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ARTICLE

Development of a scale of attitudes towards foreign health workers

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Abstract

Purpose – The purpose of this study is to develop a scale to assess public attitudes towards the inclusion of foreign healthcare workers in the Turkish healthcare system.

Theoretical framework – The research idea and model were developed based on a review of the literature.

Design/methodology/approach – Within the scope of the study, the scale development process was applied. The study sample consists of 500 people living in the Karabağlar district of Izmir, Türkiye.

Findings – Factor analysis revealed a structure consisting of four factors and 24 items. These factors were named "Negative Perspective," "Professional Confidence," "Acceptance" and "Education Policy" to best reflect the items grouped under them. The structure determined by factor analysis was confirmed using confirmatory factor analysis.

Practical & social implications of research – With globalization, foreign healthcare professionals can work in many countries besides their own. This study, which examines public attitudes towards foreign healthcare professionals working or intending to work in Türkiye, is expected to guide subsequent studies in the field. This demonstrates the social impact of the study.

Originality/value – A scale not previously developed in the literature was developed within the scope of this study. This scale is original in terms of methodology and human resources.

Keywords: Foreign healthcare workers, Turkish healthcare system, attitude scale, Türkiye, scale development.

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1 Introduction

The demand for healthcare services is changing due to a number of factors, including global population growth, rising life expectancy, and an increasing proportion of older individuals within the population. These factors increase the necessity for healthcare workers (Harvey et al., 2004; Organisation for Economic Co-Operation and Development, 2024). Over time, the growing demand for rights and services within the healthcare and social services sectors has led to a workforce shortage. This shortage has resulted in a number of issues, including mandatory overtime, insufficient compensation and unsafe working conditions, which have contributed to burnout and increased dissatisfaction (Eşkin Bacaksız et al., 2015; Barber & López-Valcárcel, 2010). In recent years, the increased demand for healthcare workers has made this employment gap more visible (Meydanlıoğlu, 2013; Çiftçioğlu et al., 2018; International Labour Organization, 2020).

In order to guarantee uninterrupted access to healthcare services, countries have been implementing a range of strategies to tackle the issue of workforce shortages (Yıldırım, 2009). These efforts include expanding healthcare education in order to increase the available workforce, improving working conditions within the healthcare sector with a view to ensuring a better work-life balance, and encouraging the adoption of new healthcare technologies (Organisation for Economic Co-Operation and Development, 2024).

Another potential avenue for addressing the healthcare workforce shortage and enhancing the pool of prospective candidates is to facilitate the employment of foreign healthcare professionals (Brush et al., 2004). This is a policy especially practiced by developed countries to employ health workers from abroad through brain drain (Hall, 2005). Thus, the number of healthcare workers who constitute the skilled labour force does not decrease compared to the population, and the country receiving the brain drain does not deplete its human capital stock. This is ensured by foreign health workers (Docquier & Rapoport, 2012). The migration of healthcare workers is usually voluntary, aimed at achieving a better standard of living. However, this situation sometimes varies. One such case is when a healthcare worker serves as a foreign national in a different country as a result of national instability and internal conflicts. One of the most important examples of this is the Venezuelan health workers in Peru. Although the exact number is unknown, many Venezuelan health workers live in Peru (Rees, 2024). However, the frequent employment of foreign healthcare workers to improve access to healthcare services often serves to exacerbate existing social issues, such as discrimination and stigmatisation, while simultaneously deepening and spreading these problems (Larsen, 2007).

Examining health indicators in Türkiye reveals that the country ranks among the lowest within the OECD countries in terms of healthcare human resources. One of the strategies for turning this situation to its advantage is to employ foreign healthcare professionals. A key factor in successfully integrating foreign healthcare workers into Turkish society is a more favourable societal attitude towards them. A review of the literature reveals that, within the Turkish context, no psychometric measurement tool is available that specifically assesses societal attitudes towards foreign healthcare professionals. This gap in literature prompted the design of the present study.

This study involved a scale development process. First, the relevant literature was reviewed, followed by the construction of a conceptual framework and the formulation of draft scale items. The subsequent stages included obtaining expert opinions, conducting a pilot study, and collecting data. Once the data were collected, the analysis phase began. Initially, exploratory factor analysis (EFA) was conducted to determine the structure of the model. In order to verify the identified structure, confirmatory factor analysis (CFA) was then performed. The result was a measurement tool consisting of 24 items and four factors: Negative Perception (7 items), Professional Trust (10 items), Acceptance (3 items) and Education Policy (4 items).

The literature review highlights the lack of a comprehensive and valid instrument designed to assess the societal implications of employing foreign healthcare professionals in the Turkish context. This study makes a significant contribution to the field by providing valuable data on societal acceptance and integration processes in countries such as Türkiye, which receive foreign labour due to globalisation and the increasing international mobility of healthcare professionals. In this regard, the research is expected to guide policymakers on issues such as the integration of foreign healthcare workers, levels of societal acceptance, and the development of adaptation policies.

2 Conceptual framework

The concepts of health and being healthy are being reconsidered in Türkiye, as in many other parts of

the world. In addition to essential healthcare needs, people are increasingly seeking healthcare services for non-essential reasons, which has contributed to a shortage of healthcare workers within the current system. The shortage of personnel in the healthcare sector has resulted in the implementation of flexible and prolonged working conditions. This, in turn, has resulted in the widespread prevalence of negative conditions, including mandatory overtime and workplace bullying (Brush et al., 2004). Such unfavourable circumstances have a detrimental impact on the work-life balance of healthcare professionals. One of the principal solutions to mitigate or eliminate these challenges is to increase the number of professional healthcare workers. One strategy to achieve this is to integrate foreign professionals into the healthcare system (Harvey et al., 2004).

A significant number of countries are pursuing strategies to address the shortage of healthcare professionals and enhance productivity. This is being done by ensuring the efficient and appropriate employment of healthcare professionals. This includes diversifying healthcare education, expanding workplace rights and benefits and implementing salary adjustments. Moreover, in recent years, nations have increasingly resorted to recruiting healthcare workers from abroad as a means of addressing workforce shortages, resulting in a notable increase in the migration of healthcare workers across different countries (Yıldırım, 2009; Organisation for Economic Co-Operation and Development, 2019).

In recent years, there has been a significant increase in the number of healthcare workers in most OECD countries. While the expansion of the domestic healthcare workforce has been a significant factor, it is also evident that foreign-born and domestically trained professionals who have studied abroad have contributed to this increase. A review of data from OECD member countries indicates that the proportion of healthcare workers who have emigrated from their home countries exceeds that of individuals who have received their training abroad (Organisation for Economic Co-Operation and Development, 2019). The United States, in particular, relies heavily on foreign-educated and foreign-born healthcare professionals (Chen et al., 2013). Despite the existence of 'soft barriers', such as difficulties in credential recognition, migrant healthcare professionals have demonstrated their indispensable role in European countries during the Covid-19 pandemic (Dotsey, 2023).

During the Ebola virus outbreak, there was a serious need for foreign healthcare workers. In the globalised world, foreign health workers are needed to eliminate and combat possible epidemics due to their rapid spread (Nohrstedt & Baekkeskov, 2018). The migration of healthcare personnel within the WHO European Region is driven by a number of factors, which affect both source and recipient countries (Dussault et al., 2009). Policy solutions that address this phenomenon include improving recruitment practices, facilitating entry for direct care workers, and implementing programmes designed to enhance the experience of migrating healthcare professionals (Chen at al., 2013). Although foreign workers help to fill labour shortages, overdependence on foreign workers and its effects have become serious social problems. These problems can be categorised as difficulties integrating into the country where the foreign worker is employed and poor working conditions (Boswell & Straubhaar, 2004; Abdul-Rahman et al., 2012).

There is also a need for legal regulations regarding malpractice lawsuits faced by foreign healthcare professionals. The current system's regulations may be insufficient to protect foreign healthcare workers and their patients (Marune, 2024).

In Japan, one of the most developed countries in the world, the growing elderly population has resulted in an increasing need for foreign healthcare professionals, particularly those specialising in elderly care. In response to this situation, Japan has established economic partnership agreements with a number of countries with the objective of facilitating the arrival of foreign healthcare workers. This is indicative of the country's acceptance of foreign healthcare professionals and the associated policies (Hoggard, 2023). A similar situation can be observed in Canada, where the ageing population has resulted in increased challenges in elderly care, prompting the integration of foreign healthcare workers, particularly those specialising in elderly care, into the Canadian system. This process was facilitated by temporary migration flows between 2000 and 2014 (Salami et al., 2016). In Germany, the shortage of healthcare personnel is being addressed by integrating foreign healthcare professionals into the system (Reiff et al., 2020; Kovacheva & Grewe, 2015). Italy's healthcare system is unable to train sufficient numbers of nurses to meet its needs, resulting in the recruitment of nurses from abroad (Rocco & Stievano, 2013). In Türkiye, the employment of foreign healthcare workers is governed by the 'Regulation on the Procedures and Principles Regarding the Employment of Foreign Healthcare Professionals in Private Healthcare Institutions

in Türkiye', which was first published on 22 February 2012 (issue no. 28212), with subsequent amendments on 16 July 2013 (issue no. 28709), 16 June 2016 (issue no. 29744) and 1 April 2017 (issue no. 30025). This regulation provides the framework for the employment of foreign healthcare professionals in Türkiye (Türkiye Cumhuriyeti Sağlık Bakanlığı, 2012 [Ministry of Health of the Republic of Türkiye]).

In the study conducted by Negin et al. (2013), the situation of foreign healthcare workers in Australia was analysed using census data from 2006 and 2011. The analysis showed that, by 2011, a greater number of foreign healthcare professionals had been integrated into the Australian healthcare system compared to 2006. The majority of these professionals were from India, Nepal, the Philippines and Zimbabwe. It was determined that Australia realised savings of approximately 1.7 billion USD in medical education costs in 2013, primarily due to the inclusion of qualified foreign healthcare workers through skilled migration. In a further study by Negin et al. (2016), census data from 2006 and 2011 were employed to identify foreign healthcare professionals engaged in the provision of elderly care in Australia. The findings revealed a 333% surge in the number of healthcare professionals from Asian countries and a 145% increase in those from sub-Saharan Africa between 2006 and 2011. In a study conducted by Oikelome et al. (2022), the migration of healthcare workers from developing countries to the United States was examined. One of the key findings was that the United States views this migration as a policy issue and has taken steps to support it accordingly. Palmer et al. (2024) examined the employment crisis of South Sudanese healthcare workers living as refugees in Uganda. Within the scope of the study, interviews were conducted with 34 South Sudanese health workers and 10 Ugandan health system managers. The interviews revealed that, although South Sudanese health workers living in Uganda have the opportunity to work legally, there are problems related to the employment of these individuals. It was found that the bureaucratic procedures are a major obstacle for South Sudanese health workers seeking to work under humane and relatively better working conditions in public health facilities within the Ugandan health system. Due to the difficulties involved, foreign health workers are employed in non-coercive roles in private clinics in more remote villages, where wages are low and they are unable to fulfil their chosen profession.

Hua et al. (2024) examined the relationship between language confidence and job satisfaction among foreign-born nurses working in Japan, considering the mediating effect of workplace discrimination and the moderating effect of migration duration. A total of 187 foreign-national nurses were included in the study. The analysis revealed that language confidence was positively associated with job satisfaction and negatively associated with workplace discrimination. Additionally, the duration of migration was found to have a positive effect on the relationship between language confidence and job satisfaction.

3 Methodology

3.1 Population and sample

The population under investigation comprises individuals aged 18 and over who reside in the Karabağlar district of Izmir. A total of 521 people were surveyed face-to-face, and data from 21 individuals were excluded from the sample due to incomplete responses. As a result, data collected from 500 individuals were used in the study. Nunnally (1994) and Bryman and Cramer (2001) propose that the sample should comprise a minimum of five times and an optimum of ten times the number of scale items. However, Hinkin (1995) suggests that an optimal sample size of four to ten times the number of scale items. Kline (1994) asserts that a minimum of 100 participants is sufficient for scale development, whereas Gorsuch (2014) specifies a range of 50 to 200 participants. In light of the aforementioned viewpoints, including 500 participants in a study with a 24-item scale is deemed sufficient to adequately represent the population.

3.2 Conceptual model of the study

The conceptual model of the study was developed with the objective of identifying the factors (negative perception, professional trust, acceptance and educational policy) that influence individuals' attitudes towards foreign healthcare workers, as well as determining the structural relationships among these factors.

The following section presents an explanation of the sub-dimensions of the scale, which emerged after the conceptual model was developed. The explanations regarding the scale sub-dimensions that emerged after the conceptual model are as follows:

Negative Perception: The statements collected under this dimension demonstrate that individuals have a negative perception of foreign healthcare workers. A review of the literature reveals studies that support this phenomenon. Statements 1-7 were created within the

scope of the research based on the following literature: Can et al. (2022), Mapedzahama et al. (2018) and Abdul-Rahman et al. (2012).

Professional Trust: This dimension encompasses statements that affirm the competence of foreign healthcare workers and their alignment with the qualifications and competencies of Turkish healthcare workers. These assertions justify their presence in the healthcare system. Statements 8-18 were created within the scope of the research under the title of 'Professional Trust' based on the following literature: Marune (2024), Palmer et al. (2024), Rees (2024), Hoggard (2023) and Rocco & Stievano (2013).

Acceptance: This dimension encompasses statements pertaining to the acceptance of foreign healthcare professionals within the Turkish healthcare system. Statements 19-21 were created within the scope of the research based on the following literature: Hua et al. (2024), Reiff et al. (2020) and Salami et al. (2016).

Educational Policy: The statements in this dimension suggest that foreign healthcare workers should be integrated into the Turkish healthcare system and that educational policies should be implemented to facilitate this process. Statements 22-25 were created within the scope of the research based on the following literature: Hua et al. (2024), Oikelome et al. (2022), Negin et al. (2016) and Negin et al. (2013).

Table 1 showing the above-mentioned issues is as follows:

3.3 Scale development process

The conceptual framework underpinning the scale administered to the study participants was developed based on an analysis of the existing literature (Hua et al., 2024; Rees, 2024; Marune, 2024; Hoggard, 2023; Oikelome et al., 2022; Can et al., 2022; Reiff et al., 2020; Mapedzahama et al., 2018; Negin et al., 2016; Rocco & Stievano, 2013; Negin et al., 2013; Abdul-Rahman et al., 2012). The researchers then constructed a set of questions based on this framework.

Table 1
Souces of Expression

Factor	Sources of Statements
Negative Perceptions	Can et al., 2022; Mapedzahama et al., 2018; Abdul-Rahman et al., 2012
Professional Trust	Marune, 2024; Palmer et al., 2024, Rees, 2024; Hoggard, 2023; Rocco and Stievano, 2013
Acceptance	Hua et al., 2024; Reiff et al., 2020; Salami et al., 2016
Educational Policy	Hua et al., 2024; Oikelome et al., 2022; Negin et al., 2016; Negin et al., 2013

3.4 Data collection process

This study was conducted in accordance with the ethical standards of the Istanbul Gedik University Ethics Committee, which granted approval on 9 November 2023. The approval number is E-56365223-050.02.04-2023.137548.206-580. The data collection process was conducted between 9 November 2023 and 14 September 2024. Participants had to meet the following inclusion criteria: be over 18 years of age; reside in the Karabağlar district of Izmir; have received healthcare services at least once in the past year; and possess knowledge about the concept of foreign healthcare workers. To guarantee that these criteria were met, participants underwent an initial screening process at the beginning of the survey. Those who failed to meet the stipulated inclusion criteria were subsequently excluded from the study. Individuals who participated despite not meeting the criteria were identified prior to data analysis and excluded from the analysis, thus completing the data collection process. A sample of 500 participants was recruited, excluding individuals involved in determining scope validity. Information regarding the data obtained within the scope of the study is presented as an annex (see Supplementary Data).

4 Results

4.1 Content validity and pilot study

In this study, a scale was developed for the purpose of measuring individuals' attitudes towards foreign healthcare workers. A preliminary investigation was undertaken, comprising a review of the relevant literature and the generation of a pool of 25 items by the research team. These items were then reviewed by a panel of 10 experts from the fields of health sciences, healthcare services and education. The Lawshe technique was employed to calculate the content validity index, yielding a value of 0.96. A pilot study was conducted with 20 participants. Following expert feedback, one item was removed, resulting in a final draft consisting of 24 items. Statement M15 (*"Foreign healthcare professionals can contribute to the health sector"*) was excluded from the scale because its factor loading was below 0.30. The scale was administered on two occasions, with a three-week interval between administrations, to a

sample group of 35 individuals. This was done to ensure test-retest reliability. The results of the Pearson correlation analysis revealed an agreement of 81% between the two administrations. Once the reliability of the scale had been confirmed, it was administered to the main sample group of 500 participants.

4.2 Results related to construct validity

The items generated by the researchers were subjected to factor analysis using IBM SPSS software (Supplementary Data 1 – Dataset). The factor analysis yielded factor loadings for the items. A factor loading of 0.30 or higher is deemed acceptable (Karagöz, 2021; Karagöz & Bardakçı, 2020). In this study, the minimum factor loading was found to be 0.514, indicating that the factor loadings were statistically adequate. The results of the exploratory factor analysis (EFA) are presented in Table 2 for the reader's convenience.

Both EFA and confirmatory factor analysis (CFA) were conducted on the same sample (Worthington & Whittaker, 2006). CFA was conducted using the IBM AMOS software to assess the degree of fit between the data and the model. The model fit diagram is presented in Figure 1.

Table 3 provides information about the model fit results of the research.

Upon statistical examination of the fit indices presented in Table 3, it can be concluded that the model demonstrates a good fit. This suggests that the model has construct validity.

The results of the CFA pertaining to the enhanced measurement model identified within the context of the study are presented in Table 4.

Examination of Table 4 reveals that the p-value for all pairwise relationships is less than 0.001. This indicates that the factor loadings are significant and that the items are correctly assigned to the appropriate factors. Moreover, the standardized regression coefficients exceeding 0.677 indicate that the latent variables have robust predictive power, thereby substantiating the reliability of the factor loadings of the items. Additionally, the analysis demonstrated that the average variance extracted (AVE) value exceeded 0.50 and that the composite reliability (CR) value was higher than 0.60. These findings provide statistical confirmation that the model demonstrates convergent validity (Fornell & Larcker, 1981). In addition, the heterotrait-monotrait ratio (HTMT) values were calculated to assess the discriminant validity of the developed scale (Clark & Watson, 2016; Clark & Watson, 2019). The HTMT values were calculated as follows: Negative Perceptions and Professional Trust: 0.61; Negative Perceptions and Acceptance: 0.60; Negative Perceptions and Educational Policy: 0.50; Professional Trust and Acceptance: 0.74; Professional Trust and Educational Policy: 0.72; and Acceptance and Educational Policy: 0.69. The accepted threshold for the HTMT value is 0.85 or below. The analysis conducted within the scope of this study reveals that the value between all factors is below 0.85. This reveals that the scale developed within the scope of the study has discriminant validity between its dimensions.

Table 5 presents the statistical structure of the relationships among the subfactors of the developed scale, namely negative perception, professional trust, acceptance and educational policy.

A significant negative relationship was identified between negative perception and the subfactors of professional trust, acceptance and educational policy ($p < 0.001$). This suggests that negative attitudes towards foreign healthcare workers have a negative impact on professional trust, acceptance and the educational policies devised to address this issue in Türkiye. Conversely, the inverse of this relationship was also identified. The relationships between professional trust, acceptance and educational policy were found to be positive and significant ($p < 0.001$), indicating a direct positive association between these factors.

Table 6 presents the reliability coefficients for the sub-dimensions of the scale and for the overall scale.

The Cronbach's alpha values for the subfactors of negative perception (0.932), professional trust (0.925), acceptance (0.841) and educational policy (0.870) fall within the range of $0.80 \leq \alpha < 1.00$, indicating a high level of reliability. The Cronbach's alpha value for the overall scale was found to be 0.758, which falls within the range of $0.60 \leq \alpha < 0.80$ and is therefore deemed to be reliable.

5 Discussion

Although the existing literature on foreign healthcare workers is somewhat limited, there are a number of relevant studies that can be drawn upon. For example, a comparable study by Eşkin Bacaksız et al. (2015) devised an attitude scale pertaining to the recruitment of foreign nurses, thereby making a valuable contribution to the field. While their study included nurses in its sample group, the current study has a broader scope, focusing on community-based healthcare workers. Another difference

Table 2

Results of Explanatory Factor Analysis

Factor	Statements	Factor Loadings	Explained Variance (%)
Negative Perception Factor	M1:I do not trust foreign healthcare professionals when there are local healthcare professionals available.	.813	22.694
	M2:I do not believe that foreign healthcare professionals are professionally competent.	.761	
	M3:Unless absolutely necessary, I would not want to be treated by a foreign healthcare professional.	.827	
	M4:Foreign healthcare professionals are not as attentive as those from my own country.	.784	
	M5:Due to cultural differences, I do not think a foreign healthcare professional would understand me.	.775	
	M6:Foreign healthcare professionals should not be employed unless absolutely necessary.	.796	
	M7:Foreign healthcare professionals cannot empathize as well as healthcare professionals from my own country.	.798	
Professional Trust Factor	M8:The institutions where foreign healthcare professionals receive their education are reliable.	.634	19.921
	M9:I trust the recommendations of foreign healthcare professionals.	.617	
	M10:The foreign healthcare professionals working in our country are among the best from their own countries.	.767	
	M11:I consider foreign healthcare professionals to be professionally competent.	.635	
	M12: Since foreign healthcare professionals are familiar with procedures from their home countries, they possess at least as much professional knowledge as local doctors.	.690	
	M13:Healthcare professionals from different cultures tend to communicate better with patients.	.722	
	M14:The diverse cultural background of a foreign healthcare professional enriches the treatment process.	.593	
	M16:I am supportive of foreign healthcare professionals working in my country.	.528	
	M17:Healthcare professionals from different countries can improve the quality of healthcare services.	.514	
	M18:I would consider choosing foreign healthcare professionals for my own healthcare needs.	.585	
Acceptance Factor	M19:As long as the education is the same, I make no distinction between healthcare professionals.	.731	14.060
	M20:I believe there are highly knowledgeable foreign healthcare professionals.	.841	
	M21:In a globalized world, there should be no distinction between local and foreign healthcare professionals.	.611	
Educational Policy Factor	M22:Incentives should be provided for foreign healthcare professionals to receive better education in our country.	.695	13,142
	M23:As a national policy, we should place greater emphasis on foreign healthcare professionals.	.781	
	M24: The number of institutions that train foreign healthcare professionals should be increased.	.810	
	M25:Policies should be developed to encourage foreign healthcare professionals to come to our country.	.726	

Evaluation Criteria; Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO): .950; Approx. Chi-Square: 8847.906; Barlett's Test of Sphericity: .000; Extraction Method: Principal Components Rotation Method: Varimax; Total Variance Explained: 69.817; Reliability Coefficient: .758

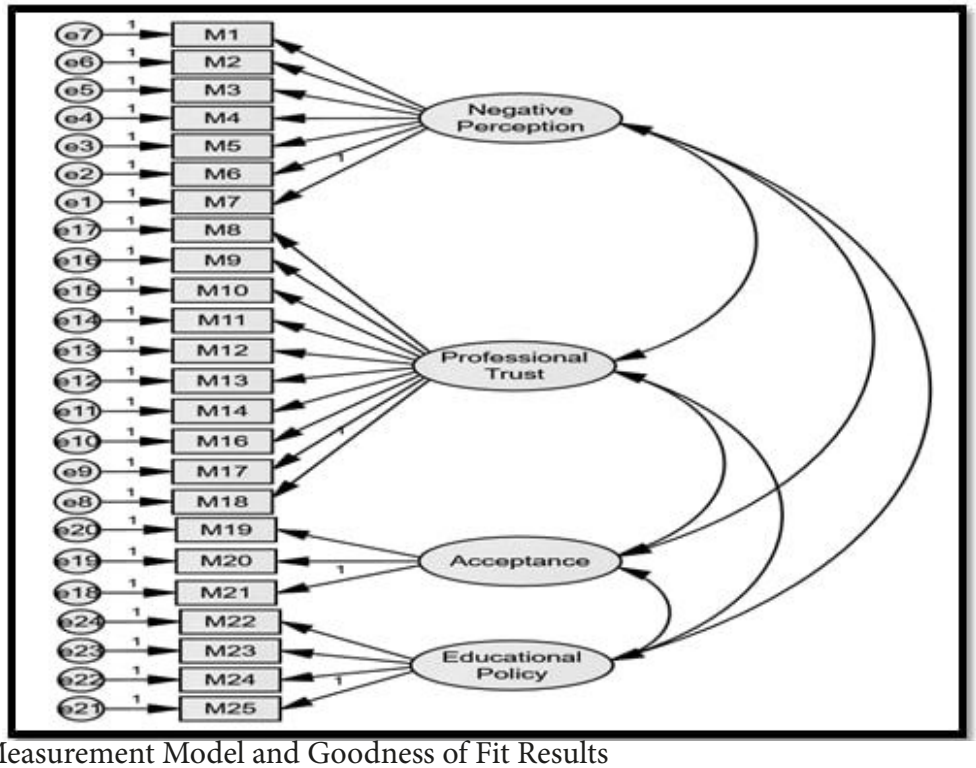

Figure 1. Measurement Model and Goodness of Fit Results

Table 3
Research Model Fit Results

	CMIN/df (χ^2/sd)	IFI	CFI	RMR	SRMR
Acceptable Value*	<5	>.900	>.900	<.08	<.08
Calculated Value	4.272	.908	.908	.074	.050

*Reference: (Schumacher & Lomax, 2010; Hooper et al., 2008; Munro, 2005; Hu & Bentler, 1999; Browne & Cudeck, 1993).

Table 4
Results of the CFA for the Improved Measurement Model

Factor	Statements	Standardized Value	Estimate	Standard Error	t-value	p	AVE	CR
Negative Perception Factor	M1	.848	1.034	.047	21.967	<0,001	.66	.89
	M2	.791	.971	.049	19.953	<0,001		
	M3	.852	1.086	.049	22.111	<0,001		
	M4	.809	.964	.047	20.572	<0,001		
	M5	.770	.920	.048	19.249	<0,001		
	M6	.824	1.078	.051	21.074	<0,001		
	M7	.802	1.000					
Professional Trust Factor	M8	.706	.749	.042	17.942	<0,001	.55	.91
	M9	.737	.808	.042	19.062	<0,001		
	M10	.533	.567	.045	12.579	<0,001		
	M11	.717	.769	.042	18.361	<0,001		
	M12	.769	.852	.042	20.263	<0,001		
	M13	.706	.749	.042	17.971	<0,001		
	M14	.709	.838	.046	18.072	<0,001		
	M16	.838	1.017	.044	23.118	<0,001		
	M17	.822	.963	.043	22.434	<0,001		
	M18	.834	1.000					

Table 4
Continued...

Factor	Statements	Standardized Value	Estimate	Standard Error	t-value	p	AVE	CR
Acceptance Factor	M19	.831	.958	.044	21.802	<0,001	.64	.76
	M20	.677	.736	.044	16.547	<0,001		
	M21	.870	1.000					
Educational Policy Factor	M22	.721	1.148	.070	16.373	<0,001	.65	.83
	M23	.841	1.062	.054	19.501	<0,001		
	M24	.887	1.161	.056	20.582	<0,001		
	M25	.764	1.000					

between this study and that of Eşkin Bacaksız et al. (2015) is that the present study addresses not only the employment of foreign nurses, but also foreign healthcare workers as a whole.

A review of the literature reveals that developed countries such as Japan, Canada and Germany have successfully integrated foreign healthcare workers into their health systems, particularly within elderly care services. This is evidenced by studies conducted by Hoggard (2023), Reiff et al. (2020) and Salami et al. (2016). This finding is consistent with the education policy and acceptance subfactors of the scale developed within the context of this study. In other words, developed countries facilitate the employment of foreign healthcare workers, whom they believe will enhance the efficiency of their health systems. A comparable situation is observed in the study by Rocco and Stievano (2013), although their study was focused specifically on nurses. Their findings indicated that the shortage of nurses in Italy was offset by the recruitment of foreign nurses, thereby avoiding the financial burden of training new nurses.

In the studies conducted by Negin et al. (2013) and Negin et al. (2016), the status of foreign healthcare workers in Australia was analysed based on population censuses conducted in 2006 and 2011. The analysis revealed a notable surge in the number of foreign healthcare professionals in Australia between those two years, with the majority hailing from developing countries such as India, Nepal, the Philippines and Zimbabwe.

These findings are consistent with the professional trust, acceptance and education policy subfactors of the current study. Another study that lends support to these factors was conducted by Oikelome et al. (2022).

The negative perception subfactor of the scale developed in this study is also corroborated by existing research. For example, the study conducted by Can et al. (2022), which involved foreign nurses employed at two renowned university hospitals in Germany, is pertinent to this discussion. One of the findings from the sample of 251 foreign healthcare workers was that they were perceived negatively, particularly during the initial phase of their arrival in Germany. Similarly, Mapedzahama et al. (2018) explored the experiences of Black nurses working in healthcare in Australia. Their investigation revealed that Black nurses had experienced racism at work, a finding that corresponds with the negative perception subfactor of the current study.

In the study by Abdul-Rahman et al. (2012), the negative impacts of foreign workers in the Malaysian construction sector were examined. The study employed a mixed-methods approach, utilising both semi-structured interviews and surveys. The analysis revealed that the reasons for employing foreign workers in the Malaysian construction industry were employers' preferences, lifestyle, working conditions, and the unattractive nature of the career path. Meanwhile, the negative impacts caused by foreign workers were found to be overdependence on foreign labour, an increase in criminal activities and social problems, and illegal employment. The negative perception factor identified in the current study shows similarity to the findings of Abdul-Rahman et al. (2012) in this regard. This study indicates that public attitudes towards foreign healthcare workers are unfavourable.

The study by Rees (2024) addressed the role of Venezuelan healthcare workers who were compelled to migrate to Peru due to circumstances in their home country, particularly during the Covid-19 pandemic. The study emphasises the importance of integrating foreign healthcare professionals into the national healthcare system. This emphasis has been identified as aligning with the acceptance and education policy sub-dimensions of the scale developed in the present study. A similar finding was also reported in a related study by Hua et al. (2024). In this

Table 5
Relationships between Factors

Factor	Negative Perception	p	Direction of the Relationship	Professional Trust	p	Direction of the Relationship	Acceptance	p	Direction of the Relationship	Educational Policy	p	Direction of the Relationship
Negative Perception				.670	<.001	Negative	.628	<.001	Negative	.495	<.001	Negative
Professional Trust	.670	<.001	Negative				.817	<.001	Positive	.765	<.001	Positive
Acceptance	.628	<.001	Negative	.817	<.001	Positive				.658	<.001	Positive
Educational Policy	.495	<.001	Negative	.765	<.001	Positive	.658	<.001	Positive			

Table 6
Reliability Coefficients

Factor	Number of Items	Cronbach's Alpha
Whole scale	24	.758
Negative Perception Factor	7	.932
Professional Trust Factor	10	.925
Acceptance Factor	3	.841
Educational Policy Factor	4	.870

study, the necessity of integrating foreign healthcare workers into the system was highlighted within a sample of nurses. The primary reason for this integration is to ensure the continued effective and uninterrupted delivery of healthcare services. Furthermore, the study by Negin et al. (2013) revealed that Australia saved approximately 1.7 billion USD in education costs by employing foreign healthcare workers – a figure that is likely to be even higher in the present era. In light of these findings, it could be argued that the policies adopted by developed countries regarding foreign healthcare workers should also be implemented in Türkiye.

5.1 Implications for practice

This study presents a scale developed to measure societal attitudes towards foreign healthcare workers currently working or expected to work in the Turkish healthcare system. The results show that public perceptions of and attitudes towards this issue are shaped by various factors. In particular, factors such as 'negative perception', 'professional trust', 'acceptance' and 'educational policy' provide a multidimensional view of how society perceives foreign healthcare workers. The results of this scale could inform educational and policy development efforts.

In practice, this scale can be used to better analyse issues such as professional trust challenges, shortcomings in educational policy, and existing negative societal perceptions regarding the integration of foreign healthcare workers into the Turkish healthcare system. Furthermore, educational programmes could be developed to raise public awareness and improve acceptance and integration processes. In addition, this study highlights the need for policy revisions in healthcare management, education and social policies to address and mitigate the negative attitudes identified.

5.2 Scale use

The Attitudes Towards Foreign Healthcare Workers Scale can be used to assess societal attitudes towards foreign healthcare professionals currently working or expected to work in a nation's healthcare system. It can serve as a valuable tool for healthcare administrators, human resources professionals, sociologists, psychologists and academics in various research and practical applications. In addition, institutions responsible for health policy development can use the scale to analyse potential issues with the integration and social adaptation of foreign health workers.

Using the scale will help to measure the acceptance and integration of migrant health workers within the healthcare service. Both public and private sector organisations can use it effectively to adjust training policies, raise public awareness and improve the quality of healthcare services. The data obtained from the scale can also guide strategic planning, particularly with regard to identifying and addressing negative perceptions of health workers.

5.3 Limitations

As with any study, this research has several limitations. However, it is anticipated that interpreting the findings and scale within the context of these limitations will produce more accurate findings.

Sample limitations: The study sample is restricted to individuals residing in the Karabağlar district of Izmir, Türkiye. This restriction may limit the generalisability of the findings to the wider Turkish population. In addition, the sample size of 500 participants does not include a wider range of demographic groups that could provide more diverse findings.

Time constraints: Data were collected between 9 November 2023 and 14 September 2024. During this period, societal or political events may have affected participants' attitudes towards foreign health workers, potentially influencing the results.

Cultural and social factors: The study does not take into account the cultural and social backgrounds of the participants, which could influence attitudes. Excluding participants from different regions or cultural groups

could result in important nuances in attitudes towards foreign health workers being overlooked.

Scope of concepts: Although the factors identified (negative perceptions, professional trust, acceptance and education policy) are important, the study does not explore other potential social, economic or political factors that may also shape attitudes towards foreign healthcare workers. Investigating these additional factors could provide a more comprehensive understanding of the issue.

6 Conclusion

This study presents a valid and reliable measurement tool that includes all stages of the scale development process, as outlined in the literature (DeVellis, 2022; Karagöz, 2021; Karagöz & Bardakçı, 2020). The resulting scale consists of four factors and 24 items (a negative perception factor with 7 items, a professional trust factor with 10 items, an acceptance factor with 3 items, and an educational policy factor with 4 items). The tool can be used to assess individuals' attitudes towards foreign healthcare workers who are working or are expected to work in the Turkish healthcare system. As with any research, this study has limitations. The main limitation is that the sample includes only individuals over the age of 18 who reside in the Karabağlar district of İzmir. It is recommended that future studies use a larger sample size in order to make a broader contribution to the field. Another recommendation is to contribute to the literature by examining the relationships and effects between the scale developed in this study and other previously validated and reliable measurement tools.

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