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Developing a scale for tourism literacy: validity and reliability study

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ABSTRACT

Tourism literacy encompasses the development and utilization of knowledge and skills within the tourism. These skills encompass problem-solving for various stakeholders, including managers, employees, tourists, and residents. Furthermore, they involve a deeper understanding of tourist destinations and active contributions to sustainable tourism promotion. Surprisingly, despite the extensive literature on literacy studies in fields like economics, media, maps, and water, there remains a conspicuous gap in tourism literacy research. Consequently, the novelty of this subject has spurred researchers to address this void. Accordingly, the main aim of this study is to develop a scale that can measure individuals' tourism literacy, which will be the first of its kind. To achieve this, firstly a question pool was created. Then the scale was developed with expert opinions and pilot testing. CFA and EFA were performed for determining the final version of the scale. At the end of the study, a scale consisting of six dimensions (residents' knowledge and skills related to tourism, tourists' knowledge and skills, tourist guidance knowledge and skills, food and beverage management knowledge and skills, tourism management knowledge, and tourism management skills) was established, and its validity and reliability were confirmed. Future research suggestions and study limitations have been mentioned.

Introduction

The evolution of human civilizations experienced a significant surge with the advent of writing, a progress further bolstered by the rise in literacy rates. This augmentation in literacy fundamentally paved the course for the advancement of nations. The pivotal importance of literacy stems from its pervasive presence, influencing all dimensions of life and profoundly shaping human interactions with the surrounding world. This profound significance has spurred extensive research efforts over a considerable span of time among academics. Researchers, in their exploration of diverse literacy dimensions, aspire to evaluate individuals' knowledge, competencies, attitudes, and values within their respective domains. To achieve this, they engage in the development of specialized measurement scales, which serve as invaluable tools for individuals striving to augment their professional expertise and make substantive contributions to the scholarly corpus. Consequently, the concept of literacy transcends disciplinary boundaries, finding applications across a myriad of scientific domains. These domains encompass but are not limited to financial literacy (Knoll & Houts, 2012; Warmath & Zimmerman, 2019), media literacy (Ashley et al., 2013; Eristi & Erdem, 2017), information literacy (Kurbanoğlu et al., 2006), scientific literacy (Benjamin et al., 2017), cartographic literacy (Koç &

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Demir, 2014), algorithmic literacy (Doğruel et al., 2021), environmental literacy (Szczytko et al., 2019), digital literacy (Liza & Andriyanti, 2020), emotional literacy (Akbağ et al., 2016), energy literacy (DeWaters et al., 2007), electronic literacy (Brandtweiner et al., 2010), e-health literacy (Norman & Skinner, 2006; Van der vaart et al., 2011), visual literacy (Kalichman et al., 2004), health literacy (Jordan et al., 2013), information technology literacy (Lau & Yuen, 2014), computer literacy (Tsai et al., 2019), and civic literacy (Çakmak & Taşkıran, 2020).

As evidenced by numerous studies in the field, understanding the reasons behind this widespread research interest requires an exploration of the fundamental concept of literacy and its development. The evolution of this concept has been showed by a rapid expansion, catalyzed by the intensified flow of information that followed the invention of paper during the Industrial Revolution, the widespread adoption of the printing press, continuous advancements in information technologies, the influence of big data, and the process of globalization, all of which have collectively contributed to this transformative process (Mcbride, 2011). The broadening scope of literacy defies a singular definition, necessitating a closer examination of its varied interpretations to achieve a comprehensive understanding. Initially, 'literacy' denoted the reader's ability to analyze printed material using the alphabet as a tool, encompassing the acts of reading and writing. This rudimentary definition perceived literacy as a foundational skill, akin to the binary code of '1s and 0s' in a computer system (Kurudayıoğlu & Tüzel, 2010). However, the concept of literacy has undergone significant transformations over time in response to technological advancements, shifts in societal structures and needs, and the emergence of new forms of literacy. This change acknowledges that literacy extends beyond the mere ability to write simple words and sentences; it encompasses the capacity to decipher street signs, cultivate a broader cultural understanding, elevate intellectual acumen, and possess the requisite skills demanded by our contemporary age (Güneş, 2019). In this all-encompassing perspective, literacy manifests as a complex concept intricately woven into the fabric of contemporary society. With this expanded meaning in mind, the reasoning behind the transformation of the traditional notion of literacy becomes evident. Literacy pervades all aspects of human existence and remains deeply entwined with social and cultural contexts (Akdoğan, 2019). One of the most comprehensive definitions to date has been provided by Uzun and Çelik (2020, p. 1134):

> Literacy is generally the ability to read, write, speak, and listen effectively, enabling effective communication with others and the comprehension of written information. In the twenty-first century, literacy encompasses the use of technology, problem-solving, collaboration, and the skills required for effective information presentation. Literacy is a process-oriented skill that demands lifelong continuity.

The expansion of the literacy concept and its increasing significance can be closely linked to the initiatives of UNESCO. This connection becomes evident when we consider our transition to the modern society of the 1960s, during which the conventional understanding of literacy started to be viewed as inadequate in addressing the socio-economic needs of progressing societies. Consequently, UNESCO introduced the concept of 'functional literacy'. Functional literacy goes beyond basic reading and writing skills; it encompasses the capacity to utilize knowledge and skills for the betterment of the community (UNESCO, 2006). With this new approach, the goal was to increase literacy, and this paved the way for the various fields of study mentioned earlier. These fields not only aim to enhance and refine their own domains but also contribute significantly to the well-being of society. However, when we scrutinize these scientific fields, a notable gap becomes apparent in the context of tourism literacy.

The field of tourism literacy is regarded as relatively nascent, with its initial studies conducted by Pearce and Foster (2007). Their research aimed to assess various competencies of backpackers, encompassing areas such as learning and communication, through the development of a measurement scale. Subsequently, Tsaur et al. (2010) introduced a valid and reliable three-dimensional scale, assessing on-site travel ability, pre-trip preparedness, and emergency response skills among independent tourists. Kang-Tsung Chang et al. (2019) contributed to the field by

developing a valid and reliable scale, utilizing a blend of qualitative and quantitative research methods to evaluate the geographical literacy of tourists. This comprehensive scale included 18 items and three sub-dimensions: geographic recognition, geographic information, and geographic information processing. Lastly, Shirmohammadi et al. (2020) explored the impact of tour guides' literacy levels on customer satisfaction, devising a relevant scale for measurement. These pioneering studies mark the inception of research in tourism literacy and lay the foundation for further exploration within the tourism sector.

Upon reviewing the existing literature, it becomes evident that literacy scales have been tailored to specific tourist groups, tourism geography, and tour guides. However, a critical observation highlights the absence of a comprehensive and universally applicable tourism literacy scale. It is imperative to acknowledge that the field of tourism encompasses numerous sub-sectors, including front office management, food and beverage services, housekeeping, human resources, finance, accounting, travel agencies, and more. Therefore, a pressing need arises for a measurement tool capable of assessing the proficiency levels of individuals engaged in these diverse sub-sectors.

Tourism literacy denotes the capacity of individuals within the tourism domain to possess the requisite knowledge and competencies for comprehending, interpreting, and evaluating various facets of tourism. The presence of tourism literacy across diverse stakeholders, encompassing tourism managers, workers, educators, and residents, assumes paramount significance in elevating overall quality standards and knowledge within this specialized domain. In light of this contextual backdrop, our principal objective is to develop a comprehensive Tourism Literacy Scale, tailored to encompass individuals' proficiencies and information related to tourism, with the overarching goal of addressing extant lacunae within the academic discourse and contributing substantively to the field. By introducing and operationalizing the concept and measurement of tourism literacy, our research aspires to offer valuable insights conducive to the establishment of enhanced professional benchmarks by discerning the areas where individuals may exhibit deficiencies in their tourism literacy.

Method

The research included both exploratory and descriptive approaches, using literature review and secondary data collection for the theoretical part, and expert interviews for the application part. A descriptive research was then conducted using a survey text, which was implemented through face-to-face and web-based questionnaires. Results were analyzed and interpreted.

Since there is no clear information about the individuals within the scope of the main mass as a sampling method in the research, the 'snowball sampling' method, implying establishing contact with one of the units in the universe and then contacting another with the help of the contact person or persons, was preferred (Karagöz, 2019, p. 155). Persons who filled in the data forms incompletely and did not fill them reliably were not included in the study. According to the snowball sampling method, individuals who voluntarily agreed to participate in the survey were included in the study. The research sample was formed from destinations (Antalya, Cappadocia, Erciyes Mountain, Gaziantep, Eastern Black Sea) where tourism is vibrant and appealing to different types of tourism (mass, winter, health, nature, culture and gastronomy).

Various methods have been proposed in the literature to determine the minimum sample size for research studies, and it is recommended that the sample size be large enough to reliably estimate relationships, particularly for correlation coefficients estimated from small samples (Büyüköztürk, 2002, p. 480). One common suggestion is to base the sample size on the number of observed variables, with 5–10 times the number of variables being a typical recommendation. For the present study, which included a scale with 70 observation variables, the aim was to obtain a sample size of at least 350 and at most 700 individuals. To ensure that participants read the trial questions between the items, those who answered the questionnaire without reading them were excluded from the analysis.

Questionnaire technique was used as a data collection tool in the research. The questionnaire form used in the research consists of two parts. In the first part, the socio-demographic characteristics of the people in the tourism sector (age, gender, marital status, education level, place of residence, income status, etc.) and questions about the tourism sector (receiving education on tourism, in which department they work in the tourism sector, etc.) are given place. In the second part, there is the Tourism Literacy Scale consisting of 70 items. The scale items were prepared by the research team, and reference studies and content information of the courses taught in the tourism faculty were used. The scale type is a 5-degree Likert scale and there is no cut-off point. The items in the scale are scored as 1 = strongly disagree, 2 = disagree, 3 = undecided, 4 = agree, 5 = strongly agree. For content validity, opinions of experts in the field and assessment and evaluation were taken. 'Expert Evaluation Form' was used to obtain expert opinions and it was delivered face to face to those who agreed to give expert opinions.

Items with a Content Validity Index less than 0.80 were removed from the scale draft and the pilot study was started. For content validity, 102 items were first created by the authors, but after the meetings held every Thursday of the week between 15:00 and 17:00 for 3 months (2021 – October, November, December), some of the scale items were deleted and some were combined and the number of items became dropped to 65. After the Tourism Literacy Scale Development Workshop held on 17 January 2022, the items were increased to 70 and the final version of the scale was given by taking the opinions of experts in the field.

For the pilot study, 100 individuals working in Sivas Yıldız Mountain and Erciyes tourism centers were included. SPSS 26.0 and IBM AMOS 24 programmes were used in the analysis of the data obtained in the research. While evaluating the data, descriptive statistical methods as well as reliability analysis, explanatory factor analysis (EFA) and confirmatory factor analysis (CFA) were administered. The factor is the feature/structure that brings together items with common features in measurement tools and it is an implicit variable that cannot be observed directly. In order to test the reliability of the statements that make up the scales used in the research, firstly internal consistency analysis and then explanatory factor analysis were performed respectively to test the structural validity of the theoretical model and to evaluate the interrelated basic dimensions that make up the scales. The suitability of the data for explanatory factor analysis was examined with the Kaiser-Meyer-Olkin (KMO) coefficient and the Barlett Sphericity test.

Findings

The study participants were analyzed in terms of their socio-demographic characteristics and tourism-related work experience (Table 1). The gender distribution was 47.6% male and 52.4% female. The majority of participants were aged between 18 and 45 (87%), and the average work experience in the tourism sector was less than 10 years. About half of the participants could speak at least one foreign language, and one-third of them had overseas experience. The majority (62.5%) received tourism education, and the majority of the participants worked in the food and beverage or hotel and accommodation sectors in the Table 2, reliability analysis results for the tourism literacy scale are presented.

When the results of the item analysis for the tourism literacy scale in Table 3 were examined, the relationship between an item and other items was above 0.25, so no questions were removed from the scale again. When the general reliability levels of the scale were examined, it was determined that the reliability of the scale was at a high level. (Cronbach's Alpha = 0.979).

The study removed 28 questions from the scale due to low factor loadings and conducted another explanatory factor analysis. After extracting 42 remaining items, the analysis revealed high internal consistency and reliability, with factor loads ranging from 0.551 to 0.840. The KMO value of 0.953 and significant Barlett's test supported the scale's ability to gather data for each dimension according to the research topic's literature. The six factors in the research model were

Table 1. Socio-demographical distribution of participants.

	Number	%
Gender		
Male	272	47,6
Female	299	52,4
Age		
18–25	216	37,8
26–35	162	28,4
36–45	119	20,8
46–55	45	7,9
56–65	24	4,2
65 and above	5	0,9
Experience		
0–5 years	281	49,2
6–10 years	132	23,1
11–15 years	72	12,6
16–20 years	41	7,2
21 years and above	45	7,9
Number of foreign languages		
0	150	26,3
1	274	48,0
2	111	19,4
3 and above	36	6,3
Abroad experience		
Yes	191	33,5
No	380	66,5
Education in tourism		
Yes	357	62,5
No	214	37,5
Work department		
Food and Beverage Management	204	35,7
Hotel and Hospitality Management	140	24,5
Animation and Recreation	17	3,0
Travel agency	37	6,5
Tourist Guidance	56	9,8
Ministry of Culture and Tourism or Provincial Culture and Tourism Offices	5	0,9
Other	112	19,6

Knowledge-Skills Dimension of the Local Community as Regards Tourism (KSDLCT) at 17.972%, Knowledge-Skill Dimension of the Tourist (KSDT) at 14.714%, Knowledge-Skill Dimension of the Tourist Guide (KSDTG) at 11.183%, Knowledge-Skill Dimension of the Food and Beverages Management (KSDFBM) at 10.955%, Knowledge Dimension of Tourism Management (KDTM) at 7.321%, and Skill Dimension of Tourism Management (SDTM) at 4.114% of the total variance (Table 4). In Table 5, Regression coefficients of Tourism Literacy Scale are given.

The most important conformity criterion used in determining whether a model is inacceptable conformity or perfect conformity is X2/sd (Schermelleh-Engel & ve Moosbrugger, 2003). X2 tests the conformity of the data with the proposed model. Since X2/sd X2 value is affected by the sample, its ratio to degrees of freedom gives more reliable results. RMSEA presents the extent to which the model is compatible with the sample covariance, taking into account the degrees of freedom. CFI compares the tested model with the base model, taking into account the degrees of freedom and sample size. Unlike CFI, NFI makes comparisons regardless of the conditions required by the X2 distribution. TLI(NNFI) is the calculated version of the NFI taking into account the degrees of freedom. IFI tests the conformity of the model, taking into account the sample size and the complexity of the model (Gürbüz, 2019, p. 34).

After modification was made between the Q24–Q25, Q59–Q60, Q68–Q69, it was found as a result of CFA analysis that the items confirmed the relevant factors at 95% reliability level ($p < 0.05$ $p = 0.000$) and X2/sd, RMSEA, NFI and CFI values were determined to be within acceptable conformity ranges.

Table 2. Reliability analysis results for the tourism literacy scale.

Items	Scale mean when item is deleted	Scale variance when Item is deleted	Adjusted item-total correlation	Cronbach's alpha when item is deleted
Question1	250,1874	3400,560	0,525	0,979
Question2	249,8687	3386,097	0,680	0,979
Question3	249,8827	3384,974	0,662	0,979
Question4	250,0595	3383,063	0,664	0,979
Question5	249,9650	3388,820	0,638	0,979
Question6	250,3555	3417,437	0,389	0,979
Question7	249,7443	3391,959	0,578	0,979
Question8	249,9632	3406,172	0,475	0,979
Question9	250,1909	3379,604	0,671	0,979
Question10	250,1576	3378,459	0,653	0,979
Question11	250,2644	3377,655	0,652	0,979
Question12	250,6725	3402,347	0,474	0,979
Question13	250,0648	3419,240	0,382	0,979
Question14	249,9597	3399,319	0,532	0,979
Question15	249,9860	3402,245	0,486	0,979
Question16	249,9965	3399,779	0,511	0,979
Question17	249,8371	3381,031	0,669	0,979
Question18	250,1926	3371,612	0,693	0,979
Question19	249,8669	3377,631	0,691	0,979
Question20	249,9545	3388,612	0,629	0,979
Question21	250,1646	3375,233	0,654	0,979
Question22	250,1979	3378,871	0,649	0,979
Question23	249,9737	3391,994	0,573	0,979
Question24	250,9492	3419,129	0,368	0,979
Question25	250,5587	3393,314	0,543	0,979
Question26	250,2995	3379,168	0,668	0,979
Question27	250,1051	3371,256	0,729	0,979
Question28	250,0753	3372,400	0,731	0,979
Question29	250,0718	3378,176	0,691	0,979
Question30	250,1366	3378,869	0,663	0,979
Question31	250,0525	3378,580	0,696	0,979
Question32	249,8126	3387,644	0,637	0,979
Question33	249,8774	3379,708	0,665	0,979
Question34	249,7951	3387,458	0,653	0,979
Question35	250,3327	3384,226	0,594	0,979
Question36	250,2207	3385,832	0,622	0,979
Question37	249,9650	3377,508	0,706	0,979
Question38	250,0368	3371,428	0,714	0,979
Question39	250,0245	3368,712	0,673	0,979
Question40	249,7951	3383,570	0,691	0,979
Question41	249,7023	3391,192	0,674	0,979
Question42	249,8774	3377,497	0,676	0,979
Question43	249,8389	3374,823	0,707	0,979
Question44	249,6620	3379,673	0,736	0,979
Question45	249,8599	3373,370	0,679	0,979
Question46	249,7233	3384,130	0,672	0,979
Question47	249,6988	3384,499	0,663	0,979
Question48	249,9124	3376,768	0,699	0,979
Question49	249,8249	3386,099	0,662	0,979
Question50	249,5604	3388,275	0,653	0,979
Question51	249,6900	3383,930	0,690	0,979
Question52	249,8371	3383,947	0,658	0,979
Question53	249,8144	3376,327	0,739	0,979
Question54	249,7881	3383,546	0,684	0,979
Question55	249,5061	3392,573	0,657	0,979
Question56	249,5937	3389,957	0,669	0,979
Question57	249,5762	3385,094	0,689	0,979
Question58	249,7636	3381,809	0,683	0,979
Question59	249,4851	3402,113	0,575	0,979
Question60	249,4851	3394,608	0,645	0,979
Question61	249,7303	3383,513	0,656	0,979
Question62	249,7180	3382,775	0,670	0,979

Table 2. Continued.

Items	Scale mean when item is deleted	Scale variance when Item is deleted	Adjusted item-total correlation	Cronbach's alpha when item is deleted
Question63	249,5622	3393,654	0,643	0,979
Question64	249,4553	3404,687	0,598	0,979
Question65	249,6392	3390,196	0,657	0,979
Question66	249,5709	3393,663	0,641	0,979
Question67	249,3905	3411,603	0,526	0,979
Question68	249,3993	3404,019	0,610	0,979
Question69	249,4501	3398,880	0,598	0,979
Question70	249,7636	3415,019	0,427	0,979

Non-standardized regression weights (estimate), standardized regression weights (SRA), standard error (SE) and *t* values are important in model evaluation. Factor loadings are important because standardized regression coefficients (SRA) are greater than 0.30, t values are greater than 1.96, and 'p' values are less than 0.05. The fact that the factor loadings are significant means that the items are loaded correctly on the factors (Karagöz, 2017, pp. 481–482). The confirmatory factor analysis structure of the tourism literacy scale is clearly seen in the Figure 1 below.

The study identified the most effective items for each sub-dimension of tourism literacy. Q63 'I have knowledge about how the region I live in can be affected by tourism' was found to be the most effective item for the Knowledge-Skill Dimension of Local Community Regarding Tourism (KSDLCT) dimension with a coefficient of 0.816. Q38 'In transfers, I examine the visa applications that vary from country to country and plan my travel accordingly' was found to be the most effective item for the Knowledge-Skill Dimension of the Tourist (KSDT) dimension with a coefficient of 0.813. Q22 'I have communication and interaction skills that can draw attention to me and the destination in case of in-group communication problems that may occur during the tour' was found to be the most effective item for the Knowledge-Skill Dimension of the Tourist Guide (KSDTG) dimension with a coefficient of 0.873. Q15 'I know the warehouse layout rules in tourism businesses and I reflect them to my practices' was found to be the most effective item for the Knowledge-Skill Dimension of the Food and Beverages Management (KSDFBM) dimension with a coefficient of 0.864. Q3 'I can list the direct and indirect disciplines with tourism, I can express their
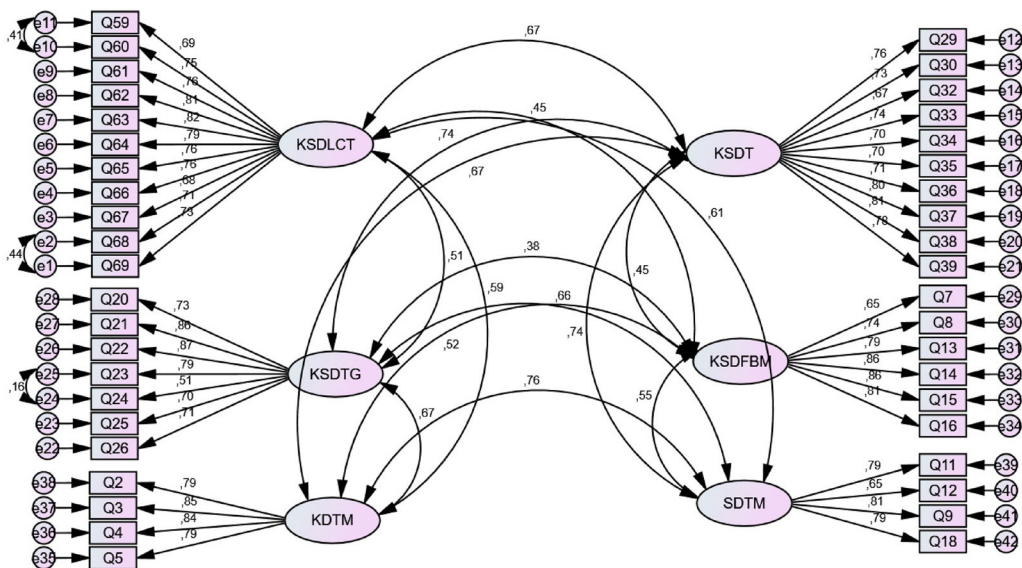

Figure 1. Tourism literacy scale path diagram (CFA).

Table 3. EFA results for the Tourism Literacy Scale.

Statements	Explanatory power of factor %	Eigenvalue	Reliability	Factor loads
The Knowledge-Skill Dimension of Local Community Regarding Tourism (KSDLCT)	17,250	17,002	0,936	
Question59: I know about tourism job opportunities for local people.				0,704
Question60: I can make inferences about how the place where I live may be affected by tourism.				0,709
Question61: I follow and participate in cultural and artistic activities in the region where I live.				0,638
Question62: I have information about the tourists coming to the area where I live.				0,693
Question63: I have information about how the region I live in can be affected by tourism.				0,746
Question64: I know and use the tourism spots and attractions in the region where I live.				0,769
Question 65: I have the competence to help the tourists coming to the area where I live.				0,706
Question 66: I know the interests, wishes and needs of the society I live in, and I know the socio-cultural and economic characteristics of my country and my immediate surroundings.				0,731
Question67: I know that tourism is not a luxury but a necessity.				0,742
Question68: I have the qualifications to address the guest				0,736
Question69: I know and use the rules of courtesy and protocol				0,757
The Knowledge-Skill Dimension of the Tourist (KSDT)	14,097	3,428	0,923	
Question29: I know and use the security rules in the cabin and the services offered to me during the flight				0,603
Question30: After the flight, I effectively benefit from transportation and consultancy services (uber, taxi, public transportation, car rental, etc.) in a foreign country.				0,608
Question32: In my shopping, I check whether the product information and the invoices of the product match.				0,569
Question 33: I am careful about whether foreign currency exchange transactions are made at their current real value.				0,653
Question34: I use my persuasion skills to buy the product at the most affordable price in my shopping.				0,638
Question35: I keep the originals and copies of the passport and visa in separate places and note their information in my travel book.				0,712
Question 36: I keep the contact information of my first degree relatives, the embassy to which I belong and my lawyer, in writing, in case of possible accidents, losses and similar negativities during my travel.				0,651
Question37: In my travel plans, I take into account factors such as local time differences, daily weather conditions, climatic conditions, topographic conditions, shopping and transportation tools, exchange rate, language and religion.				0,707
Question 38: I review the visa applications that vary from country to country in indirect transfers and plan my travel accordingly.				0,720
Question 39: I know how to perform visa and passport procedures				0,709
The Knowledge-Skill Dimension of the Tourist Guide (KSDTG)	10,960	2,947	0,894	
Question20: I can produce practical and permanent solutions in the face of the group's problems (injury, loss, vehicle breakdown, etc.) during the tour.				0,590
Question21: Communication with the group before the trip (land, climate, weather conditions, etc.), during the trip (art history, history, geography, etc. related to the destination and the geography visited) and after the trip (marketing the next destination and information about measuring satisfaction, etc.) i can install				0,725
Question22: I have communication and interaction skills that can draw attention to me and the destination in case of intra-group communication problems that may occur during the tour.				0,769
Question23: I have proficiency in addressing the group and planning travel.				0,799
Question24: I have the skills to communicate with the group in a second and third language other than English.				0,614
Question25: I have the knowledge of place and direction that will not hinder the group itinerary without using navigation in tour programmes.				0,712
Question26: I can come up with alternative solutions when there is no place for accommodation in destination visits without reservation.				0,551
The Knowledge-Skill Dimension of the Food and Beverages Management (KSDFBM)	10,457	1,622	0,907	
Question7: I know the hierarchical order in tourism businesses and apply general occupational safety rules. (chief waiter, bellboy, butler etc.).				0,586
Question8: I know and use the equipment used in tourism effectively (runner, desk pad, hot pot, bathtub, servant, corkscrew, etc.).				0,744
Question13: I know the chopping techniques in food and beverage businesses and use the right technique suitable for the product (knife, chopping boards, etc.).				0,852
Question14: I know and apply food safety and quality management systems in tourism enterprises.				0,806
Question 15: I know and apply the warehouse layout rules in tourism enterprises				0,840
Question16: I know and use food and beverage service techniques in tourism.				0,796
The Knowledge Dimension of Tourism Management (KDTM)	7,355	1,530	0,888	
Question2: I can diversify tourism according to various criteria (number of participants, place visited, purpose of participation, etc.).				0,657

(Continued)

Table 3. Continued.

Statements	Explanatory power of factor %	Eigenvalue	Reliability	Factor loads
Question3: I can list the direct and indirect disciplines of tourism and express their contributions to tourism.				0,756
Question4: I can explain the development of tourism in the historical process and the factors affecting its development.				0,710
Question5: I can express the supply-demand balance in tourism and the elements that make up the touristic product.				0,712
The Skill Dimension of Tourism Management (SDTM)	5,796	1,156		
Question9: I know tourism policies and financial regulations in the tourism sector and apply them in business. (Türkiye tourism strategy etc.).				0,514
Question11: I cooperate with relevant internal stakeholders in tourism (Departments, etc.)				0,643
Question12: I use effectively about hotel management systems such as opera, fidelio, synthesis, etc.				0,723
Question 18: I cooperate with relevant external stakeholders in tourism (Travel Agencies, Ministries, etc.)				0,511
KMO?? = 0.956	Explained Variance (%)	Total Reliability of the Scale = 0,		
Bartlett's = 17265,85 df = 861				
Sig < 0.001	(Total = % 65,916)			

Table 4. CFA results of the Tourism Literacy Scale.

Measurement name	Perfect compliance	Acceptable compliance	Result of the model	The success level of the model
χ^2/df	$0 < X^2/sd < 3$	$0 < X2/sd < 5$	3,246	Acceptable compliance
RMSEA	RMSEA ≤ .05	RMSEA ≤ .10	0,063	Acceptable compliance
NFI	.95 ≤ NFI < 1.0	.90 ≤ NFI < 1.0	0,903	Acceptable compliance
NNFI (TLI)	TLI ≥ .95	TLI ≥ .90	0,923	Acceptable compliance
CFI	CFI ≥ .95	CFI ≥ .90	0,916	Acceptable compliance

Schermelleh-Engel and ve Moosbrugger (2003)

contributions to tourism' was found to be the most effective item for the Knowledge Dimension of Tourism Management (KDTM) dimension with a coefficient of 0.848. Finally, Q9 'I know tourism policies and financial regulations in the tourism sector (Turkey's tourism strategy etc.)' was found to be the most effective item for the Skill Dimension of Tourism Management (SDTM) dimension with a coefficient of 0.808.

As a result of the analysis, 28 questions were removed from the scale and the tourism literacy scale was finalized with 42 questions. The total score to be obtained from the scale is between a minimum of 42 and a maximum of 210 points. The score received from the scale is directly proportional to the level of tourism literacy. It can be said that as the scale score increases, the level of tourism literacy increases.

When the tourism literacy levels of the participants in the research were examined, it was determined that they were at a medium level. It was observed that the participants' Tourism literacy general scale and sub-dimension scores were higher in those who received tourism education. Those with the highest KSDLCT, KSDT, KSDTG, KDTM, SDTM and Tourism literacy general scale scores are tourist guides. In the KSDFBM sub-dimension, those who get the highest scores are those working in food and beverage management, hotel and hospitality management units.

Conclusion

This study aimed to develop a scale for measuring tourism literacy levels of various groups, including tourism managers, tourists, employees, and residents. An item pool was created based on the literature and experts provided feedback on the items. A pilot form was developed based on this feedback and administered to the study sample. Exploratory factor analysis was conducted to examine the factor structure of the scale and confirmatory factor analysis and other validity analyses were performed to test its construct validity.

As a result of the exploratory factor analysis, it was seen that the scale consisted of 6 factors. These factors are the knowledge skill dimension of residents regarding tourism, the knowledge-skill

Table 5. Regression coefficients of Tourism Literacy Scale.

			Estimation	SRA	S.H.	t	p
Question69	<—	KSDLCT	1,000	0,725			
Question68	<—	KSDLCT	0,904	0,711	0,040	22,377	***
Question67	<—	KSDLCT	0,909	0,683	0,057	16,047	***
Question66	<—	KSDLCT	1,044	0,764	0,058	18,025	***
Question65	<—	KSDLCT	1,054	0,761	0,059	17,967	***
Question64	<—	KSDLCT	1,011	0,786	0,054	18,573	***
Question63	<—	KSDLCT	1,111	0,816	0,058	19,310	***
Question62	<—	KSDLCT	1,184	0,809	0,062	19,132	***
Question61	<—	KSDLCT	1,124	0,758	0,063	17,874	***
Question60	<—	KSDLCT	1,007	0,749	0,057	17,666	***
Question59	<—	KSDLCT	0,947	0,687	0,059	16,140	***
Question29	<—	KSDT	1,000	0,755			
Question30	<—	KSDT	1,004	0,734	0,055	18,104	***
Question32	<—	KSDT	0,869	0,666	0,054	16,224	***
Question33	<—	KSDT	1,007	0,744	0,055	18,388	***
Question34	<—	KSDT	0,896	0,702	0,052	17,223	***
Question35	<—	KSDT	1,017	0,704	0,059	17,273	***
Question36	<—	KSDT	0,958	0,705	0,055	17,299	***
Question37	<—	KSDT	1,042	0,799	0,052	19,968	***
Question38	<—	KSDT	1,108	0,813	0,054	20,369	***
Question39	<—	KSDT	1,144	0,775	0,059	19,275	***
Question26	<—	KSDTG	1,000	0,707			
Question25	<—	KSDTG	1,051	0,701	0,066	15,976	***
Question24	<—	KSDTG	0,794	0,506	0,069	11,529	***
Question23	<—	KSDTG	1,135	0,786	0,064	17,850	***
Question22	<—	KSDTG	1,274	0,873	0,065	19,744	***
Question21	<—	KSDTG	1,289	0,860	0,066	19,480	***
Question20	<—	KSDTG	0,997	0,729	0,060	16,596	***
Question7	<—	KSDFBM	1,000	0,653			
Question8	<—	KSDFBM	1,154	0,735	0,075	15,349	***
Question13	<—	KSDFBM	1,285	0,794	0,079	16,346	***
Question14	<—	KSDFBM	1,308	0,857	0,075	17,331	***
Question15	<—	KSDFBM	1,391	0,864	0,080	17,443	***
Question16	<—	KSDFBM	1,280	0,810	0,077	16,600	***
Question5	<—	KDTM	1,000	0,790			
Question4	<—	KDTM	1,091	0,844	0,050	22,001	***
Question3	<—	KDTM	1,077	0,848	0,049	22,113	***
Question2	<—	KDTM	0,963	0,786	0,048	20,133	***
Question11	<—	SDTM	1,000	0,788			
Question12	<—	SDTM	0,867	0,651	0,055	15,736	***
Question9	<—	SDTM	0,980	0,808	0,048	20,204	***
Question18	<—	SDTM	1,002	0,793	0,051	19,791	***

dimension of the tourist guide, the knowledge-skill dimension of food and beverage management, the knowledge dimension of tourism management, the skill dimension of tourism management. The factor loads of the items vary between .840 and .511.

Researchers collaborated with experts in tourism to name the six dimensions of the scale appropriately. While the titles were being given to the subscales, the items in the scale were examined in detail. Researchers and experts debated where to place each item. As a result of the discussions, the following conclusions were reached.

The 1st factor was prepared to measure the tourism literacy level of the resident. Scale items were designed to measure the level of knowledge of resident about the tourism sector and how they communicate with tourists. The answers to these Questions can be used to raise awareness as regards tourism literacy and to help resident participate more effectively in the tourism industry.

The 2nd factor was created to measure the tourism literacy level of tourists. Scale items were designed to measure the level of knowledge of tourists about the country or region they are travelling to and how they interact with the destination. Answers to these questions aim to help tourists

behave more consciously and responsibly in the tourism sector and to measure their knowledge level about the region and their communication skills. It can also be used as an important tool for tourism sector stakeholders to better understand the needs and expectations of tourists.

The 3rd factor aims to measure the skills and abilities of tourist guides on how to deal with various situations they may encounter during a tour. The answers to these questions can be used to measure tourist guides' ability to communicate with tourists, resolve problems, and manage tour programmes. In addition, it is thought that tourist guides can measure important skills such as the ability to communicate not only in English, but also in other languages, and the location information. These Questions can be beneficial for the professional development of tourist guides.

The 4th factor items aim to measure the professional knowledge and skills of people working in the field of food and beverage management. The answers to the questions can be used to measure the ability of employees in enterprises to work in accordance with hygiene, safety, quality and storage standards. In addition, these items can help the employees to use the equipment used in tourism effectively, to measure their knowledge about food and beverage service techniques, and to increase the service quality of the enterprises.

The 5th factor covers the knowledge that should be possessed about tourism in general. In this context, there are subjects such as the diversity of tourism, the relations between tourism disciplines, the historical development of tourism and related factors, the supply-demand balance and the elements of touristic products.

The 6th and the last factor covers the tourism management skills dimension. In this factor, besides general information about the tourism sector, there are subjects such as skills related to front office management, understanding the economic and political structure in tourism. It is also expected to have information about the important stakeholders operating in the tourism sector.

According to the results of the confirmatory factor analysis performed to test the validity of the 42-item and six-factor scale, the ratio of X^2 to degrees of freedom is over 3 (3,246). This result shows that the scale is consistent with the actual data. Table 4 shows that the conformity values are within acceptable limits, so it can be concluded that the 6-factor NTS is a valid model. In addition, the scale's Cronbach's alpha reliability coefficient (0.979), correlation coefficients between subscales and test-retest reliability coefficient show that the scale is reliable.

In conclusion, this study has successfully developed a comprehensive 42-item, six-factor scale (See Appendix 1) to measure tourism literacy across various groups. This scale covers diverse dimensions of tourism literacy, from resident knowledge and skills to tourist behaviours and professional competencies. It demonstrates strong validity and reliability, contributing significantly to the emerging field of tourism literacy. This pioneering effort provides a flexible tool for both research and practical applications in the tourism industry.

Discussion

When examining the findings of this study in conjunction with previous researches, it becomes evident that, despite variations in thematic focus, all share a common goal of contributing to the tourism sector and its stakeholders through the developed scale. This study, with its six-factor model, seeks a more comprehensive understanding of the field. As for the differences, Pearce and Foster (2007) discovered that backpackers often acquire a range of general skills during their travel experiences, such as self-confidence, problem-solving, communication, leadership, cultural awareness, flexibility, and risk-taking, which are typically viewed positively by the backpackers themselves. They also suggested that these skills have the potential to yield benefits in terms of future employment opportunities and broader societal contributions upon the travellers' return. Furthermore, Tsaur, Yen, and Chen's (2010) research underscores the critical significance of core knowledge and skills for independent tourists, categorized into three primary components: onsite travel capability, pre-trip preparation, and emergency response. The study proposes the potential utility of a measurement scale to facilitate self-assessment and improvement among independent tourists,

thereby benefiting both tourists and the tourism industry. In another study by Chang et al. (2019), a Traveler Geographic Literacy (TGL) scale was developed, comprising three components: travel geographic knowledge, travel geoinformation processing, and travel geospatial recognition. The research unveiled that TGL positively influenced tourist satisfaction while concurrently diminishing tourist hesitation and perceptions of destination risk. Lastly, Shirmohammadi et al. (2020) emphasize the pivotal role played by tour guides in the tourism sector. Their study underscores how tour guides, equipped with substantial geographical knowledge, possess the potential to substantially enhance service quality. Conclusively, they argue that tour operators can gain a competitive advantage by employing guides with robust geographical expertise, ultimately resulting in heightened tourist satisfaction and improved overall industry performance.

Limitations and future research directions

This study was conducted exclusively in Turkey, so its findings may not generalize to other countries. Future research could employ the same scale in different cultural contexts to potentially yield diverse outcomes, allowing for comparative analyses. Additionally, this study was constrained by a specific time frame and utilized quantitative analytical techniques, which may introduce temporal and methodological limitations. Subsequent studies could improve research comprehensiveness by employing mixed-method approaches that combine qualitative and quantitative research methods to explore the topic more thoroughly. Another limitation of the study is that the sample included individuals who currently work or have previously worked in the tourism sector, those who have received education in tourism, individuals providing education in this sector, and those with a connection to tourism.

Disclosure statement

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Appendix

Appendix 1: Questionnaire form

Tourism Literacy Scale

	I strongly disagree	I disagree	I am undecided	I agree	I strongly agree
Dear Participant, This survey form is carried out by Cumhuriyet University Faculty of Tourism in order to increase the service quality of our country by measuring the tourism literacy levels of individuals. At the scale, your personal information will not be used in any way and will not be shared with other institutions/organizations. Being objective in your answers will increase the reliability of the study. Thank you in advance for your interest and support.					

The Knowledge-Skill Dimension of Local Community Regarding Tourism

1. I know about the job opportunities that tourism provides for local people
2. I can make inferences about how the place where I live may be affected by tourism.
3. I follow and participate in cultural and artistic activities in the region I live in.
4. I have information about the tourists coming to the area where I live.
5. I have information about how the region I live in can be affected by tourism.
6. I know and participate in tourism spots and attractions in the region I live in
7. I have the competence to help the tourists coming to the area where I live.
8. I know the interests, wishes and needs of the society I live in, and I know the socio-cultural and economic characteristics of my country and my immediate surroundings.
9. I know that tourism is not a luxury but a necessity.
10. I have the qualifications to address the guest
11. I know and use the rules of courtesy and protocol

The Knowledge-Skill Dimension of the Tourist

12. I know and use the security rules in the cabin and the services offered to me during the flight.
13. After the flight, I use the transportation and consultancy services in a foreign country effectively (uber, taxi, public transportation, car rental, etc.).
14. In my shopping, I check whether the product information and the invoices of the product match.
15. I pay attention to whether the currency exchange transactions are made at the current real value.
16. I use my persuasion skills to buy the product at the most affordable price.
17. I keep the originals and copies of the passport and visa in separate places and note their information in my travel book.
18. I keep the contact information of my first-degree relatives, the embassy to which I belong and my lawyer, in writing, in case of possible accident, loss and similar negativities during my travel.
19. In my travel planning, I take into account factors such as local time differences, daily weather conditions, climatic conditions, topographic conditions, shopping and transportation tools, exchange rate, language and religion.
20. I examine the visa applications that vary from country to country in transfers and I plan my travel accordingly.
21. I know how to perform visa and passport procedures

The Knowledge-Skill Dimension of the Tourist Guide

Continued.

Dear Participant, This survey form is carried out by Cumhuriyet University Faculty of Tourism in order to increase the service quality of our country by measuring the tourism literacy levels of individuals. At the scale, your personal information will not be used in any way and will not be shared with other institutions/organizations. Being objective in your answers will increase the reliability of the study. Thank you in advance for your interest and support.	I strongly disagree	I disagree	I am undecided	I agree	I strongly agree
22. During the tour, I can produce practical and permanent solutions in the face of questions experienced by the group (injury, disappearance, vehicle breakdown, etc.).					
23. Communication with the group before the trip (land, climate, weather conditions, etc.), during the trip (art history, history, geography, etc. related to the destination and the geography visited) and after the trip (marketing the next destination and information about measuring satisfaction, etc.) i can install					
24. I have communication and interaction skills that can draw attention to me and the destination in case of intra-group communication problems that may occur during the tour.					
25. I am skilled in group addressing and travel planning					
26. I have the skills to communicate with the group in a second and third language other than English					
27. I have the location and direction information that will not disrupt the group itinerary without using navigation in tour programmes.					
28. I can produce alternative solutions when there is no place in accommodation in destination visits made without reservation					
The Knowledge-Skill Dimension of the Food and Beverages Management					
29. I know the hierarchical order in tourism businesses and apply general occupational safety rules. (chief waiter, bellboy, butler etc.).					
30. I know the equipment used in tourism and use it effectively (runner, desk pad, hot pot, bathtub, servant, corkscrew, etc.).					
31. I know the chopping techniques in food and beverage businesses and use the right technique suitable for the product (knife, chopping boards, etc.).					
32. I know and apply food safety and quality management systems in tourism enterprises.					
33. I know and apply the warehouse layout rules in tourism businesses					
34. I know and use food and beverage service techniques in tourism					
The Knowledge Dimension of Tourism Management					
35. I can diversify tourism according to various criteria (number of participants, place visited, purpose of participation, etc.).					
36. I can list the direct and indirect disciplines of tourism and express their contributions to tourism.					
37. I can explain the development of tourism in the historical process and the factors affecting its development.					
38. I can explain the supply-demand balance in tourism and the elements that make up the touristic product.					
The Skill Dimension of Tourism Management					
39. I know and apply tourism policies and financial regulations in the tourism sector.					
40. I cooperate with relevant internal stakeholders in tourism (departments, guests, employees, etc.)					
41. I effectively use hotel management systems such as opera, fidelio, synthesis, etc.					
42. I cooperate with relevant external stakeholders in tourism (local people, travel agencies, public institutions, etc.)					