a health area and water treatment facility in the "Asb-frooshan" area of Sarab County could serve as a promising opportunity for the expansion of WT in the East Azerbaijan province. The area's mineral spa, which is derived from the volcanic activity of Mount Sabalan and Mount Bozghush, boasts sulfur mineral waters. Feasibility studies have been conducted in the past to develop a location focused on hydrotherapy and health tourism. Asb-frooshan Sarab tourist model area has significant potential for the growth of outdoor recreation, sports, hydrotherapy, and mountain sports. Furthermore, there are plans to build low-cost accommodation centers, cable cars, and hydrotherapy (East Azerbaijan Cultural Heritage and Tourism Development Organization, 2021).

Besides, the unemployment rate has sharply risen in the rural areas of the studied city since 2006 (Fig. 4). Based on official statistics, unemployment has increased from 2006 to 2016 (2.69–6.90%, respectively), while this issue is considered insignificant.

East Azerbaijan province is home to 26 mineral and hot springs, with the most well-known being the six springs located in Sarab County (Asem Asl, 2008). The area is rich in natural resources and features meadows with a diverse range of plant species and medicinal herbs. Additionally, the region produces significant quantities of agricultural and animal products. Hot mineral springs and the spectacular views of Sabalan and Bozgoosh have made this region a potential destination for health tourists. Figures 5 and 6 show a map of East Azerbaijan province and its 21 counties. Sarab County is located in the east of the province.

Model specification. We emphasized the study's goals when defining theoretical models. The study's first objective was to examine the effect of the COVID-19 pandemic on tourism. The second goal was to identify the most important factor affecting the choice of WT selection.

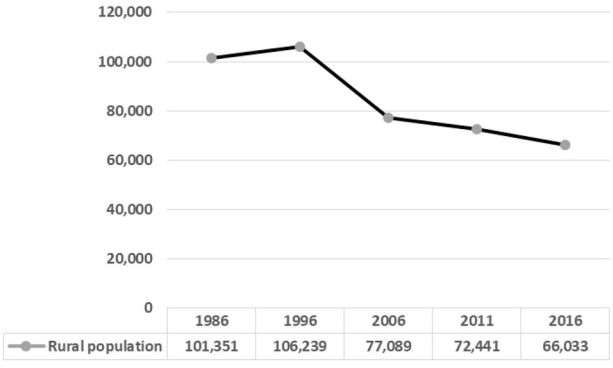

Fig. 3 The trend of population declines in rural districts of Sarab County from 1981 to 2016.

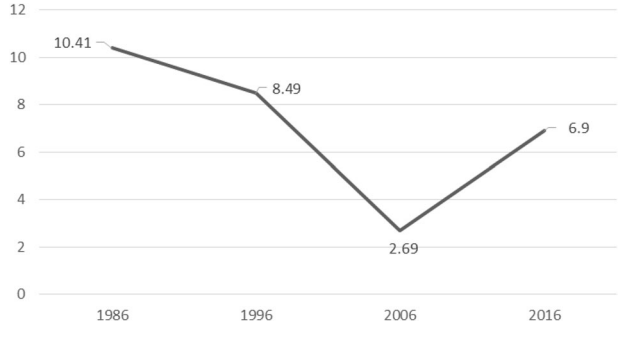

Fig. 4 The unemployment rate in the rural areas of Sarab County from 1986 to 2016, showed a sharp increase in unemployment rate from 2006 to 2016.

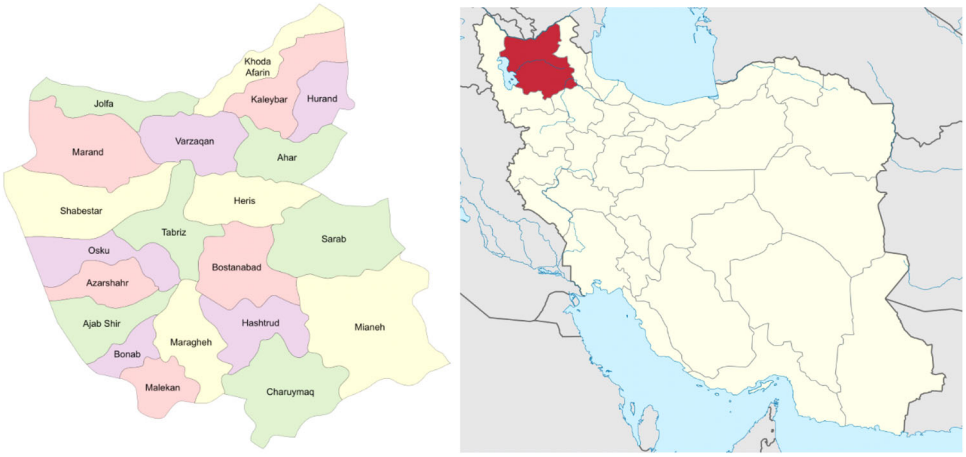

Fig. 5 Map of East Azerbaijan, Sarab County, indicating the location of Sarab County in Iran.

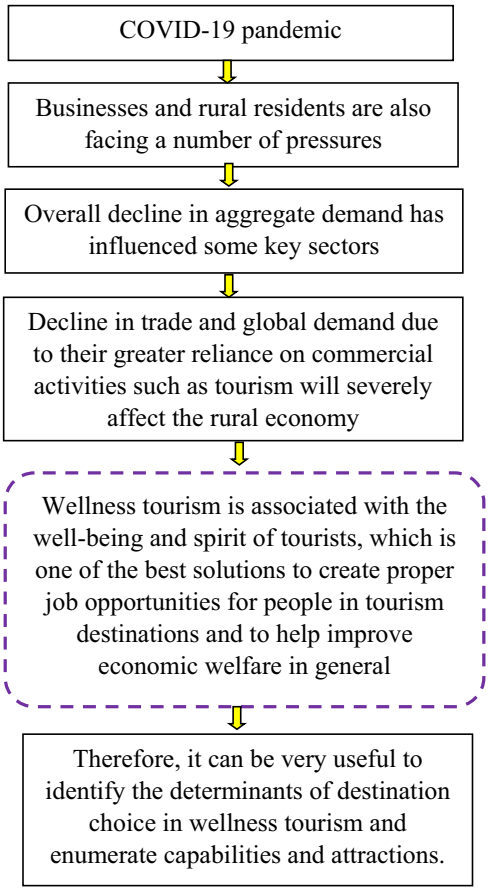

Fig. 6 Theoretical framework showing the procedure of current research.

Sampling and data collection. The current study is a descriptive survey in nature and data collection methodology. Since it was conducted at a specific time, it is a cross-sectional study. Furthermore, the concern about common method variance is a problem that may cause an unrealistic increase in the relationship between key variables in cross-sectional designs. The solutions offered by Podsakoff et al. (2012) and Lee and Podsakoff (2003) were used to address this issue. The study questionnaire was designed to be as simple as possible for respondents. Participants were informed that their responses and personal information would be kept confidential. They were also notified that there were no right or wrong answers to the questions posed in the survey. Thus, the present research attempted to reduce the possibility of social desirability which was controlled with some negative items (Podsakoff et al., 2012). Further, Harman's one single-factor analysis was used to evaluate the common method bias (CMB) problem (Khaola and Coldwell, 2019). Based on this test, the first factor only explains 16.92% of the total variance (<50%). Thus, based on Harman's test, common method error (CME) was not a threat to the results of this research (Harman, 1976). To strengthen this result, another method was used. The results of CFA in which all components were loaded into one single factor ($\chi^2 = 93.443$; NFI = 0.886; RMSEA = 0.117; PNFI = 0.633; CMIN/DF = 6.230) indicated an inadequate fit, implying that one factor could not interpret all of the variances of data (Bou-Llusar et al., 2009). Besides, AVE for a single factor was calculated to be 0.345. Since it was smaller than 0.5, it could not provide evidence for common method bias (Kock, 2021). Therefore, Gaski (2017) and Serrano Archimi et al. (2018) proposed using a common latent factor (CLF) to calculate the standardized regression weights of all components for models with and without a common latent factor. The differences in the standardized regression weights were <0.2, reflecting the fact that CMB was not significant in the present data.

Regarding the goal of this study was to further human knowledge, the research tool, a questionnaire (Table 2), was of the applied kind. 237,415 tourists who planned to visit Sarab County's "natural attractions" from 2018 to 2019 made up the statistical population of the study (East Azerbaijan Tourism Department, 2019). Based on Krejcie and Morgan's (1970) table, the sample size was determined 384 people. Data were collected via a questionnaire in five months from January 2021. A multi-stage random sampling method was utilized for data collection. The unit of analysis was the wellness tourists. The coordinator appoints a mapper and lister. They should work jointly and in group work. The mapper set the maps, and the lister collected information about the corresponding tourists' accommodations. The mapping team identified the number of accommodation units in the study area and marked them on a map, while the data collection team gathered information about the corresponding tourists based on the marked locations. The study began at a landmark in the center of Sarab city, such as a school, and continued in a clockwise direction to neighboring areas until 384 questionnaires were completed. To prevent redundant data collecting, this job was completed. Remind that the respondents agreed to take part in the study willingly. If the respondent was

Table 2 Scale items, reliability, and validity of the dependent variable.

Variable	Dimensions	Item description	References	Cronbach's alpha For each dimension	Cronbach's alpha	CR	AVE
Wellness-base tourism	Social	Building friendly and supportive relationships	Esfandiari and Choobchian (2020)	0.75	0.82	0.74	0.50
		Sensing more attached to your compatriot	NWI (n.d.)				
		Spending time with family/ friends	Esfandiari and Choobchian (2020)				
		Visiting local people	Li and Cai (2012)				
		Encountering new people	Li and Cai, 2012; Esfandiari and Choobchian (2020)				
	Physical	Physical activity	Esfandiari and Choobchian (2020), Huijbens (2011), NWI (n.d.)	0.71			
		Using fresh, healthy, and local food	Esfandiari and Choobchian (2020)				
		Feeling refreshed and relieved of physical pain	Esfandiari and Choobchian (2020), Huijbens (2011)				
		Feeling the relief of physical pain	Esfandiari and Choobchian (2020); Huijbens (2011)				
	Individual	Feelings of inner peace and stress relief	Esfandiari and Choobchian (2020), Korolev and Safarian (2018)	0.73			
		Refining individual abilities and capabilities	Esfandiari and Choobchian (2020)				
		Self-awareness or self-observation	Esfandiari and Choobchian (2020)				
		New experiences	Esfandiari and Choobchian (2020), Korolev and Safarian (2018)				
		Acquainting new ideas	Esfandiari and Choobchian (2020)				
		Acquiring new information	Esfandiari and Choobchian (2020)				
		Pleasant experiences	Bone (2013), Esfandiari and Choobchian (2020)				
		Avoiding routine tasks	Korolev and Safarian (2018)				
		Feeling free to behave the way I want	Bone (2013), Korolev and Safarian (2018)				
		Relaxation	Bone (2013), Esfandiari and Choobchian (2020)				

not eligible (for example, if their purpose of travel was not related to wellness), the sampling was continued by referring to the neighboring room positioned on the right side of the location until the required number of samples (384) was completed. The required data were collected via a structured questionnaire, and they were completed face-to-face. An informed consent form was filled out by all contributors. Participation in completing the questionnaire was completely voluntary.

Reliability and validity. The validity of the research instrument was checked by a panel of experts from the Iranian Health Tourism Association. To assess the reliability of the questionnaire, a pilot test was carried out and Cronbach's alpha coefficient was calculated using SPSS 23 software. Cronbach's alpha method is used to examine the degree of internal coherence, and the level of coordination between items on a scale, while composite reliability (CR) is an evaluation criterion of the interior fit of the model which can be estimated based on the degree of the concurrence of questions associated to the measurement of each component. The parameters required to calculate convergent validity and composite reliability (CR) are similar. The measure of convergent validity was developed by Fornell and Larcker in 1981. As all parts of the questionnaire had Cronbach's alpha values of 0.7 or higher, the results indicated that the questionnaire was highly reliable. Based on Tables 2 and 3, CR was greater than 0.6. Thus, an average variance extracted (AVE) of more than 0.5 was used to establish diagnostic validity (Cheraghi et al., 2019; Bagozzi et al., 1998). It is checked based on the external model by calculating AVE. AVE criterion shows the average variance distributed between each factor and its items. In simpler terms, AVE reveals the degree of correlation of a factor with its items so that the higher the correlation is, the greater the fit will be. Fornell and Larker believe that convergent validity (CV) is obtained when AVE is >0.5 (Kalantari, 2013; Fornell and Larcker, 1981).

"WBT" was measured by examining the individual, social, and physical aspects using 10, 5, and 4 items, respectively. Besides, to determine the independent variables, 12, 7, 9, and 9 items were considered for satisfaction, place, marketing price, and quality features (items and references are listed in Tables 2 and 3). The items were scored on a five-point Likert scale including 1 = very low, 2 = low, 3 = medium, 4 = high, and 5 = very high.

Data analysis. Structural equation model (SEM) was applied to validate the model using AMOS software. This software is characterized by its capability of

- managing data in different forms, and easily calling data in different formats either in raw form or in the form of variance–covariance or correlation matrices from other software,
- managing multi-group data in such a way that the models can be tested for different samples and the results can be easily compared with each other,

Table 3 Scale items, reliability, and validity of the independent variables.

Variables	Item description	References	Cronbach's alpha	CR	AVE
Satisfaction	Existence of the requirement	Esfandiari and Choobchian (2020)	0.82	0.82	0.525
	Parking space	Esfandiari and Choobchian (2020)			
	Access to clean restrooms	Li and Cai (2012)			
	Access to potable water	Esfandiari and Choobchian (2020); Prayag (2009)			
	Cleanliness of the environment	Esfandiari and Choobchian (2020), Li and Cai (2012)			
	City bus Access	Chi and Qu (2008), Esfandiari and Choobchian (2020)			
	Access to the taxi	Esfandiari and Choobchian (2020)			
	Value money	Soltani et al. (2015), Esfandiari and Choobchian (2020)			
	Security of the area	Esfandiari and Choobchian (2020)			
	Expectations fulfilled	Machida et al. (2009)			
	Sightseeing	Esfandiari and Choobchian (2020)			
	Services offered	Esfandiari and Choobchian (2020)			
Place	Access to the airport	Tikunov et al. (2017)	0.79	0.82	0.516
	Access to proper road and railway	Tikunov et al. (2017)			
	View of hot spring complex buildings	Taghizadeh Yazdi and Barazandeh (2016)			
	lack of traffic	Esfandiari and Choobchian (2020)			
	The proximity of the spa complexes to the hotel	Tikunov et al. (2017)			
	The beauty of the landscape	Chlachula (2019)			
	Cultural attractions	Chlachula (2019)			
Marketing and price	Having a website and publishing a brochure by the desired spa complexes	Esfandiari and Choobchian (2020)	0.75	0.81	0.503
	Cost-effectiveness of services provided (massage service, etc.)	Yin (2020), Esfandiari and Choobchian (2020)			
	Marketing of tourism-related organizations	Yin (2020), Esfandiari and Choobchian (2020)			
	Dynamic private sector contribution	Yin (2020), Esfandiari and Choobchian (2020)			
	The existence of famous sites to know about the tourism potential of the area	Esfandiari and Choobchian (2020), NajafiNasab et al. (2018)			
	The existence of active agents to attract health tourists	Esfandiari and Choobchian (2020), NajafiNasab et al. (2018)			
	Providing entertainment and health packages	Yin (2020), Esfandiari and Choobchian (2020)			
	Fair accommodation price	NajafiNasab et al. (2018)			
	Fair price for services	NajafiNasab et al. (2018)			
Quality-facilities	Standard quality of equipment provided in the hot springs	Tharakan (2014)	0.76	0.82	0.515
	Providing high-quality recreational and health services	Tharakan (2014)			
	Providing various types of health and wellness services (yoga, relaxation, etc.)	Esfandiari and Choobchian (2020)			
	Various health and entertainment facilities	Fennell and Bowyer (2020)			
	Service personnel's awareness of first aid	Esfandiari and Choobchian (2020)			
	Internet access	Tharakan (2014)			
	Appropriate transportation	Chen et al. (2013); Esfandiari and Choobchian (2020)			
	Suitable hiking pass	Esfandiari and Choobchian (2020)			
	Cleanliness and hygiene of the spa complex	Chen et al. (2013), Esfandiari and Choobchian (2020)			

- verifying univariate and multivariate normality,
- handling outlier data well,
- estimating the parameters with different methods, including maximum likelihood, generalized least squares, non-weighted least squares, and scale-independent least squares (McCormick and Salcedo, 2017).

SEM is regarded as an efficient multivariate analytic technique that is often used in social science. SEM can be used to test straightforward relationships between variables as well as for complex analyses. It provides a flexible framework for examining complex interactions between multiple variables, allowing for model validity testing. One of its most significant advantages is its ability to handle measurement errors (Perles-Ribes et al., 2020; Valaei et al., 2021). Furthermore, there are some statistical methods applied to calculate and test the relations of variables. "Similar but more accurate than regression analysis, correlation analysis studies linear causal relationships among variables while calculating measurement error" (Civelek, 2018). A structural model was used to measure the causal relations between internal and external variables, as well as to describe the degree of variance and causal effects. The research model examines the effect of each independent variable, including place, facilities, quality and quality, and marketing and price, on the dependent variables including wellness.

Results

In general, among 384 participants, 132 were female (34.4%) and 252 (65.6%) were male. Regarding marital status, 131 participants (34.1%) were single, and 253 (65.9%) were married. (Table 4). The employment situation revealed that 176 people (45.8%) worked full-time.

Table 5 shows that based on the results, the average tourists' age was almost 35–36 years, and most tourists were under 35 years old (54.68%). The results regarding the educational level showed that 127 people (33.07%) were studying in the timespan of $12 < X \geq 18$ years. The findings of the annual income showed that 243 respondents (63.28%) had an annual revenue of <$1500.

Table 4 Gender, marital status, and employment category.

Variables	Groups	Frequency	Percent	Mode
Gender	Male	252	65.6	Male
	Female	132	34.3	
Marital status	Married	253	65.9	Married
	Single	131	34.1	
Employment category	Full-time	176	45.8	Full-time job
	Part-time	50	13	
	Jobless	25	6.5	
	Housewife	51	13.3	
	Retired	13	3.4	
	Student	69	18	

Table 5 Age, years of schooling, and annual income.

Variables	Groups	Frequency	Max	Min	Mean
Age	$35 \geq X$	210	60	16	35.47
	$35 < X \geq 55$	133			
	$X > 55$	41			
Years of schooling	$8 \geq X$	70	22	2	12.74
	$8 < X \geq 12$	120			
	$12 < X \geq 18$	127			
	$X > 18$	67			
Annual income (US$)	$1500 \geq X$	243	7000	0	1733.33$
	$1500 < X \geq 3000$	85			
	$3000 < X \geq 4500$	29			
	$X > 4500$	27			

Table 6 The standing of the dimensions of the dependent variable.

Dimensions of wellness-based tourism	Mean-rank	Average	Sig
Physical dimension	2.98	4.14	0.000
Individual dimension	1.67	3.63	
Social dimension	1.32	3.57	

The status of the wellness dimensions. Table 6 and Fig. 7 present the average social, individual, and physical dimensions of WT were 3.57, 3.63, and 4.14, respectively. Friedman's test found significant variance ($P = 0.01$) in the dependent variable's various dimensions. "Feeling refreshed and relieved of physical fatigue" and "feeling of pain relief" received the highest scores out of all the other items in the physical dimension. In the individual dimension, "resting and relaxation" and "feeling of inner peace and relief from stress" had the highest scores. Thus, in the social dimension, the highest score was assigned to "building friendly and supportive relationships" and "spending time with family/friends".

As shown in Fig. 7, the physical dimension plays the most important role in wellness-oriented tourism, which is a notable result.

The ranking of external factors. The dimension of satisfaction had the highest mean score (3.13) among the various influential factors. Among the items related to satisfaction, the highest-ranking item was "environmental safety", followed by "environmental cleanliness", and lastly "satisfaction with access to city buses and taxis". The mean values for the remaining three external factors, including "place," "marketing and price," and "quality of facilities," were less than 3 (2.92, 2.53, and 2.41, respectively). The lowest scores were given to the provision of leisure and wellness packages, recreation and health facilities, and airport access. The results of the Friedman test showed a notable variation ($P < 0.01$) between the present condition of different factors that affect WT (Table 7 and Fig. 8).

As can be seen in Fig. 8, the factors of "satisfaction" and "place" were ranked first, followed by factors of "marketing, and price" and "quality and facilities". So, these factors should be prioritized in decision-making.

Correlation coefficients between variables. The results of the Pearson correlation test showed a positive and significant relationship between "wellness" and "marketing and price", "place",

Table 7 The ranking of factors influencing the wellness-based destination selection.

Factors	Rank	Mean-rank	Average	Significance
Satisfaction	1	3.51	3.13	0.001
Place	2	3.02	2.92	
Marketing and price	3	1.94	2.53	
Quality and facilities	4	1.57	2.41	

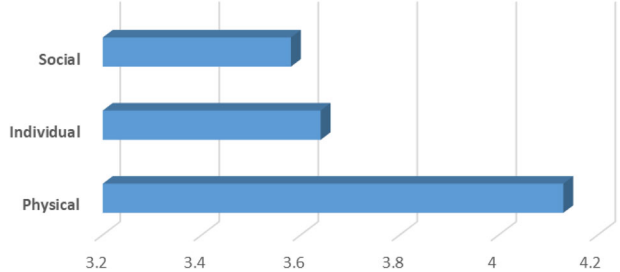

Fig. 7 The status of the WT dimensions status.

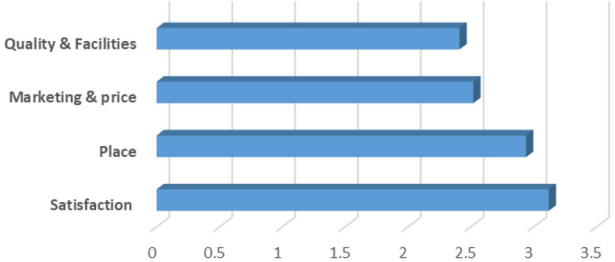

Fig. 8 The status of external factors affecting destination selection.

"quality and facilities", and "satisfaction". The results revealed a positive and significant correlation between the independent variables, and the dependent variable (wellness) (Table 8).

Table 9 presents the results of the correlation matrix, which shows good discriminant validity of constructs/factors as the values in brackets are larger than the correlations (Roldán and Sánchez Franco, 2012).

Structural equation model (SEM). The results of fit indices confirmed that the values of CFI, GFI, NFI, and TLI for the model were greater than the desirable level of 0.9 (Asadi et al., 2013). The root means square error of approximation (RMSEA) index indicated that the model had a good fit, with a score of <0.08. Regarding the amount of variance and fit indices obtained by the independent variables, wellness variance for the four external latent variables, including price, quality, satisfaction, and location, was 62% (see Table 10 and Fig. 9). Physical, individual, and societal elements are used to quantify well-being based on the measurement model. The measurement model validation findings showed a strong match for the wellness model, and the physical dimension had the largest factor load and relative relevance when compared to other aspects (Table 10).

The overall effects of the independent variables on wellness are reported in Table 11. Based on the results, the maximum effects were 0.825 for place and 0.579 for satisfaction. Other characteristics affecting destination choice were marketing and pricing, with a value of 0.545, and quality and amenities, with a value of 0.391. The following regression equation lists the factors that have an effect on the choice of a wellness location as well as their path coefficients. Wellness = 28.21 + 1.113* Place + 0.281* Satisfaction + 0.222* Marketing & Price + 0.212* Quality & Facilities.

Based on the results, 62% of the changes to choose a health destination are affected by the four factors identified in this research.

Furthermore, the results of this section are consistent with the outcomes of the Friedman test, indicating that the physical dimension was the most critical aspect of wellness and played a significant role in explaining wellness-based tourism. However, the priority of the physical dimension of wellness-oriented travelers was identified in the order of "feeling refreshed", "feeling relief from physical pain", "using fresh, healthy, and local food", and "physical activity". The location was identified as the most significant element affecting WBT. It comprises, among other things, (1) the proximity of the spa complexes to the hotel, (2) the availability of good roads and railroads, (3) the location's lack of traffic, (4) the beauty of the surrounding terrain, (5) the local cultural attractions, and (6) the building views of the hot spring complexes, respectively.

Table 8 The results of correlation coefficients.

Factors	Dependent	Correlation coefficient (*r*)	Significance level
Place	Wellness	0.675	0.000
Satisfaction		0.508	0.000
Marketing and price		0.535	0.000
Quality and facilities		0.413	0.000

Discussion

The findings showed that the most important, and prominent dimension of wellness was the physical dimension. Then, the issues of individual, and interactive wellness were discussed. As can be seen, the most significant aspect of this group of visitors is to protect "physical wellness", which is more important under current COVID-19 conditions. Regarding the factors affecting the tourists' destination selection, the geographical location of the place was the most effective factor followed by the variable of satisfaction with the received services. In terms of importance, the variables of marketing and pricing were ranked second and third, respectively, while facilities and service quality were placed fourth. Collectively, these variables influenced 62% of travelers' intentions to choose a wellness tourism destination. However, 38% of factors affecting WT destination selection were left unaccounted for, which warrants further studies in this regard. Research has been done on the factors affecting the tourism destination selection, some of which were not WT destinations.

Research on well-being has long sought to promote trips for the improvement of spiritual, and physical health (Esfandiari and Choobchian, 2020; Buckley, 2020; Hanna et al., 2019). It is recognized that wellness trips should be flexible to maintain, and mentally rehabilitate tourists. These issues have led to a favorable reassessment of tourism travel satisfaction. This study adds to studies that generally concentrate on the advantages of travel, such as raising mental well-being, boosting health, lowering weariness and stress, and promoting life satisfaction (Esfandiari and Choobchian, 2020; de Bloom et al., 2017; Sirgy et al., 2011; Kühnel and Sonnentag, 2011). Current research on well-being discusses how negative events may disrupt the travel sector. These studies address various aspects of the tourism sector and are replete with promising prospects that may occur in the field of tourism.

In conclusion, sustainable development represents the most appropriate approach to tourism development. This approach emphasizes the integration of ecological and socio-economic factors within a community. In many advanced countries, tourism is considered a vital resource in the economy, and as such, it holds a special place in these countries. Sustainable development is all-round development. Future generations have the right to live and enjoy the future, in addition to me, you, and them. The economic, social, and environmental advantages, as well as the drawbacks of tourism, should all be taken into account for the growth of the industry, and its sustainable evaluation. WBT development is not possible without

Table 9 Correlation matrix and discriminant validity.

Factors	Wellness	Quality	Place	Satisfaction	Price
Wellness	[0.707]				
Quality	0.413**	[0.717]			
Place	0.675**	0.316**	[0.718]		
Satisfaction	0.508**	0.274**	0.503**	[0.724]	
Price	0.535**	0.376**	0.553**	0.381**	[0.709]

For discriminant validity, the diagonal elements should be larger than the off-diagonal elements.
**Correlation is significant at the 0.01 level (2-tailed) and values in brackets show discriminant validity.

Table 10 Fit indices.

Fit indices	Suggested standard[a]	Results	Result
CMIN/DF	"<3"	2.172	Accepted
Comparative Fit Index (CFI)	">0.9"	0.987	Accepted
Goodness of Fitness Index (GFI)	">0.9"	0.981	Accepted
Normal Fit Index (NFI)	">0.9"	0.986	Accepted
Tucker–Lewis Index (TLI)	">0.9"	0.981	Accepted
Root mean square error of approximation (RMSEA)	"$X \leq 0.08$"	0.05	Accepted

[a]Asadi et al. (2013).

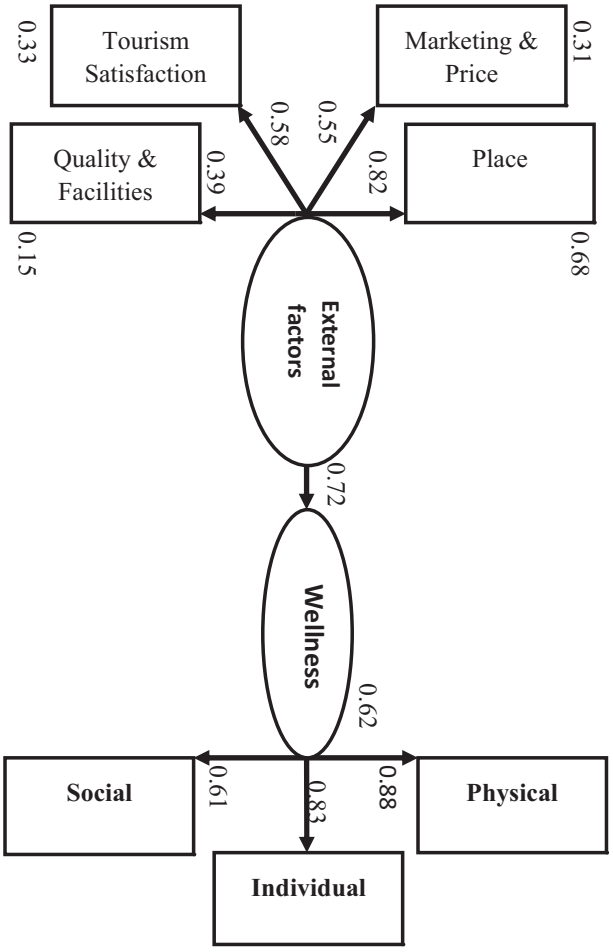

Fig. 9 The structural model of the research. The coefficients show the relative importance of factors and dimensions.

considering environmental development. It is impossible to discuss tourism destinations, which are known to be influenced most significantly by location, without considering environmental sustainability concerns (Ozturk et al., 2023; Zhao et al., 2022). In addition to causing destruction and pollution of the environment, this may reduce the attractiveness of the region for tourists. Therefore, it will hurt the prosperity of the tourism industry. Thus, this issue may cause damage to the preservation of the history, and culture of the region, which hurts the satisfaction of tourists (Koval et al., 2019; Singh et al., 2021). Thus, preserving and improving the environment is of special importance in the tourism industry.

Table 11 The overall effect of the factors on wellness.

Influential factors	Dependent component	Overall effect
Place	Wellness	0.825
Satisfaction		0.579
Marketing and price		0.545
Quality and facilities		0.391

Significant developments in the tourism industry in recent times have raised questions regarding the role of tourism in economic growth. The ability of service providers and residents to offer tourists the best possible travel experience is hindered by potential risks that could negatively impact public health and raise concerns about resource limitations. Furthermore, the world did not experience such a wide-ranging impact on the economy before the COVID-19 outbreak, with influential outcomes for socio-economic dimensions of the society (such as SARS, MERS, and H1N1). In the tourism industry, responsible post-COVID-19 recovery is the building block of resilience to deal with long-term welfare crises, especially in a world with a new order, rebuilt after the pandemic. As Gössling et al. (2021) state, epidemics create vulnerabilities that are devastating for the tourism industry.

Therefore, sustainable tourism aims to meet the needs of current tourists and host communities while preserving and increasing opportunities for future generations. It seeks to find promising ways to enhance tourists' well-being and ensure long-term sustainability. However, the COVID-19 pandemic has had an unexpected impact on the tourism industry's economy. This inevitably leads to increased physical and mental problems, which causes a loss of well-being after the trip.

The findings of this research will help government authorities, tourist sector administrators, and politicians make better preparations for upcoming issues. To provide prompt assistance and sincere support, doctors should complete specialized training in health crises and crisis management.

Limitations and further studies. Tourists' lack of knowledge of the idea of WT was one of the limitations of the current study as people without knowledge in this field chose this type of tourism. These issues should be taken into consideration by the Iranian Ministry of Cultural Heritage, Tourism, and Handicrafts and other relevant organizations. Additionally, researchers are encouraged to explore the concept of wellness tourism in a broader context in their future studies. It is proposed to test this model in another statistical population for its cross-validation. Besides, the data of the current study were gathered before the COVID-19 pandemic, so future research needs to examine WT during the COVID-19 outbreak and provide the protocols required to combat the disease during travel. Future research should look at how other variables may be affecting this kind of tourism. For instance, it is important to take into account how political and legal aspects influence the attraction of such visitors, particularly those from outside. Moreover, it is recommended that future research examines the impact of wellness tourism on the development of rural areas. It is important to note that this study was designed as a cross-sectional study, which is an observational method that analyzes data from a population at a particular point in time. Unlike other kinds of observational research, cross-sectional studies do not track samples over time. These studies are usually economical and simple to conduct which are suitable for generating initial evidence to design a future expanded study. These limitations apply to our research, which was conducted as a cross-sectional study owing to time and resource constraints. Future research can attempt to get around this restriction. Furthermore, this study did not incorporate

control variables, which should be considered in future research. Additionally, the use of structural equation modeling in this study had limitations, as it is more applicable to specific cases. Therefore, it is recommended that future tourism studies utilize Bayesian networks, as suggested by Norouzi et al. (2022). We face the uncertainties that justify Bayesian networks. Bayesian network-based approach overcomes many limitations of classical safety and reliability analysis approaches (Kabir and Papadopoulos, 2019). In a Bayesian paradigm, the model is derived from quantitative data so that the data drive the study rather than a predefined model (Manthiou et al., 2022). As recently emphasized (Assaf et al., 2016), one of the main motivations to use the Bayesian perspective is its flexibility in managing very complex models or data structures. By taking into account the relationships among variables in the network structure, uncertainties in the model can be addressed, resulting in model results that are more consistent with real-world scenarios (Watthayu and Peng, 2004). The model used in this study met all of the fit criteria and provided effective explanations for the predictor factors of health-oriented tourism. The predictive strength of the model might be improved by expanding it to include new factors including revisit intention, perceived quality, place attachment, and readiness to suggest.

Policy and theoretical implications. The COVID-19 epidemic has left socio-economic, psychological, and cultural effects on different tourism stakeholders, and they will suffer for a long time. The findings have some implications for COVID-19 policies as follows:

- In addition to affecting the tourism sector, COVID-19 has a larger effect on tourism education, which has heavily influenced job opportunities around the world. As such, tourism researchers must devise new strategies and research concepts to identify organizational weaknesses while taking into account the mental health and privacy concerns of stakeholders affected by COVID-19. Furthermore, educational features should be considered, such as outlining as well as implementing "sustainable" and adaptable approaches to tourism education and the development of students with transferable and practical abilities in other business sectors.
- After the COVID-19 era, e-tourism can modify the future of tourism by affording measurable and versatile value constructions, structural descriptions, technical tendencies, as well as tangible and technical theories. Scientific-technological innovation needs reforms in the field of e-tourism, including diversity, openness, history, equality, and reflection.
- Crisis supervision should determine the main administration process before, during, or after the crisis. The effects and consequences of COVID-19 can impact various stakeholders, including government officials and tourism organizations. It would be equally innovative to focus on current topics and relationships while incorporating modern techniques into the research framework using contemporary perspectives and conceptual analyses. Such actions can show significant unresolved problems and complexities.
- Social entrepreneurship has grown over the last decade because of the economic crisis in 2008. COVID-19 promotes these social tourism plans to create social influence, solve the social problems caused by COVID-19, and help those in need. The rapid growth of related social tourism businesses in COVID-19 provides numerous opportunities to practice, and correctly interpret this concept in new biodiversity, stakeholder, and post-course circumstances.
- From now on, the goal of tourist companies should not be to increase the number of visitors, but to "easier and more convenient trips and personalized services, while sustaining an affordable price." The tourism industry must begin to rebuild hotels, improve staff quality, streamline tour group sales and customer registration, and make progress toward digital technology. To cater to families, appropriate entertainment should be provided, including suitable programs for children and youth, as well as proper food menus. It is expected that high-quality health measures be implemented in the tourism sector in future epidemics, so after the epidemic, high-quality health measures should be taken in tourism. All hotels, for example, may provide staff and tourists with health, and protection equipment against the epidemic, and customer service should be on a rotating basis to avoid overcrowding. To maintain social distance on the beaches, the place can be divided into separate blocks.
- Besides, potentially important and effective programs should be promoted and prioritized by local tourism authorities. The service quality in quarantined hotels should be considered by the government authorities as this is one of the concerns of tourists during the epidemic. Besides, media advertisement by the government is essential to strengthen understanding during the epidemic.

Conclusions

The tourism industry, with characteristics consistent with today's world, has features that guide the development process. Therefore, by leveraging the adaptable nature of the tourism industry and adhering to social distancing guidelines during epidemics, it is possible to harness the positive aspects and guide the development process in rural areas, which was the focus of this research. "WT" is a kind of leisure industry that can be responsive to the current conditions of modern societies which are replete with tension, stress, and pressure so it can be considered the main pillar of tourism activities in the current COVID-19 conditions, where traveling to crowded areas should be avoided. In addition, WT can enhance and enrich the financial, social, cultural, and ecological aspects of the host location by attracting attention and inspiring interest in the area. In other words, WT can serve as a useful approach for boosting employment in rural communities that are facing challenges related to income and employment. What is necessary for us in the present situation is to use the concept of WT on a small scale as a strategy for regional and local development and at an international level to save the tourism industry as well as tense human societies. On the one hand, the rural host community during a gradual change in the rural environment learns how to welcome and treat wellness tourists. On the other hand, financial and communal mechanisms are provided for the growth of the tourism industry and they can be used as a means for viable rural development. The main point here is that in COVID-19 conditions, the practice should be first prepared for domestic tourists, and then, it can be extended to foreign tourists.

WT, which seeks tranquility and travel without medical assistance or supervision to decrease everyday stress and promote mental and physical health, is one of the most underappreciated parts of Iranian tourism. Wellness tourists typically seek to experience the health-promoting benefits of nature and escape the stress and chaos of urban life. In this study, we aimed to provide a specific framework for planning and policymaking in this area by identifying the key aspects of wellness. Thus, rural areas with natural and climatic attractions are the best destinations for these tourists as the crucial dimension of wellness in this kind of tourism was identified to be the physical dimension, which included body

health, using fresh and healthy foods, and feeling refreshed and relaxed. Planners and politicians need to consider this conclusion. In this respect, it is recommended that suitable procedures be established for COVID-19 conditions for WT by the current circumstances. Besides, based on the findings of the current study, some suggestions are made that can help the growth of WT:

- Since a crucial aspect of health tourism is the physical dimension and the most important products in the study area are honey plus dairy products, policies to commercialize local goods and their brands should be considered.
- In this region in terms of climate, positive image, and, excellent foods, is one of the most attractive destinations for wellness tourists. Moreover, in this county, investors from the private sector of the tourism industry should be encouraged to invest in activities related to wellness tourism. Furthermore, due to its strategic location, Sarab County has significant potential for strengthening its connections with neighboring countries. Furthermore, while being one of the top 10 countries in the world for greenhouse gas emissions, Iran uses renewable energy at a relatively low rate. The hot springs in this region are excellent geothermal energy sources and are promoted as health tourism locations. Considering marketing is weak in the study region, it should be on the agenda of planners via social media and TV, as well as radio programs to show tourist attractions and activities, as well as the value of WT. Further, to inform local people about the importance of activities related to WT, instruction on how to deal with wellness tourists, and the way to assist them in emergencies should be recognized in local training and development programs.
- By taking advantage of the potential of the private sector, and the unique position of the region, investment can be motivated as it can play an important role to create job opportunities, and preventing residents' immigration. Therefore, with the expansion of health tourism and the activation of mineral hot springs in the study site as the center of hot springs in the province, cultural heritage can be protected for future generations.

In conclusion, despite the disruption caused by the COVID-19 pandemic to the tourist sector, it is still possible for it to prosper by adhering to WT's health guidelines. In other words, by adhering to new rules, WT may now be attained as a kind of tourism. Furthermore, this type of tourism can be a good option to reduce tension and enhance health for people who have suffered from physical and mental problems during the COVID-19 epidemic.

This study's findings can help planners, research scholars, and practitioners to reinforce their weak points. Therefore, detecting sustainable dimensions for WT and listing them would support tourists to pick destinations tailored to their necessities. Viable dimensions include all financial, communal, and ecological ones. Therefore, identifying and listing criteria can aid in selecting tourism destinations. However, like previous studies, this research also has limitations, such as the difficulty in accessing reliable databases and the challenge of converting qualitative criteria into quantitative ones. Lastly, it should be noted that this study only focused on the perspectives of Iranians and did not take into account the views of other nationalities. Albeit very important, the current research has not addressed the relationship between health-related features and tourism, particularly in the current COVID-19 epidemic.

WT with an emphasis on untouched nature, and lightly populated regions, can be considered tourism for economic promotion and development. Moreover, it would be assumed that employment levels will be maintained given the ongoing harm to the economy of countries. An unemployment crisis will result if this problem is not resolved. It will not be possible to alleviate the loss initiated by this worldwide crisis without the cohesion of all institutions, policymakers, and administrators.

Data availability

The datasets analyzed during the current study are available in the Dataverse repository: https://doi.org/10.57760/sciencedb.09234.

Received: 11 July 2022; Accepted: 18 July 2023;
Published online: 11 August 2023

References

Abbaspour F, Soltani S, Tham A (2021) Medical tourism for COVID-19 post-crisis recovery? Anatolia 32(1):140–143
Agnoletti M, Manganelli S, Piras F (2020) Covid-19 and rural landscape: the case of Italy. Landsc Urban Plan 204:103955
Asadi A, Kalantari K, Choobchian S (2013) Structural analysis of factors affecting agricultural sustainability in Qazvin Province, Iran. J Agric Sci Technol 15(1):11–22
Asem Asl R (2008) Hot and mineral springs of East Azerbaijan province. Geol Train 14(1)
Assaf AG, Oh H, Tsionas MG (2016) Unobserved heterogeneity in hospitality and tourism research. J Travel Res 55(6):774–788
Bagozzi RP, Yi Y, Nassen KD (1998) Representation of measurement error in marketing variables: review of approaches and extension to three-facet designs. J Econ 89(1–2):393–421
Barbier EB, Burgess JC (2020) Sustainability and development after COVID-19. World Dev 135:105082
Bone K (2013) Spiritual retreat tourism in New Zealand Tour Recreation Res 38(3):295–309 https://doi.org/10.1080/02508281.2013.11081755
Bou-Llusar JC, Escrig-Tena AB, Roca-Puig V, Beltrán-Martín I (2009) An empirical assessment of the EFQM excellence model: evaluation as a TQM framework relative to the MBNQA model. J Oper Manag 27(1):1–22
Buckley R (2020) Nature tourism and mental health: parks, happiness, and causation. J Sustain Tour 28(9):1409–1424
Büyüközkan G, Mukul E, Kongar E (2020) Health tourism strategy selection via SWOT analysis and integrated hesitant fuzzy linguistic AHP-MABAC approach. Socio-Econ Plan Sci. https://doi.org/10.1016/j.seps.2020.100929
Charak NS (2019) Role of spa resorts in promoting India as a preferred wellness tourism destination—a case of Himalayas Int J Spa Wellness 2:53–62 https://doi.org/10.1080/24721735.2019.1668672
Chen KH, Chang FH, Wu C (2013) Investigating the wellness tourism factors in hot spring hotel customer service. Int J Contemp Hosp Manage 25(7):1092–1114. https://doi.org/10.1108/IJCHM-06-2012-0086
Cheraghi S, Choobchain S, Abbasi E (2019) Factors affecting decision-making process in renewable energies investment in agricultural sector, Iran. J Agric Sci Technol 21:1673–1689. https://jast.modares.ac.ir/article-23-25769-en.pdf
Chi CGQ, Qu H (2008) Examining the structural relationships of destination image, tourist satisfaction, and destination loyalty: an integrated approach. Tour Manag 29(4):624–636
Chiwona-Karltun L, Amuakwa-Mensah F, Wamala-Larsson C, Amuakwa-Mensah S, Hatab AA, Made N, Bizoza AR (2021) COVID-19: from health crises to food security anxiety and policy implications. Ambio 50(4):794–811
Chlachula J (2019) Geo-tourism perspectives in East Kazakhstan Geogr Environ Sustain 12(2):29–43. https://doi.org/10.24057/2071-9388-2018-78
Choi Y, Kim J, Choong-Ki L, Benjamin H (2015) The role of functional and wellness values in visitors' evaluation of spa experiences Asia Pac J Tour Res 20:263–279. https://doi.org/10.1080/10941665.2013.877044
Civelek ME (2018) Essentials of structural equation modeling. Lulu.com. This work is licensed under a Creative Commons Attribution 4.0 International License. https://doi.org/10.13014/K2SJ1HR5
Cohen M, Bodeker G (2008) Understanding the global spa industry: spa management. Elsevier, London
Corbet S, Hou Y, Hu Y, Oxley L, Xu D (2021) Pandemic-related financial market volatility spillovers: evidence from the Chinese COVID-19 epicenter. Int Rev Econ Finance 71:55–81. https://doi.org/10.1016/j.iref.2020.06.022
Cvikl D (2022) Forest therapy and well-being tourism literature review—with assessment of potential for Slovenia. Acad Tur-Tour Innov J 15(1):1–17
De Bloom J, Nawijn J, Geurts S, Kinnunen U, Korpela K (2017) Holiday travel, staycations, and subjective well-being. J Sustain Tour 25(4):573–588

Deng A, Junyang L, Zhengyuan Z (2020) Rural destination revitalization in China: applying evolutionary economic geography in tourism governance. Asia Pac J Tour Res https://doi.org/10.1080/10941665.2020.1789682
Dillette A, Douglas A, Martin D (2018) Do vacations make us happier? exploring the relationships between wellness tourism, happiness and quality of life. J Tour Hosp 7(355):2167–0269
Dubey S, Biswas P, Ghosh R, Chatterjee S, Dubey MJ, Chatterjee S, Lahiri D, Lavie CJ (2020) Psychosocial impact of COVID-19. Diabetes Metab Syndr 14(5):779–788. https://doi.org/10.1016/j.dsx.2020.05.035
East Azerbaijan Tourism Department (2019) Central Travel Coordination Office, Statistics and Information Committee. Available at https://eachto.ir/ (in Persian)
East Azerbaijan Cultural Heritage and Tourism Development Organization (2021) Central Travel Coordination Office, Statistics and Information Committee. Available at : https://eachto.ir/, https://neshan.org/maps/places/bf511a22e417eb731d98888b1144c95f (in Persian)
Esfandiari H, Choobchian S (2020) Designing a wellness-based tourism model for sustainable rural development. Res Sq 2020. https://doi.org/10.21203/rs.3.rs-63947/v1
Esiyok B, Çakar M, Kurtulmuşoğlu FB (2017) The effect of cultural distance on medical tourism. J Destin Mark Manag 6(1):66–75
Fennell DA, Bowyer E (2020) Tourism and sustainable transformation: a discussion and application to tourism food consumption. Tour Recreation Res 45(1):119–131. https://doi.org/10.1080/02508281.2019.1694757
Fornell C, Larcker DF (1981) Evaluating structural equation models with unobservable variables and measurement error. J Mark Res 39–50. https://doi.org/10.2307/3151312. https://www.jstor.org/stable/3151312
Gan LL, Frederick JR (2011) Medical tourism facilitators: patterns of service differentiation. J Vacation Mark 17(3):165–183
Garjan HS, Paydar MM, Divsalar A (2023) A sustainable supply chain for a wellness tourism center considering discount and quality of service. Expert Syst Appl 211:118682
Gaski J (2017) Common latent factor: confirmatory factor analysis. http://statwiki.kolobkreations.com/index.php?title=Confirmatory_Factor_Analysis&redirect=no#Common_Laten_Factor. Accessed 15 Mar 2018
Ghasemi M, Nejad MG, Aghaei I (2021) Knowledge management orientation and operational performance relationship in medical tourism (overview of the model performance in the COVID-19 pandemic and post-pandemic era). Health Serv Manag Res 34(4):208–222
Gössling S, Scott D, Hall CM (2021) Pandemics, tourism, and global change: a rapid assessment of COVID-19. J Sustain Tour 29(1):1–20
GWI (Global Wellness Institute) (2018) Global wellness tourism economy report. https://globalwellnessinstitute.org/wp-content/uploads/2018/11/GWI_GlobalWellnessTourismEconomyReport.pdf
Hall CM (2011) Health and medical tourism: a kill or cure for global public health? Tour Rev 66(1/2):4–15
Hanna P, Wijesinghe S, Paliatsos I, Walker C, Adams M, Kimbu A (2019) Active engagement with nature: outdoor adventure tourism, sustainability, and wellbeing. J Sustain Tour 27(9):1355–1373
Harman HH (1976) Modern factor analysis, 3rd edn. University of Chicago Press, Chicago
Hoang TTH, Van Rompaey A, Meyfroidt P et al. (2020) Impact of tourism development on the local livelihoods and land cover change in the Northern Vietnamese Highlands. Environ Dev Sustain 22:1371–1395. https://doi.org/10.1007/s10668-018-0253-5
Huang L, Xu H (2018) Therapeutic landscapes and longevity: wellness tourism in Bama. Soc Sci Med 197:24–32. https://doi.org/10.1016/j.socscimed.2017.11.052
Huijbens EH (2011) Developing wellness in Iceland. Theming wellness destinations the Nordic Way. Scand J Hosp Tour 11(1):20–41. https://doi.org/10.1080/15022250.2011.525026
Hunt CA, Harbor LC (2019) Pro-environmental tourism: lessons from adventure, wellness, and eco-tourism (AWE) in Costa Rica. J Outdoor Recreation Tour 28. https://doi.org/10.1016/j.jort.2018.11.007
Kabir S, Papadopoulos Y (2019) Applications of Bayesian networks and Petri nets in safety, reliability, and risk assessments: a review. Saf Sci 115:154–175
Kalantari Kh (2013) Data processing and analysis in socio-economic research. Sharif, Tehran, 392 pp (in Persian)
Kangas M (2010) Creative and playful learning: learning through game co-creation and games in a playful learning environment. Think Skills Creativity 5(1):1–15
Kaushal V, Srivastava S (2021) Hospitality and tourism industry amid COVID-19 pandemic: perspectives on challenges and learnings from India. Int J Hosp Manag 92:102707. https://doi.org/10.1016/j.ijhm.2020.102707
Khan SAR, Yu Z, Belhadi A, Mardani A (2020) Investigating the effects of renewable energy on international trade and environmental quality. J Environ Manag 272:111089
Khaola P, Coldwell D (2019) Explaining how leadership and justice influence employee innovative behaviors. Eur J Innov Manag 22(1):193–212. https://doi.org/10.1108/EJIM-08-2017-0103
Kock N (2021) Harman's single factor test in PLS-SEM: checking for common method bias. Data Anal Perspect J 2(2):1–6
Koncul N (2012) Wellness: a new mode of tourism. Econ Res-Ekon Istraž 25(2):525–534
Korolev A, Safarian A (2018) Evaluation of the natural recreation system of the perm region Geogr Environ Sustain 11(4):24–38. https://doi.org/10.24057/2071-9388-2018-11-4-24-38
Koval V, Mykhno Y, Antonova L, Plekhanov D, Bondar V (2019) Analysis of environmental factors' effect on the development of tourism. J Geol Geogr Geoecol 28(3):445–456
Krejcie RV, Morgan DW (1970) Determining sample size for research activities. Educ Psychol Meas 30:607–610
Kühnel J, Sonnentag S (2011) How long do you benefit from vacation? A closer look at the fade-out of vacation effects. J Organ Behav 32(1):125–143
Kumar MP, Kumara NM (2020) Market capitalization: pre and post-COVID-19 analysis. Mater Today: Proc. https://doi.org/10.1016/j.matpr.2020.08.493
Lee J-Y, Podsakoff NP (2003) Common method biases in behavioral research: a critical review of the literature and recommended remedies. J Appl Psychol 88(5):879
Lee K (2019) The art of economic catch-up: Barriers, detours and leapfrogging in innovation systems. Cambridge University Press. https://doi.org/10.20396/rbi.v18i2.8657255
Li M, Cai LA (2012) The effects of personal values on travel motivation and behavioral intention. J Travel Res 51(4):473–487
Lim YJ, Kim HK, Lee TJ (2015) Visitor motivational factors and level of satisfaction in wellness tourism: comparison between first-time visitors and repeat visitors. Asia Pac J Tour Res 21(2):137–156
Lunt N, Carrera P (2011) Systematic review of web sites for prospective medical tourists. Tour Rev 66(1/2):57–67
Luo Y, Lanlung C, Kim E, Tang LR, Song SM (2018) Towards quality of life: the effects of the wellness tourism experience. J Travel Tour Mark 35(4):410–424
Machida K, Tsukamoto H, Mkrtchyan H, Duan L, Dynnyk A, Liu HM, ... Lai MMC (2009) Toll-like receptor 4 mediates synergism between alcohol and HCV in hepatic oncogenesis involving stem cell marker Nanog. Proc Natl Acad Sci 106(5):1548–1553
Mangwane J, Ntanjana A (2020) Wellness tourism in South Africa: development opportunities. In: Rocha Á, Abreu A, de Carvalho J, Liberato D, González E, Liberato P (eds) Advances in tourism, technology and smart systems. Smart innovation, systems and technologies, vol 171. Springer, Singapore
Manthiou A, Kuppelwieser VG, Klaus P (2022) Reevaluating tourism experience measurements: An alternative Bayesian approach. Current Issues in Tourism 1–17
McCormick K, Salcedo J (2017) IBM SPSS Modeler essentials: Effective techniques for building powerful data mining and predictive analytics solutions. Packt Publishing Ltd
MPO (Management and Planning Organization of Iran) (2015) East Azerbaijan development plan. Management and Planning Organization of Iran
NajafiNasab M, Agheli L, Andrade MV, Sadeghi H, Faraji Dizaji S (2018) Determinants of medical tourism expansion in Iran: structural equation modeling approach. Iran J Econ Stud 7(2):169–189. https://doi.org/10.22099/ijes.2018.30739.1485
Norouzi AM, Gluyas J, Babaei M (2022) CO2-plume geothermal in fluvial formations: A 2D numerical performance study using subsurface metrics and upscaling. Geothermics 99:102287
NWI (National Wellness Institute) (n.d.) NWI History. Accessed 17 July 2017. www.nationalwellness.org/?page=History.nwi@nationalwellness.org
OECD (2020) iLibrary, O. Tourism Policy Responses to the Coronavirus (COVID-19) Available at: https://www.oecd.org/coronavirus/policy-responses/tourism-policy-responses-to-the-coronavirus-covid-19-6466aa20/
Ozturk I, Sharif A, Godil DI, Yousuf A, Tahir I (2023) The dynamic nexus between international tourism and environmental degradation in top twenty tourist destinations: new insights from quantile-on-quantile approach. Eval rev 47(3):532–562
Perkumienė D, Pranskūnienė R (2019) Overtourism: between the right to travel and residents' rights. Sustainability 11(7):2138
Perles-Ribes JF, Moreno-Izquierdo L, Torregrosa T, Such-Devesa MJ (2020) The relationship between satisfaction and tourism expenditure in 'sun and beach destinations: a structural equation modeling approach. Curr Issues Tour 1–15
Podsakoff PM, MacKenzie SB, Podsakoff NP (2012) Sources of method bias in social science research and recommendations on how to control it. Annu Rev Psychol 63(1):539–569. https://doi.org/10.1146/annurev-psych-120710-100452
Prayag G (2009) Tourists'evaluations of destination image, satisfaction, and future behavioral intentions—the case of Mauritius. J Travel Tour Mark 26(8):836–853

Prentice C, Hsiao A (2021) Travel deterrents to regional destinations. J Retail Consum Serv 58:102292. https://doi.org/10.1016/j.jretconser.2020.102292
Prokopy LS, Gramig BM, Bower A, Church SP, Ellison B, Gassman PW, Ulrich-Schad JD (2020) The urgency of transforming the Midwestern U.S. landscape into more than corn and soybean. Agric Hum Values 37(3):537–539. https://doi.org/10.1007/s10460-020-10077-x
Roldán JL, Sánchez Franco MJ (2012) Variance-based structural equation modeling: guidelines for using partial least squares in information systems research. https://doi.org/10.4018/9782124666202017926.ch010
Romão J, Machino K, Nijkamp P (2018) Integrative diversification of wellness tourism services in rural areas—an operational framework model applied to east Hokkaido (Japan). Asia Pac J Tour Res 23(7):734–746
Romeo RR, Leonard JA, Robinson ST, West MR, Mackey AP, Rowe ML, Gabrieli JD (2018) Beyond the 30-million-word gap: Children's conversational exposure is associated with language-related brain function. Psychol Sci 29(5):700–710
Seongsoo J, Jinwon K (2022) Enhancing exercise visitors' behavioral engagement through gamified experiences: a spatial approach. Tour Manag ume 93(2022):104576. https://doi.org/10.1016/j.tourman.2022.104576
Serrano Archimi C, Reynaud E, Yasin HM, Bhatti ZA (2018) How perceived corporate social responsibility affects employee cynicism: the mediating role of organizational trust. J Bus Ethics 151(4):907–921
Shahyad S, Mohammadi MT (2020) Psychological impacts of Covid-19 outbreak on the mental health status of society individuals: a narrative review. J Mil Med 22(2):184–192. https://doi.org/10.30491/JMM.22.2.184
Singh S, Bhat JA, Shah S, Pala NA (2021) Coastal resource management and tourism development in Fiji Islands: a conservation challenge. Environ Dev Sustain 23:3009–3027
Sirgy MJ, Kruger PS, Lee D-J, Yu GB (2011) How does a travel trip affect tourists' life satisfaction? J Travel Res 50(3):261–275
Soltani A, Dashti A, Babaei E, Ghazaie M (2015) Evaluation of Mashhad Religious Tourism Services from the perspective of tourists. Armanshahr Archit Urban Dev 7(13):333–342. http://www.armanshahrjournal.com/article_33456.html
Statistics Center of Iran (2019) Statistical yearbook of east Azarbaijan Province, 2016, 2011, 2006, 1996, 1986. https://www.amar.org.ir
Taghizadeh Yazdi M, Barazandeh H (2016) Identifying and ranking health tourism development barriers in Iran using fuzzy VIKOR method. Asian Soc Sci 12, https://doi.org/10.5539/ass.v12n5p54
Tahanisaz S (2020) Evaluation of passenger satisfaction with service quality: a consecutive method applied to the airline industry. J Air Transp Manag 83:101764
Tharakan YG (2014) A comprehensive model for development of sustainable health and wellness tourism destination at Manipal. Int J Hosp Tour Syst 7(1):12–26. http://www.publishingindia.com/ijhts/24/298/2014/
Tikunov VS, Belozerov VS, Antipov SO, Cui W, Purevjav D (2017) Geoinformation technologies in the promotion of tourist destinations in the zone of the Great Silk Road Geogr Environ Sustain J 10(1):44–52. https://doi.org/10.24057/2071-9388-2017-10-1-44-52
Tucker H (2020) Coronavirus bankruptcy tracker. These major companies are failing amid the shutdown. Forbes. https://www.forbes.com/sites/hanktucker/2020/05/03/coronavirus-bankruptcy-tracker-these-major-companies-are-failing-amid-the-shutdown/#5649f95d3425
Turner AJ, Kim J, Fitzmaurice H, Newman C, Worthington K, Chan K, Cohen RC (2020) Observed impacts of COVID-19 on urban CO2 emissions. Geophys Res Lett 47(22):e2020GL090037
Uğur NG, Akbıyık A (2020) Impacts of COVID-19 on global tourism industry: a cross-regional comparison. Tour Manag Perspect 36:100744. https://doi.org/10.1016/j.tmp.2020.100744
Valaei M, Zivari-Kazempour A, Bodaghi A (2021) Jordan amenability of banach algebras. Math Slovaca 71(3):721–730
Watthayu W, Peng Y (2004) A Bayesian network based framework for multi-criteria decision making. In: Proceedings of the 17th international conference on multiple criteria decision analysis
WHO (World Health Organization) (2018) A state of complete physical mental and social well-being and not merely the absence of disease or infirmity. Constitution of the World Health Organization Basic Documents, Forty-fifth edition, Supplement. https://www.who.int/about/governance/constitution#:~:text=Health%20is%20a%20state%20of,belief%2C%20economic%20or%20social%20condition
WHO (World Health Organization) (2020) Coronavirus (COVID-19). World Health Organization. https://covid19.who.int/region/emro/country/ir
Wilkinson A (2020) Local response in health emergencies: key considerations for addressing the COVID-19 pandemic in informal urban settlements. Environ Urbanization 32(2):503–522
World Health Organization (2018) What quantitative and qualitative methods have been developed to measure community empowerment at a national level? vol 59. World Health Organization
World Tourism Organization (2019) Iran, Islamic Republic of Country-specific: Basic indicators (Compendium) 2013–2017. https://www.e-unwto.org
Wu GC, Baleanu D (2014) Discrete fractional logistic map and its chaos. Nonlinear Dynamics 75:283–287
Yan X, He S (2020) The co-evolution of therapeutic landscape and health tourism in Bama longevity villages, China: an actor-network perspective. Health Place 66:102448. https://doi.org/10.1016/j.healthplace.2020.102448
Yao H, Chen JH, Xu YF (2020) Patients with mental health disorders in the COVID-19 epidemic. Lancet Psychiatry 7:e21. https://doi.org/10.1016/S2215-0366(20)30090-0
Yin L (2020) Forecast without historical data: objective tourist volume forecast model for newly developed rural tourism areas of China. Asia Pac J Tour Res 25(5):555–571. https://doi.org/10.1080/10941665.2020.1752755
Zabihkhah M, Afshar S (2015) Health village design with health tourism development approach. Master Thesis, Soura University, Faculty of Architecture
Zhao X, Zhang R, Qiao S, Wang X, Zhang W, Ruan W, ... Gao GF (2022) Omicron SARS-CoV-2 neutralization from inactivated and ZF2001 vaccines. N Engl J Med 387(3):277–280

Author contributions

Substantial contributions to the conception or design of the work: SCh; acquisition, analysis, and interpretation of data for the work: HE and SCh; drafting the work or revising it critically for important intellectual content: YM and HA; final approval of the version to be published: SCh, HE, YM, and HA; agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved: SCh.

Competing interests

The authors declare no competing interests.

Ethical approval

The study was conducted by the Declaration of Helsinki, and the protocol was approved by the Ethics Committee of Tarbiat Modares University (Project identification code: 9730971001).

Informed consent

The authors confirm that informed consent was obtained from all participants and/or their legal guardians. The informed consent was written in language easily understood by participants and they had sufficient time to consider participation. At the beginning of the questionnaire, detailed explanations were given regarding the topic of the research "Wellness Tourism" and the confidentiality of the results, and that the results of this research would be used in the design of the wellness tourism model. They had the option to participate or not. And they signed "I have read and understand the information in this questionnaire. I have been encouraged to ask questions and all of my questions have been answered to my satisfaction. I have also been informed that I can withdraw from the study at any time. By signing this form, I voluntarily agree to participate in this study" at the beginning of the questionnaire. The unit of analysis was the wellness tourists. In this research, the coordinator was responsible for clarifying the issue and answering the possible questions of the research participants.

Additional information

Correspondence and requests for materials should be addressed to Shahla Choobchian.