

ORIGINAL ARTICLE

Validation and reliability study of the Turkish version of the health services access scale

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Abstract

Objective: The aim of this study is to establish the Turkish validity and reliability of the Healthcare Access Scale and to determine whether perceptions of healthcare access vary according to demographic variables.

Methods: Data for the research were collected through surveys of 468 participants across Türkiye. Exploratory factor analysis and confirmatory factor analysis were conducted in the process of adapting the Healthcare Access Scale. In addition, t-tests and ANOVA tests were used to determine variations in access to healthcare according to demographic variables. The factors obtained from the exploratory factor analysis were confirmed by confirmatory factor analysis. The fit index values of the five-dimension health care access scale were found to be in the good fit range.

Results: As a result of the exploratory factor analysis, a five-dimensional structure was obtained, explaining 69.625% of the total variance. In the confirmatory factor analysis, the model's fit indices (CMIN/DF = 2.148, RMR = 0.049, GFI = 0.949, IFI = 0.969, TLI = 0.961, CFI = 0.969, NFI = 0.944, AGFI = 0.926, RMSEA = 0.050) were found to be satisfactory. Reliability analysis indicated a Cronbach's alpha coefficient of 0.919 for the entire scale, with coefficients for the subdimensions ranging from 0.740 to 0.874.

Conclusion: This study makes a significant contribution to the literature by testing the appropriateness, validity and reliability of the Healthcare Access Scale.

Keywords: Health Services, Health System, Validity and Reliability, Access to Health Services, Turkish Validity, Health

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INTRODUCTION

Health care is a vital determinant of overall well-being, encompassing not only physical health but also mental and social dimensions. The core objective of health services is to safeguard and improve public health, facilitate recovery, and support individuals and communities in leading healthier lives. This comprehensive focus highlights the importance of accessible, effective, and equitable health care services as fundamental to achieving positive health outcomes across diverse populations.¹⁻³ Closely linked to human health, health services are structured differently from other sectors. Although viewed through an economic lens, they are of strategic importance and require continuous improvement.¹ As a priority in national policies, health services are an integral part of social life, leading to significant progress in recent years.^{3,4} Successful health systems require a patient-centred approach⁵. While access to health services is a fundamental right of every individual, there are challenges to accessing health care. In addition to excellent quality and quantity of health services, access is also crucial. This access should be equitable.⁶ Therefore, many countries and organisations continuously evaluate their health systems in terms of effectiveness, equity, efficiency and quality.⁷

The provision of health care should be based on the medical needs of individuals rather than their income, race or place of residence. Policies, financing and delivery of health care are among the reasons for inequalities in access to health services.⁸ Healthcare is becoming increasingly financially burdensome. Many people around the world are forced to spend money on health services,

experiencing financial hardship and serious distress.⁹ Families use their savings to pay for health care, borrow money, sell assets, cut back on food, cut back on education, and fall into poverty.¹⁰ Therefore, health expenditure should be improved and subsidised through insurance programmes (in all forms, including national social security), health insurance schemes, mutual benefit societies and commercial private insurance.¹¹

Countries have developed different health care systems with financial objectives such as keeping people healthy, providing patient care and controlling health care expenditure. The fundamental dynamics of these systems include the resources, management, organisation, delivery and financing of health services.¹² Healthcare is a constantly changing and evolving sector, essential for individuals and societies, and should be supported by new technologies and facilitated access.¹³ The provision of quality health care requires health professionals to understand the needs of individuals and communities and to find the best solutions to those needs.¹⁴ Individuals should know how to access health care, evaluate the quality of the services they receive, take responsibility for their health and protect their rights.¹⁴ In addition, factors such as doctor-patient communication and the hospital environment should be assessed.¹⁵

Access to health care is linked to a number of factors that affect public health. Therefore, the reliability and validity of measures used in this area are crucial for policy making and health planning. Ensuring the validity and reliability of a Turkish health access scale is important for effective evaluation of health services in Türkiye. This study aims to contribute to the development of more effective and targeted

health policies by establishing a strong research infrastructure on access to health care.

The main objective of this study is to assess the validity and reliability of the Turkish version of the Healthcare Access Scale developed by Penchansky and Thomas.¹⁶ In addition, the performance of this scale according to demographic variables will be examined to understand differences that may occur in access to health care. This evaluation will play a crucial role in the planning of health policies and service.

Access to Healthcare

The Universal Declaration of Human Rights by the United Nations (UN) asserts that every individual is entitled to a standard of living adequate for health and well-being.¹⁷ Articles 25.1 and 25.2 of the Universal Declaration of Human Rights stipulate the right of individuals and families to access health and well-being, alongside basic needs. Article 25.1 states, "Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control." Article 25.2 further emphasizes, "Motherhood and childhood are entitled to special care and assistance. All children, whether born in or out of wedlock, shall enjoy the same social protection".¹⁸ In this context, it is emphasized that greater attention should be paid to women and children.

Access is generally recognized as a crucial factor in the matching between patients

and health services. The dimensions of this alignment identified by Penchansky and Thomas (1981) include availability, accessibility, appropriateness, acceptability and affordability. Ensuring these dimensions is essential for an effective health system.¹⁶ Competence in the provision of health services is important, and existing resources must be used effectively.¹⁹ In particular, the development of a knowledgeable and skilled health workforce should be supported.²⁰

As stated by Sachs (2012), individuals worldwide have the right to accessible standards of health care, regardless of race, religion, political beliefs, economic or social status. Access to health should be based on the principle of equality for each individual.²¹ Efforts should be made to minimise health inequalities in order to ensure fair and equitable access to health services.²² At present, access and equity are among the key performance measures for health services.²³ Accessing healthcare can be hindered by various barriers. The demand for healthcare services in society is not always constant. Situations such as pandemics, epidemics, wars, natural disasters, and economic difficulties can affect access to healthcare.²⁴ Moreover, the distance to healthcare institutions is often perceived as a barrier to accessing healthcare.^{19,25} Optimal healthcare delivery requires significant technology, is costly, and demands a qualified workforce. Geographic differences affect hospitalization durations among children, adults, and the elderly.¹⁴ Current issues in healthcare payments are highlighted in various areas due to the gap between knowledge and application.²⁶ Access to healthcare services can be negatively affected by the complexity of payment reforms.²⁷

In Türkiye, healthcare services include both public and private options. In Türkiye, access to healthcare services is provided through the General Health Insurance system. All citizens registered with the Social Security Institution can receive free medical treatment at contracted hospitals.²⁸ The Ministry of Health, Social Security, and universities play significant roles in the provision of healthcare services. According to reference²⁹ the Ministry of Health holds the primary responsibility despite the potential complexity arising from the involvement of multiple institutions.

In 2003, Türkiye implemented a healthcare reform called the 'Health Transformation'. The aim of this reform was to achieve structural transformations in healthcare policies, service delivery, financing models, personnel regulations, quality and quantity, public-private partnerships, and healthcare industries. The regulations focus on promoting collaboration between the public and private sectors, developing health tourism, and transforming healthcare industries.³⁰

Countries aim to improve healthcare access by increasing financing sources. It is noted that healthcare expenditures are higher in developed countries due to a larger elderly population.³¹ All countries, whether developed or developing, invest significantly in protecting and improving the health of their citizens. In Türkiye, healthcare expenditures totalled 4,985 million TL in 1999, increasing to 393,941 million TL in 2021 and projected to reach 606,835 million TL in 2022.³²

METHOD

Population and Sample of the Study

The study population consists of individuals in Türkiye who currently use or have the potential to benefit from healthcare services. Based on data obtained from the address-based population registration system in 2022, Türkiye has a population of 85,279,553 people.³³ Therefore, for this study, the population will be determined using the convenience sampling method. The study's sample size was calculated using the $n=(p*q)$ formula, resulting in a determination that a sample size of 384 would be sufficient to reach the target.³⁴ In factor analysis, it is recommended to have 5 to 10 participants per item. For this 16-item scale, a sample size of 468 is adequate, meeting the recommended criteria. The final sample size of 468 confirms that the study has a sufficient number of participants. The convenience sampling method was chosen for its cost-effectiveness and speed compared to other sampling methods.

Data Collection Instruments and Adaptation Process

Approval was obtained for the translation of the Access to Health Services Scale developed by Penchansky and Thomas (1981) into Turkish via email.¹⁶ Subsequently, the original scale was translated from English to Turkish, and expert opinions were sought to ensure linguistic and conceptual validity. The translation was sent to three language experts proficient in English. After making the translation compatible with the English original, adjustments and changes were made to ensure content validity based on the opinions of five experts, including four middle-level

and one senior-level hospital administrators experienced in hospital management. A pilot study was conducted with 19 and 24 hospital employees to obtain data on the test version of the research questions. Following the pilot study, the finalized research questions, along with questions prepared to obtain demographic information, received ethical approval. The research questions, approved by the ethics committee, were distributed to participants across Türkiye via an online survey.

Access to Health Services Scale:

The Access to Health Services Scale consists of 16 items and 5 dimensions. The dimensions are availability, convenience, affordability, accessibility, and acceptability.¹⁶ Detailed information about the dimensions is provided below (Appendix-1).

Availability: The dimension of availability in the Access to Health Services Scale refers to the adequacy of available health services, including the type of health services and the availability of doctors, dentists, auxiliary health personnel, clinics, hospitals, and the ability to meet patient needs. It consists of 4 items in the original scale.

Accommodation: Accommodation is a dimension consisting of 4 items that measure the convenience provided in terms of waiting time for appointments, suitability of examination hours, time spent in the waiting room, and ease of communication with the physician.

Affordability: This dimension, consisting of 3 items, expresses the compatibility between the prices of the provided health services and the payment systems such as insurance that patients have. It can be considered an

important dimension in terms of measuring the value perception formed in response to the total cost paid for the health service received by the patient.

Accessibility: Accessibility is one of the dimensions that assesses the convenience provided in terms of the time and distance it takes for patients requesting health services to reach the facility where the service will be provided. It is assessed with 2 items and is among the components affecting patient compliance in accessing health services.

Acceptability: Health service providers can provide services to patients selected based on certain characteristics. Therefore, this dimension, consisting of 3 items, addresses factors such as satisfaction derived from the location of the facility, the appearance of the facility, and seeing other patients receiving services from the facility, from the perspective of patients.

Demographic Information Form:

This form was created by researchers to determine the demographic characteristics of the participants. The form consists of 6 questions. Participants were asked about their age, gender, income level, education level, the type of hospital they generally receive services from, and the frequency of receiving healthcare services in the last 1 year.

Ethical Considerations and Data Collection

After determining the objectives and scope of the study, necessary documents were prepared to assess ethical suitability, and an application was made to the Artvin Çoruh University Scientific Research and Publication Ethics Committee. With the decision dated 05.02.2023 and numbered

E-18457941-050.99-80543, the ethics committee approved the study's ethical compliance. A brief paragraph explaining the purpose of the study was included at the beginning of the questionnaire, and informed consent was obtained from the participants. The survey covers individuals over the age of 18 throughout Türkiye. The data were collected using an online survey method, and the data collection process took place between 10.02.2023 and 10.01.2024, lasting approximately 11 months.

Data Analysis

The collected data were examined for missing data, and it was determined that there were no missing values. Before beginning the analysis of the data, a check for normal distribution was conducted to decide which method to use. In this context, it was evaluated whether the mean scores of the scale and its subscales exhibited a normal distribution. A decision was made taking into account the skewness and kurtosis coefficients as indicators of normality for the obtained data.³⁴

To test the overall structure of the scale, exploratory factor analysis (EFA) was applied to the data collected from a total of 468 participants from different regions of Türkiye. Confirmatory factor analysis (CFA) was then conducted to confirm the fit of the emerged structure with the variables. Additionally, goodness-of-fit indices (CFI, TLI, RMSEA) were determined after conducting security analyses of the model defined by exploratory factor analysis and tested by confirmatory factor analysis. Accordingly, factor loading (CR)

(>.70) and average variance extracted (AVE) (>.50) values were obtained to determine the fit of the variables in the constructed model. To determine whether there were differences in demographic characteristics and the frequency of receiving services from hospitals in terms of factors, t-tests and ANOVA were applied. The LSD (Least Significant Difference) test from the Post Hoc tests was employed to identify the source of differences among groups. SPSS 24 and Amos 23 packages were used to analyse the data.

RESULTS

The results of the conducted analyses have been elaborated in detail in this section to contribute to the research aim. The findings have been divided into four parts for evaluation: findings related to exploratory factor analysis, findings related to confirmatory factor analysis, basic analyses, and findings obtained from difference analyses.

Table 1 provides demographic data for participants from across Türkiye.

Table 1 shows that the majority of participants are female (68.8%) and most belong to the middle-income level (53.4%). The proportion of those receiving services from public hospitals (42.1%) is higher compared to other types of hospitals, with university graduates constituting the highest percentage (57.5%) in terms of education level. Furthermore, 55.8% of the participants are between the ages of 18-30. Moreover, the study revealed that 35.7% of the participants received hospital services seven or more times in the past year.

Variables	n	%	Variables	n	%		
Type of Hospital Services Received	Public Hospital	197	42,1	Gender	Female	322	68,8
	Private Hospital	75	16,0		Male	146	31,2
	City Hospital	121	25,9	Age	18-30	261	55,8
	University Hospital	75	16,0		31-40	91	19,4
Income Level	Low	150	32,1		41-50	63	13,5
	Medium	250	53,4	51 and above	53	11,4	
	High	68	14,5	Frequency of Visiting Hospital (Within the last 1 year)	0-1	38	8,1
Education	Primary/Secondary School	34	7,3		2-4	162	34,6
	High School	82	17,5		5-6	101	21,6
	University	269	57,5		7 and above	167	35,7
	Postgraduate	83	17,7				

Exploratory Factor Analysis

The results of the exploratory factor analysis of the Health Services Access Scale are presented in Table 2. The calculated Kaiser-Meyer-Olkin (KMO) value in Table 2 is 0.928, indicating an excellent result. In other words, the high KMO

value suggests that the sample size used in the study meets the necessary conditions for conducting factor analysis. Additionally, since $p(\text{sig.}) = p < 0.001$, the result of the Bartlett test is also found to be significant. These findings indicate that the data meet the necessary conditions for conducting factor analysis.

Factors	Item No	Factor Loadings	Eigenvalue	Explained Variance
Availability	Mv3	.729	7.263	%45.392
	Mv4	.713		
	Mv2	.692		
	Mv1	.691		
	Kly4	.518		
Accommodation	Kly1	.762	1.268	%7.925
	Kly2	.706		
	Kly3	.692		
Affordability	Odn1	.724	1.147	%6.546
	Odn2	.653		
	Odn3	.649		
Accessibility	Uls1	.869	1.086	%5.226
	Uls2	.829		
Acceptability	Kbl3	.743	1.009	%4.5 ³⁶
	Kbl1	.658		
	Kbl2	.640		

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax

Kaiser-Meyer-Olkin Measure of Sampling Adequacy(KMO): 0.928

Bartlett's Test of Sphericity: Approx. Chi-Square: 3570.698; df:120 sig:0.000

Explained Total Variance: %69,625

The explained total variance ratio in Table 2 is calculated as 69.625%. It is observed that the Availability factor explains 45.392% of the total variance, the Accommodation dimension

explains 7.925%, the Affordability dimension explains 6.546%, the Accessibility dimension explains 5.226%, and the Acceptability dimension explains 4.536% of the total

variance.

Confirmatory Factor Analysis

The purpose of using both exploratory and confirmatory analysis in adaptation processes is that while exploratory factor analysis aims to generate theory, confirmatory factor analysis has a testing technique aimed at confirming the theory. In the use of confirmatory factor analysis for testing or scale development, structural equation modeling-based factor analysis and hypothesis testing are more acceptable because it is assumed that there may be correlations between the variables that make up the factors. Thus, it can be used to determine the level of fit of the model with the obtained variables.³⁵

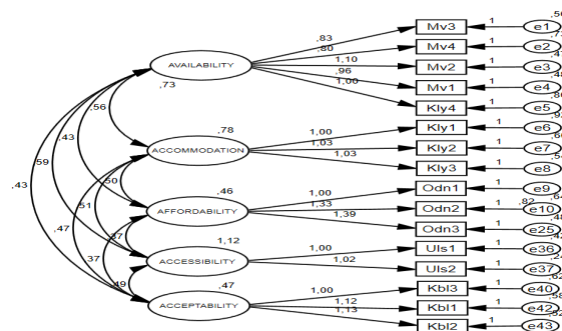


Figure 1. Confirmatory Factor analysis AMOS Output

Figure 1 shows the AMOS output for confirmatory factor analysis. Table 3 presents the calculated goodness-of-fit indices.

Indices	N	CMIN/DF	RMR	GFI	IFI	TLI	CFI	NFI	AGFI	RMSEA
Model	468	2.148	0.049	0.949	0.969	0.961	0.969	0.944	0.926	0.050

When examining the goodness-of-fit values of the health services access scale presented in Table 3, it can be observed that the CMIN, RMR, IFI, TLI, CFI, NFI, and RMSEA values are

very good, while the GFI and AGFI values fall within the good fit range. This indicates a very good fit between the model and the dataset.³⁵

Factors	Item	Standardized Value	Estimate	Standard Error	T	P
Accommodation	Kly1	.677	1.000			
	Kly2	.761	1.031	.074	13.871	***
	Kly3	.780	1.035	.073	14.119	***
Affordability	Odn1	.601	1.000			
	Odn2	.749	1.329	.109	12.142	***
	Odn3	.805	1.386	.110	12.625	***
Availability	Mv4	.624	.800	.065	12.252	***
	Mv2	.808	1.097	.071	15.427	***
	Mv1	.762	.955	.065	14.679	***
	Mv3	.689	.833	.062	13.414	***
Accessibility	Kly4	.691	1.000			
	Uls1	.852	1.000			
Acceptability	Uls2	.910	1.024	.054	18.917	***
	Kbl3	.656	1.000			
	Kbl1	.709	1.123	.090	12.509	***
	Kbl2	.733	1.130	.088	12.806	***

Table 4 presents findings regarding the interaction between scale factors and scale items. Regression values indicate the predictive power of observed variables, i.e., factor loadings. Since all “p” values for the above model pairwise relationships are less than 0.001, the factor loadings are significant. The significant p-values indicate that the items are loaded onto the factors. Additionally, standardized regression coefficients greater than or equal to 0.624 indicate high factor loadings, i.e., the predictive power of latent variables for each item. Finally, the standard error ratios and t-values at the 99% confidence level ($t > 1.96$) are at acceptable levels.

Primary Analyses

The calculated CR, AVE and Cronbach Alpha coefficients for the subscales of the Access to Healthcare Scale are presented in Table 5. As can be seen from Table 5, for the reliability analysis, an “item-total correlation-based item

analysis” was performed on the data obtained from the target population, which yielded an overall reliability coefficient of $\text{Alpha} = 0.919$ for the entire scale. Furthermore, the reliability coefficient for the availability dimension was $\text{alpha} = 0.838$, for the accommodation dimension was $\text{alpha} = 0.783$, for the affordability dimension was $\text{alpha} = 0.753$, for the accessibility dimension was $\text{alpha} = 0.874$ and for the acceptability dimension was $\text{alpha} = 0.740$. These results indicate that the scale has a high reliability.

The calculated AVE values in Table 5 are greater than 0.519 and the CR values are greater than 0.715, confirming the construct validity of the scale. In addition, the skewness and kurtosis coefficients for the Access to Healthcare Scale range from 0.161 to 0.901, indicating that the scale data follow a normal distribution.³⁴

Table 5. Cronbach's Alpha, CR, and AVE Values for Subscales of The Scale							
Factors	Std. Error	Mean	Cronbach's α	AVE	CR	Skewness	Kurtosis
Availability	0.873	3.23	.838	.566	.803	-.187	-.408
Accommodation	1.024	2.69	.783	.519	.763	-.273	.702
Affordability	0.959	2.74	.753	.547	.715	.161	-.482
Accessibility	1.146	3.156	.874	.721	.837	-.396	-.901
Acceptability	0.861	3.189	.740	.564	.721	-.376	.095
Total Scale	.919						

Difference Analyses

Difference analyses based on demographic variables were conducted as part of the Turkish adaptation study of the Healthcare Access Scale. Given the coefficients of skewness and kurtosis, the data were assumed to follow a normal distribution. For the comparison of

binary variables, t-tests were used, while for more than two variables, the LSD test was preferred to determine the source of group differences.³⁶ Table 6 shows the results of the differences in the dimensions of the Access to Healthcare Scale based on the gender and marital status of the participants.

Table 6. Comparison of Healthcare Access Dimensions and Gender and Marital Status

Factors	Variables	n	Mean	T	P
Availability	Female	146	3.2616	0.550	.617
	Male	322	3.2137		
Accommodation	Female	146	2.7192	0.361	.744
	Male	322	2.6822		
Affordability	Female	146	2.8607	1.804	.199
	Male	322	2.6884		
Accessibility	Female	146	3.1884	0.411	.569
	Male	322	3.1413		
Acceptability	Female	146	3.2763	1.469	.226
	Male	322	3.1501		

In Table 6, it is observed that the dimensions of the healthcare access scale did not vary based on participants' marital status and

gender ($p > 0.05$).

Table 7 presents the results of the ANOVA test conducted on the healthcare access scale

Table 7. Demographic Indicators Analysis in terms of Suitability, Accommodation, Affordability, Accessibility, Acceptability

Demographic Indicators	Variables	F	P	Source of Difference
Age	Availability	0.920	0.452	No Difference
	Accommodation	2.281	0.060	No Difference
	Affordability	2.231	0.065	No Difference
	Accessibility	0.489	0.744	No Difference
	Acceptability	0.513	0.727	No Difference
Type of Hospital Visited	Availability	1.458	0.214	No Difference
	Accommodation	3.232	0.012	University (2.76). Public (2.52). Private (2.85). City Hospital (2.85)
	Affordability	1.695	0.150	No Difference
	Accessibility	3.571	0.007	University (3.01). Public (2.97). Private (3.42). City Hospital (3.36)
	Acceptability	2.810	0.141	No Difference
Income Level	Availability	15.927	0.000	Low (2.92) Medium (3.32) High (3.55)
	Accommodation	13.994	0.000	Low (2.34) Medium (2.83) High (2.96)
	Affordability	29.757	0.000	Low (2.29) Medium (2.89) High (3.16)
	Accessibility	2.817	0.061	No Difference
	Acceptability	24.707	0.000	Low (2.80) Medium (3.34) High (3.47)
Education Level	Availability	1.507	0.199	No Difference
	Accommodation	1.328	0.258	No Difference
	Affordability	0.340	0.851	No Difference
	Accessibility	0.713	0.583	No Difference
	Acceptability	4.532	0.210	No Difference
Frequency of Hospital Visits (Last 1 Year)	Availability	2.093	0.029	0-1 (3.44). 2- 4 (3.26). 5-6 (3.35). 7 and above (2.86)
	Accommodation	2.840	0.003	0-1 (2.93). 2- 4 (2.72). 5-6 (2.70). 7 and above (2.39).
	Affordability	2.722	0.004	0-1 (3.18). 2- 4 (2.83). 5-6 (2.85). 7 and above (2.45).
	Accessibility	1.131	0.339	No Difference
	Acceptability	1.287	0.241	No Difference

Table 7 summarizes the results of the ANOVA test. No significant differences were found in the sub-dimensions of healthcare services based on age and educational level ($p>0.05$). Regarding the type of hospital, no differences were observed in the Availability, Affordability, and Acceptability dimensions ($p>0.05$). However, public hospitals (2.52) had a significantly lower mean score for the Accommodation dimension compared to other hospital types ($p<0.05$). Additionally, individuals receiving services from university (3.01) and public hospitals (2.97) had lower perceptions of Accessibility than those using city (3.36) and private hospitals (3.42) ($p<0.05$).

No differences in the Accessibility dimension were found based on income level ($p>0.05$), but significant differences were observed in other dimensions ($p<0.05$). Low-income individuals reported lower perceptions of Availability, Accommodation, Affordability, and Acceptability, indicating greater challenges in accessing healthcare services.

Finally, regarding healthcare service utilization frequency, no differences were found in the Accessibility and Acceptability dimensions ($p>0.05$). However, individuals visiting 7 or more hospitals per year reported lower perceptions of Availability, Accommodation, and Affordability compared to others ($p<0.05$), highlighting greater difficulties in accessing healthcare services.

DISCUSSION

The results of this study confirm that the Health Services Access Scale is a reliable and valid instrument for measuring access to healthcare services in Türkiye. The EFA revealed that the scale includes five factors—Availability, Accommodation, Affordability, Accessibility,

and Acceptability—explaining a total of 69.625% of the variance. The CFA demonstrated good model fit, with all fit indices indicating an excellent fit between the proposed model and the data. The reliability analysis yielded high Cronbach's Alpha values, confirming the internal consistency of the scale. The difference analyses indicated that demographic factors such as income level and type of hospital visited had significant effects on certain dimensions of healthcare access, while gender and marital status did not show significant differences. Compared to other studies in the literature; The Access of Older Adults to Outpatient Primary-Care Health Services Scale (AOAOPHSS) was evaluated for psychometric properties among Mexican older adults, resulting in a refined 21-item Accessibility Subscale with good internal consistency.³⁷ Another study introduced the Perceived Access to Health Services (PAHS) scale, demonstrating its relationship with perceived health vulnerability and overall health outcomes.³⁸ A Turkish study developed a scale to measure the impact of healthcare access on voter behavior, identifying three dimensions with acceptable reliability and validity.³⁹ Additionally, a 25-item Access to Health Care (AHC) instrument was developed and validated, encompassing six components: approachability, availability, accessibility, affordability, acceptability, and accommodation, showing strong construct validity and internal consistency.⁴⁰ These scales offer a valuable means of measuring and comparing the accessibility of healthcare services across diverse populations. In this context, the findings indicate that access to healthcare is a significant societal indicator, and that such scales can be employed for more comprehensive analyses of health policies and practices.

The study found that participants' perceptions of access to healthcare did not differ according to gender, age or level of education. However, those who received services from public and university hospitals, those with lower income levels and those who received 7 or more healthcare services per year were found to have relatively more difficulties in accessing healthcare services compared to their counterparts.

Repeating the study with a larger sample over different time periods across Türkiye could reflect trends in perceptions of access to healthcare and provide guidance for policy makers. In addition, factors such as the type of insurance, the presence of chronic diseases and the use of continuous medication are also likely to have an impact on perceptions of access to healthcare. Taking these factors into account in future studies is considered beneficial.

CONCLUSION

The results of this study are of particular significance for local policymakers, as they indicate potential avenues for enhancing or expanding healthcare services in order to guarantee equitable access for all citizens. A further study conducted across a range of regions in country over an extended period could reveal trends and shifts in perceptions of healthcare access, thus assisting in the formulation of policies. The incorporation of additional variables, such as insurance types, chronic diseases, and continuous medication usage, into future research will further enhance the scale's validity and comprehensiveness. This will guarantee that the scale remains a dynamic instrument, capable of supporting effective health policy decisions that align with the evolving structure of the national healthcare system.

Limitations

As with any study, this research has several limitations.

Sampling Method: The study employed a convenience sampling method, which limits the generalizability of the sample group. Alternative sampling methods could have provided a broader and more diverse group; however, this method was chosen for its cost-effectiveness and speed.

Regional Focus: Although the study includes 468 participants from various regions of Türkiye, the data is limited to specific regions. This may not fully capture the differences in access to healthcare services across various geographic areas.

Cross-Sectional Design: The study's cross-sectional design restricts the ability to examine causal relationships between factors affecting access to healthcare services. Longitudinal studies could provide more robust results.

Data Collection Period: The data collection period (from February 10, 2023, to January 10, 2024) lasted approximately 11 months. This duration may not sufficiently capture the evolving perceptions of access to healthcare services over time.

Demographic Limitations: The demographic information form used in the study examined basic characteristics such as age, gender, and income level. However, deeper socio-economic factors and health status variables were not considered.

In light of these limitations, it is expected that a more accurate evaluation of the research would be possible.

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Ethics Committee Approval

After determining the objectives and scope of the study, necessary documents were prepared to assess ethical suitability, and an application was made to the Artvin Çoruh University Scientific Research and Publication Ethics Committee. With the decision dated 05.02.2023 and numbered E-18457941-050.99-80543, the ethics committee approved the study's ethical compliance

Author Contribution: Concept: NE, MF, OB; Design: NE; MF,OB Supervising: OB, MF, NE ; Data Collection and Processing: OB, MF,NE; Analysis and/or Interpretation: OB, MF,NE Critical Review: OB, MF,NE

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Appendix 1: Health Access Scale

Health Access Scale							
Dimensions							
Availability Dimension (Expressions ranging from 1 to 4)							
Accommodation Dimension (Expressions ranging from 5 to 8)							
Affordability Dimension (Expressions ranging from 9 to 11)							
Accessibility Dimension (Expressions ranging from 12 to 13)							
Acceptability Dimension (Expressions ranging from 14 to 16)							
Note 1: There is no reverse-coded expression in the scale. A high score indicates easy access to health services and high satisfaction.							
Note 2: The scale can be used with proper citation.							
No	Original Expression	Turkish Expression	Extremely Dissatisfied	Dissatisfied	Neutral	Satisfied	Extremely Satisfied
1	<i>All things considered, how much confidence do you have in being able to get good medical care for you and your family when you need it?</i>	Her şeyi göz önünde bulundurduğunuzda, ihtiyacınız olduğunda kendiniz ve aileniz için iyi bir tıbbi bakım alabileceğinizden ne kadar memnunsunuz?					
2	<i>How satisfied are you with your ability to find one good doctor to treat the whole family?</i>	Tüm aileyi tedavi edecek iyi bir doktor bulabilmekten ne kadar memnunsunuz?					
3	<i>How satisfied are you with your knowledge of where to get health care?</i>	Nereden sağlık hizmeti alacağınız konusundaki bilginizden ne kadar memnunsunuz?					
4	<i>How satisfied are you with your ability to get medical care in an emergency?</i>	Acil bir durumda tıbbi yardım alabilme becerinizden ne kadar memnunsunuz?					
5	<i>How satisfied are you with how long you have to wait to get an appointment?</i>	Randevu almak için gereken bekleme süresinden ne kadar memnunsunuz?					

6	<i>How satisfied are you with how convenient physicians' office hours are?</i>	Doktorların muayene saatlerinin size uygunluğundan ne kadar memnunsunuz?					
7	<i>How satisfied are you with how long you have to wait in the waiting room?</i>	Bekleme odasında geçirmeniz gereken süreden ne kadar memnunsunuz?					
8	<i>How satisfied are you with how easy it is to get in touch with your physician(s)?</i>	Hekim(ler)inizle iletişim kurmanın kolay olmasından ne kadar memnunsunuz?					
9	<i>How satisfied are you with your health insurance?</i>	Sağlık sigortanızdan ne kadar memnunsunuz?					
10	<i>How satisfied are you with the doctors' prices?</i>	Doktor fiyatlarından ne kadar memnunsunuz?					
11	<i>How satisfied are you with how soon you need to pay the bill?</i>	Tedavi faturasını ödemeniz gereken süreden ne kadar memnunsunuz?					
12	<i>How satisfied are you with how convenient your physician's offices are to your home?</i>	Doktorunuzun ofisinin evinize yakınlığından ne kadar memnunsunuz?					
13	<i>How difficult is it for you to get to your physician's office?</i>	Doktorunuzun ofisine erişim kolaylığından ne kadar memnunsunuz?					
14	<i>How satisfied are you with the appearance of the doctor's offices?</i>	Muayenehanelerin görünümünden ne kadar memnunsunuz?					
15	<i>How satisfied are you with the neighborhoods their offices are in?</i>	Doktor ofislerinin bulunduğu mahallelerden ne kadar memnunsunuz?					
16	<i>How satisfied are you with the other patients you usually see at the doctors' offices?</i>	Muayenehanelerde genellikle gördüğünüz diğer hastalardan ne kadar memnunsunuz?					