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ORIGINAL ARTICLE

Assessing the Validity and Reliability of a Turkish Version of an Evidence-based Practice Knowledge, Attitudes, Understanding, and Behavior Scale: A Methodological Study

Kanıta Dayalı Uygulama Bilgi, Tutum, Anlayış ve Davranış Ölçeğinin Türkçe Formunun Geçerlilik ve Güvenilirliğinin Değerlendirilmesi: Metodolojik Bir Çalışma

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Abstract

Objective: This study aimed to adapt and validate a scale measuring evidence-based practice (EBP) knowledge, attitudes, understanding, and behavior for Turkish health sciences students.

Method: This methodological study was conducted with 382 health sciences students between May and September 2024. The translation process was carried out using forward and back translations, followed by expert review. Content validity was evaluated by eight experts using the content validity index (CVI), and construct validity was assessed using exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). Reliability was assessed using internal consistency and split-half reliability.

Results: The scale demonstrated high content validity, with the item-level CVI scores ranging from 0.85 to 1.00 and the overall scale CVI of 0.90. EFA identified five factors explaining 66.26% of the total variance. CFA confirmed the factor structure, with fit indices (χ^2/df=2.4, RMSEA =0.061, CFI =0.918, TLI =0.911) meeting acceptable thresholds. The overall Cronbach's alpha was 0.888, indicating strong internal consistency. Subscales with Cronbach's alpha values ranging from 0.764 to 0.945 demonstrated good reliability.

Conclusion: The EBP scale was valid and reliable for assessing health sciences students' EBP and evidence-informed practice competencies in Turkish. This tool supports the development of evidence-informed care among health sciences students.

Keywords: Evidence-based practice, evidence-informed practice, psychometric validation, students

Öz

Amaç: Bu çalışmanın amacı, kanıta dayalı uygulama bilgi, tutum, anlayış ve davranış ölçeğinin Türkçe dilinde sağlık bilimleri öğrencileri için uyarlanması ve geçerlilik ve güvenirliğinin test edilmesidir.

Yöntem: Bu metodolojik çalışma Mayıs-Eylül 2024 tarihleri arasında 382 sağlık bilimleri öğrencisi ile yürütülmüştür. Çeviri süreci, çeviri ve tekrar çeviriler ve ardından uzman incelemeleri ile sağlanmıştır. İçerik geçerliliği sekiz uzman tarafından kapsam geçerlilik indeksi (CVI) kullanılarak değerlendirilirken, yapı geçerliliği açıklayıcı (AFA) ve doğrulayıcı faktör analizleri (DFA) ile değerlendirilmiştir. Güvenilirlik, iç tutarlılık ve yarıya bölme testleri kullanılarak ölçülmüştür.

Bulgular: Ölçek, 0,85 ile 1,00 arasında değişen madde düzeyi CVI puanları ve 0,90 ölçek düzeyi CVI ile yüksek kapsam geçerliliğine sahiptir. AFA, toplam varyansın %66,26'sını açıklayan beş faktör belirlemiştir. DFA faktör yapısını doğrulamış ve uyum indeksleri (χ^2/df=2,4, RMSEA =0,061, CFI =0,918, TLI =0,911) kabul edilebilir eşikleri karşılamıştır. Genel Cronbach alfa değeri 0,888 olup güçlü bir iç tutarlılığa işaret etmektedir. Alt ölçekler, 0,764 ile 0,945 arasında değişen Cronbach alfa değerleri ile yüksek güvenilirlik göstermiştir.

Sonuç: Kanıta dayalı uygulama ölçeğinin Türkçe uyarlaması, sağlık bilimleri öğrencilerinin kanıta dayalı uygulama yeterliliklerini değerlendirmek için geçerli ve güvenilir bir ölçektir. Bu araç, sağlık bilimleri öğrencileri arasında kanıta dayalı uygulamaların geliştirilmesini desteklemektedir.

Anahtar Kelimeler: Kanıta dayalı uygulama, kanıt bilgilendirilmiş uygulama, psikometrik analiz, öğrenciler

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Introduction

Evidence-based practice (EBP) and evidence-informed practice (EIP) are fundamental frameworks in modern healthcare, emphasizing the integration of research evidence, clinical expertise, and patient preferences to guide decision-making (1,2). EBP involves systematically evaluating and synthesizing high-quality research to promote patient safety and improve care quality (3). Despite its widespread acceptance, the implementation of EBP often faces challenges, including contextual constraints and criticism of its mechanistic application (4). EIP has emerged as a complementary approach to address these limitations, offering a more flexible and adaptive framework for applying evidence in clinical practice (1). EBP and EIP emphasize the critical role of patient values and preferences in ensuring effective and patient-centered decision-making (5).

To promote the integration of EBP and EIP in healthcare settings, various models and frameworks have been developed to enhance outcomes for individuals, groups, and communities (1). However, the success of these models relies heavily on the competence of healthcare practitioners, underscoring the importance of equipping healthcare students with the necessary skills during their undergraduate education. Healthcare students, as future practitioners, play a pivotal role in sustaining and advancing evidence-based care. Their education provides a foundation for developing the critical thinking, decision-making, and problem-solving skills required to navigate the complexities of clinical environments and contribute to continuous improvement within healthcare systems (6,7).

Integrating EBP and EIP into undergraduate curricula is critical to preparing students for real-world challenges. As Patelarou et al. (8) noted, embedding these concepts into educational programs equips students to deliver high-quality, evidence-informed care. However, validated tools to assess EBP and EIP competencies among health sciences students are scarce, particularly in culturally diverse and non-Western settings such as Turkey (9). Existing instruments predominantly focus on nursing students (10,11) and social workers (12), often neglecting the broader applicability of EIP or failing to capture its nuances. These limitations hinder efforts to evaluate the effectiveness of EBP and EIP education and highlight the need for culturally appropriate tools to measure student competencies accurately and inform curriculum development.

Main Points

- Measuring evidence-based practice (EBP) knowledge, attitudes, and behaviors is essential for understanding how well healthcare students are prepared to use evidence in real clinical settings.
- Adapted tools are essential to support and enhance EBP in nursing education.
- The validated Turkish EBP scale provides a reliable measure of students' EBP and EIP competencies, helping strengthen evidence-informed care in health sciences education.

Health sciences students, including those studying nursing, midwifery, physiotherapy, and other allied health disciplines, face unique challenges in developing competencies in EBP and EIP because of the diverse and complex nature of their clinical roles (9). Their ability to integrate evidence into practice is essential for addressing the multifaceted needs of patients and advancing the quality of care. Assessing their knowledge, attitudes, understanding, and behaviors toward EBP and EIP provides critical insights into the effectiveness of educational programs, enabling educators to refine curricula and enhance student preparation. To address these gaps, this study aims to adapt and validate the EBP knowledge, attitudes, understanding, and behavior scale for use among Turkish health sciences students.

Material and Method

Design

This study employed a methodological design to adapt and evaluate the psychometric properties of the EBP knowledge, attitudes, understanding, and behavior scale for use with Turkish health sciences students.

Study Sample and Data Collection

Health sciences students currently enrolled in courses at one state university were asked to participate in the study. Data collection was conducted between May and September 2024. The total number of health sciences students at that university was 1.670. The inclusion criteria required students start clinical internships of at least one semester in one health sciences department. Exclusion criteria were not being enrolled as a student in a health sciences program; lack of proficiency in Turkish; inability or unwillingness to provide informed consent; and inability to complete the questionnaire within the designated time frame due to illness or other commitments. According to guidelines in the literature, a sample size of 3 to 10 participants per item is commonly recommended for scale validation (13,14). With 35 items in the scale used in this study, the recommended sample size typically ranges from 105 to 350 participants. To enhance the study's statistical power and to account for any potential data loss, 382 students were ultimately recruited. The following steps were followed for the validity and reliability of the scale;

Translation equivalence study: Translation was performed by an expert in nursing and linguistics (e.g., a faculty member proficient in both English and Turkish, with a background in English language and literature or English language teaching). The translation from English into Turkish was conducted and then back-translated into English by an expert proficient in both languages and their cultures. The back-translated scale was compared with the original scale to identify any changes in the meaning of the expressions. Following the comparison, the Turkish version was finalized.

Validity Analysis

Content validity: At this stage, expert opinions were sought to determine whether the questions in the scale are suitable for the measurement purpose, represent the intended area, are relevant to the adopted problem, and contain concepts outside the field. For this purpose, opinions from eight experts specializing in health sciences, including nurses, physicians, psychologists, and social workers, were solicited, and the items were evaluated using a 4-point rating scale. Then, the items were adjusted based on experts' opinions and suggestions.

Construct validity evaluates how accurately a tool measures a difficult-to-observe abstract concept, behavior, or dimension. Exploratory and confirmatory factor analyses were used to evaluate construct validity.

Reliability Analysis

Internal consistency: The internal consistency test assesses whether all aspects of the instrument consistently measure the same construct. It is necessary to determine whether each scale item measures the same underlying attitude. Cronbach's alpha was used to assess internal consistency.

The split-half test is used in statistics and psychometrics to assess the reliability of a scale. The goal is to determine whether the different parts of the test reliably measure the same construct. If the two halves are highly correlated, the test is considered to have good internal consistency, meaning that the items are homogeneous.

Data Collection Tools

The socio-demographic characteristics information form was used to collect participants' ages, genders, departments, and their knowledge of and training in EBP.

EBP knowledge, attitudes, understanding, and behaviors scale: The knowledge, attitudes, understanding, and behaviors scale for EBP and EIP, created by Kumah et al. (9), includes 35 items-20 focused on EBP and 15 on EIP. Responses are given on a 5-point Likert scale, indicating that higher scores reflect better knowledge and understanding, and more favorable attitudes and behaviors toward both practices. In the original study, Cronbach's alpha values for understanding, behavior, and attitudes toward EBP were above 0.7. However, the "knowledge" and "self-perceived application and use" domains showed lower reliability, with alpha values of 0.5 and 0.6, respectively.

Statistical Analysis

IBM SPSS statistics for Windows, version 28.0, and AMOS, version 26.0, were used for data analysis. The Kaiser-Meyer-Olkin (KMO) test and Bartlett's test of sphericity were applied to assess the suitability of the data for extracting significant factors. Reliability was assessed using split-half testing, item-total correlation, and internal consistency. Exploratory factor analysis (EFA) was conducted, followed by confirmatory factor analysis (CFA), to evaluate how well the items and subscales aligned with the scale's original structure.

Procedures

The participants were provided information about the purpose of the study, inclusion criteria, and benefits of participation. Interested students were asked in person to sign the informed consent form to participate in the study and to complete self-administered questionnaires. The survey was conducted at the university where the health sciences and nursing students were enrolled. Participants were assured of the anonymity and confidentiality of their responses. Completion of the questionnaire took approximately 15 minutes.

Ethical Considerations

Before conducting the study, approval from the Ethical Review Board of Koç University (approval number: 2024.157.IRB3.064, date: 18.04.2024) was obtained. Permission was obtained from the developers of the original instrument. Students were acknowledged for their participation in the study and reassured that they could refuse to participate or to withdraw from the study at any stage.

Results

Sample Characteristics

A total of 382 students from the departments of nursing (n=221), social work (n=9), nutrition (n=99), and audiology (n=53) participated in the study. Their mean age was 21.20±1.39 years; most were in the 3rd or 4th year of their departments. Most of them have heard the term "evidence-based" (n=187), but they have reported lacking evidence-based information or training (n=361) (Table 1).

Results of Validity Analysis

Translation Process

Adapting the EBP and EIP scale involved revisions to ensure cultural relevance and applicability to Turkish health sciences students. The original scale consisted of two sections, EBP and EIP, with five subscales in each section. However, the adapted Turkish version retained two sections (EBP and EIP) but was reorganized into five subscales. The EBP section was structured into three subscales: understanding, attitude, and behavior, while the EIP section was reduced to two subscales: knowledge and self-perceived application and use. This restructuring was informed by factor analysis and aimed to enhance the scale's clarity, cultural relevance, and psychometric robustness for use among Turkish health sciences students. This reorganization was necessary to address overlapping or redundant items and to improve the scale's clarity and interpretability. Several items were revised or rephrased to better reflect the Turkish context. Items such as "I do not perform EBP because I do not believe in it" were retained under the "Attitude" sub-dimension to capture belief barriers.

Table 1.
Socio-demographic Characteristics

Variables	Number	%
Gender		
Women	303	79.3
Men	79	20.7
Age		
18-25 years Mean: 21.20±1.39	382	100
Department of students		
Nursing	221	57.9
Social work	9	2.4
Nutrition	99	25.9
Audiology	53	13.9
Grade		
1	69	18.1
2	70	18.3
3	147	38.5
4	96	25.1
Heard of evidence-based term		
Yes	187	49
No	195	51
Having training in evidence-based practice		
Yes	21	5.5
No	361	94.5

To improve the organization of the scale, the items were made more comprehensible by changing the phrasing from "does not contain" to I don't think it contains. In contrast, specific items were designated as reverse-coded to enhance reliability. Items with ambiguous or culturally irrelevant phrasing were revised, and examples tailored to the Turkish healthcare setting were added for clarity. The adapted scale consists of 32 items across five sub-dimensions, ensuring a more concise, culturally relevant, and psychometrically valid and reliable tool for assessing evidence-based and EIP competencies among Turkish health sciences students. This rigorous adaptation process underscores the importance of ensuring linguistic and conceptual clarity when developing instruments for use in diverse educational and healthcare settings.

Content Validity

The scale items were sent to seven nursing experts to review the scale's content validity. The item- and scale-level content validity indices were tested. The item-level content validity index (I-CVI) ranged from 0.85 to 1.00, reflecting a strong consensus among the experts. The overall scale CVI (S-CVI) was 0.90, demonstrating a high level of agreement among their evaluations.

Construct Validity

The KMO and Bartlett's tests were performed before EFA and CFA. The KMO value was 0.917, indicating that the sample size was appropriate for this analysis. Bartlett's test of sphericity was statistically significant (χ^2=9068.134, p<0.001), indicating that the correlation matrix was not an identity matrix and that factor analysis was appropriate for this sample (Table 2).

Five dimensions of the scale were identified by EFA. Item loadings were analyzed before and after varimax rotation using principal component analysis as the data extraction method. The identified structure explained 66.26% of the total variance. After EFA, the model fit of the item-factor relationship was tested using CFA, as illustrated in Figure 1. The fit indices [chi-square statistic, goodness-of-fit index (GFI), root mean square error of approximation (RMSEA), comparative fit index (CFI), and normed fit index] were used to determine the model's adequacy in this study. During the process, one item (EIP item 11) was excluded based on regression weights and a statistical significance threshold of p<0.05. After this modification, the model fit indices were acceptable and statistically significant (χ^2=1240.833; df=517; p<0.001). The fit indices are detailed in Table 3.

Reliability Analysis

The scale's reliability was assessed using item-total correlations and Cronbach's alpha. The overall Cronbach's alpha of the scale was 0.888. Detailed results for the total scale and its sub-dimensions, based on Cronbach's alpha, are provided in Table 4. Additionally, Pearson correlation analysis was performed to examine the relationships between individual item scores and the total scale score, and the findings were presented in the same table.

A split-half reliability test was conducted to evaluate the data further. The results, summarized in Table 4, demonstrated a strong correlation between the mean scores of the two halves (r=0.551). This suggests good internal consistency, indicating that the test items are homogeneous, as shown in Table 5.

Discussion

This study aimed to adapt and validate the EBP knowledge, attitude, understanding, and behavior scale for use among Turkish health sciences students. Adapting the scale required revisions to achieve cultural relevance and linguistic clarity for Turkish health sciences students, particularly regarding content validity. Expert evaluations and feedback were critical in ensuring that the adapted scale appropriately measured the intended constructs. The original scale's two sections, EBP and EIP, each comprising five subscales, were reorganized into five subscales based on factor analysis. This restructuring addressed overlapping and redundant items, improving both clarity and interpretability. The EBP section was reduced to three subscales: understanding, attitude, and behavior, while the EIP section was refined into two subscales: knowledge and self-perceived application and use. Some items were revised to better align with the cultural and professional realities of Turkish healthcare. These results contributed to the development of a valid, reliable, and culturally adapted instrument that reflects the competencies required for EBP

Table 2.
Results of the EFA

	Factor 1 knowledge	Factor 2 behavior	Factor 3 attitude	Factor 4 understanding	Factor 5 self-perceived application and use
Scale items	**Item loadings**				
KTU 1	0.744				
KTU 2	0.814				
KTU 3	0.840				
KTU 4	0.843				
KTU 5	0.844				
KTU 6	0.797				
KTU 7	0.822				
KTU 8	0.852				
KTU 9	0.784				
KTU 10	0.846				
KTU 11	0.424				
KDU 14		0.727			
KDU 15		0.829			
KDU 16		0.851			
KDU 17		0.841			
KDU 18		0.794			
KDU 19		0.577			
KDU 20		0.754			
KDU 5			0.721		
KDU 10			0.776		
KDU 11			0.796		
KDU 12			0.826		
KDU 13			0.819		
KDU 1				0.719	
KDU 2				0.637	
KDU 3				0.735	
KDU 4				0.703	
KDU 6				0.599	
KDU 7				0.724	
KDU 8				0.603	
KDU 9				0.727	
KTU 13					0.902
KTU 14					0.918
KTU 15					0.835
Variance cumulative	66.26%				
KMO test	0.917				
Bartlett's test	9068.134; <0.000				

Extraction method=principal component analysis, rotation method=Varimax
KDU-EBP=evidence-based practice, KTU-EIP=evidence-informed practice, KMO=Kaiser-Meyer-Olkin, EFA=exploratory factor analysis

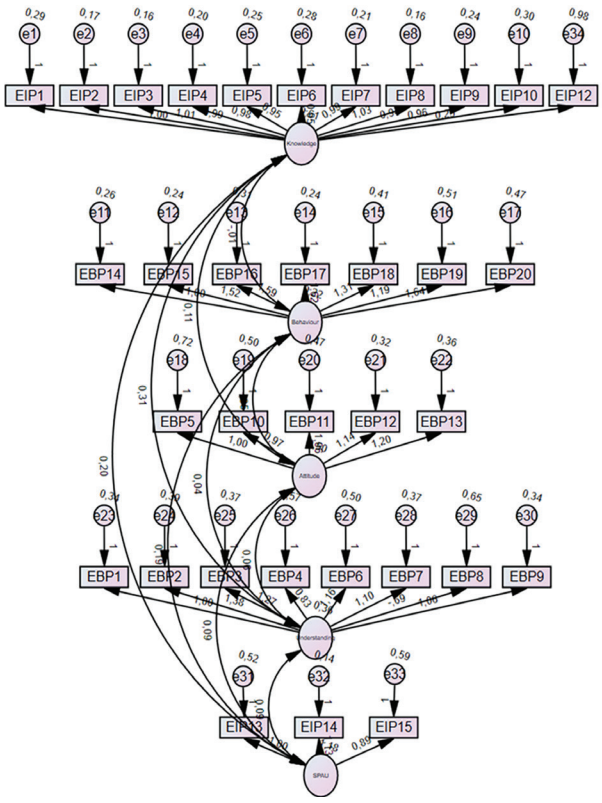

Figure 1.
Path Diagram and Item Loads for the Scale
EIP=evidence-informed practice, EBP=evidence-based practice

and EIP in Turkish. A critical component of this adaptation was the assessment of content validity, which ensured that the scale items were relevant and appropriate for the intended construct and target population (15). The results of this study demonstrated extremely high content validity, with the I-CVI ranging from 0.85 to 1.00 and the S-CVI reaching 0.90. These results indicate that the panel of eight experts involved in the evaluation process judged the scale items to be highly relevant and appropriate. The I-CVI scores reflect a strong consensus among the experts on the clarity and appropriateness of the individual items (16). Moreover, the S-CVI underscores the overall consistency and comprehensiveness of the scale (15). These high scores confirm the scale's relevance to its intended purpose and ensure it effectively captures the constructs of EBP and EIP competencies in the context of health sciences education in Turkey. High content validity indices are crucial in scale development as they ensure that items are relevant to the measured construct and appropriate for the target population. According to Polit and Beck (15), an I-CVI of 0.78 or above and an S-CVI of 0.80 or above are generally recognized as strong indicators of content validity. The results of this study showed that the scale's content and its suitability for assessing EBP and EIP were appropriate (15).

The construct validity of the Turkish version of the EBP knowledge, attitude, understanding, and behavior scale was comprehensively assessed with both EFA and CFA. Construct validity is a critical psychometric property that enables a scale to accurately measure the theoretical construct it aims to assess (17). The results of this study provide robust evidence supporting the construct validity of the adapted scale. The KMO value of 0.917 indicates that the sample size is more than adequate for EFA. KMO values above 0.90 are considered "excellent" and indicate excellent sampling adequacy (18). This high KMO value indicates that the data are suitable for factor analysis, and that the inter-item correlations are strong enough to justify further statistical testing. In addition, Bartlett's test of sphericity (χ^2=9068.134, p<0.001) confirmed the presence of significant correlations among items, further validating the appropriateness of conducting EFA (19). These results provide a basis for the validity of the factor structure. The EFA results identified five dimensions that together explained 66.26% of the total variance in the scale. This explained variance is considered in social science research, where values between 50% and 75% are typically acceptable (20). The explained variance (66.26%) also supports the scale's ability to measure the intended construct effectively. Streiner et al. (13) emphasize that a high percentage of explained variance indicates that the identified factors represent a significant portion of the measured construct. The use of principal component analysis, with varimax rotation as an extraction method, is consistent with best practices for identifying the underlying structure of a scale (21). Varimax rotation is particularly effective for obtaining a transparent and interpretable factor structure by maximizing the variance of factor loadings across items. This result supports the appropriateness of the scale to assess EBP competencies in the Turkish context.

The CFA results revealed strong construct validity of the EBP knowledge, attitude, understanding, and behavior scale and supported the factor structure obtained from EFA. Model fit indices, including the chi-square/df ratio, RMSEA, and incremental indices (CFI, TLI, incremental fit index), confirmed the adequacy of the model, with values meeting acceptable thresholds for good fit (22). One item (EIP item 11) was removed from the process due to a low regression weight and a lack of statistical significance, a common step in scale validation to improve overall model fit and reliability. Removing this item improved the model's performance and

Table 3.
Fit Indices Obtained from CFA for the Scale

	X^2	DF[a]	X^2/DF	RMSEA[b]	GFI[c]	CFI[d]	IFI[e]	RFI[f]	NFI[g]	TLI[h]
Model	**1240.833**	**517**	**2.400**	**0.061**	**0.837**	**0.918**	**0.918**	**0.856**	**0.868**	**0.911**

CFA=confirmatory factor analysis, X^2=chi-squared test, [a]=degree of freedom, [b]=root mean square error of approximation, [c]=goodness-of-fit index, [d]=comparative fit index, [e]=incremental fit index, [f]=relative fit index, [g]=normed fit index, [h]=Trucker-Lewis index

Table 4.
Results of the Reliability Analyses of the Scale and Correlations of the Item-total Item Score

Overall scale and sub-domains	Cronbach alpha	Item-total item correlations	Mean ± SD
Scale	0.888	0.073-0.689	107.62±15.18
1. Knowledge	0.945	0.203-0.864	42.63±8.07
2. Behavior	0.895	0.583-0.781	11.84±4.917
3. Attitude	0.858	0.586-0.739	17.36±4.11
4. Understanding	0.777	0.448-0.736	28.19±4.65
5. Self-perceived application and use	0.890	0.732-0.854	7.58±3.46

SD=standard deviation

Table 5.
Split-half Test of the Scale

	Scale score mean		**Analysis results**		
	Part 1 Mean ± SD Cronbach's alpha: 0.764	**Part 2 Mean ± SD Cronbach's alpha: 0.887**	**Correlation between parts**	**Spearman-Brown coefficient**	**Guttman split-half coefficient**
Scale	54.39±7.92	53.23±9.3	0.551	0.711	0.705

SD=standard deviation

ensured the retained items accurately represented the intended constructs. A chi-square/df ratio of 2.4 and an RMSEA of 0.061 indicate that the model fits the data well and reflects minimal approximation error (23). Furthermore, fit indices such as CFI and TLI exceeded 0.90, confirming that the scale could effectively model the relationships between its dimensions (24). Although the GFI value is slightly below the recommended threshold, it is supported by other fit indices, emphasizing the importance of assessing model fit holistically rather than relying on a single metric (25). These results align with psychometric literature emphasizing the use of multiple indices to validate factor models. The results suggest that the Turkish version of the scale is valid and reliable for assessing the EBP competencies of health sciences students.

Reliability analysis of the Turkish version of the EBP knowledge, attitude, understanding, and behavior scale demonstrated strong internal consistency. Cronbach's alpha for the overall scale was 0.888. Since values above 0.7 are generally considered acceptable, and values close to 0.9 indicate excellent reliability (26), this value indicates satisfactory internal consistency. This result indicates that the scale items consistently measure the same underlying construct and are reliable for assessing EBP competencies. The scale's subscales also showed good reliability, with Cronbach's alpha coefficients for the two halves of the split-half analysis ranging from 0.764 to 0.887. The split-half reliability test confirmed internal consistency with a Spearman-Brown coefficient of 0.711 and a Guttman split-half coefficient of 0.705. Both coefficients indicate an acceptable level of reliability. Values above 0.7 indicate good consistency between the two halves of the scale (27). The moderate correlation between the two halves (r=0.551) indicates reliability of measurement across the scale's parts and supports the scale's internal consistency. Assessment of item-total correlations through Pearson correlation analysis confirmed that each item contributed significantly to the overall scale score (28). The strong item-total correlations indicate that each item is in good agreement with the overall construct, further strengthening the scale's reliability (29). Item homogeneity is crucial to ensuring that the scale consistently measures EBP competencies. These results are consistent with the reliability standards in psychometric research and align with findings from similar studies of EBP scales (9). In addition, the use of multiple methods, including Cronbach's alpha, split-half reliability, and item-total correlations, provides a comprehensive assessment of scale reliability and aligns with best practices in scale validation (30).

Study Limitations

First, the sample was limited to students at a single public university, which may limit generalizability. Second, the study focused on health sciences students and did not assess the applicability of the scale to other health disciplines, such as medicine or pharmacy. Future research should investigate the validity and reliability of the scale across diverse populations and settings to broaden its applicability. Lastly, although the rigorous adaptation process addressed linguistic and cultural differences, the exclusion of certain items and the reorganization of subscales may have altered the scale's alignment with the original version.

Conclusion

In this study, the EBP knowledge, attitude, understanding, and behavior scale was found to be valid and reliable for health sciences students in Turkey. The adapted scale demonstrated strong psychometric properties, including high content validity, robust construct validity, and excellent reliability. EFA and CFA supported the multidimensional structure of the scale, and internal consistency tests confirmed its reliability for assessing evidence-based competencies. The scale provides a valuable tool for assessing and improving EBP education in Turkey by ensuring cultural relevance and linguistic accuracy. It is recommended that the adapted EBP scale be integrated into health sciences curricula to assess and enhance students' competencies in EBP.

Ethics Committee Approval: Before conducting the study, approval from the Ethical Review Board of Koç University (approval number 2024.157.IRB3.064, date: 18.04.2024) was obtained.

Informed Consent: Interested students were asked in person to sign the informed consent form to participate in the study and to complete self-administered questionnaires.

Footnotes

Author Contributions: Concept - S.G., R.S., Ö.A.; Design - S.G., R.S., Ö.A.; Data Collection or Processing - Ö.A.; Analysis or Interpretation - S.G., R.S.; Literature Search - S.G., R.S.; Writing - S.G., R.S., Ö.A.

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