

Developing a scale for Intent to Remain in the Profession of Midwifery Students: A methodological study

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Elif Erdoğan¹ , Tuğçe Sönmez² , Serap Ejder Apay¹ 
and Adnan Taşgın¹ 

Abstract

This study aims to develop a valid and reliable measurement tool to assess midwifery students' intention to remain in the profession. This methodological study was conducted with midwifery students between January 2024 and December 2024. After a comprehensive literature review and expert opinions from 10 experts, the scale form was finalized with 52 items. As a result of Exploratory Factor Analysis (EFA) for construct validity, a structure consisting of 35 items and 4 sub-dimensions explaining 58.86% of the total variance was obtained. After CFA, covariances were added between some items of the scale. The model, consisting of 35 items and four sub-dimensions, demonstrated acceptable goodness-of-fit indices. Cronbach's alpha and McDonald's Omega values for the scale and its sub-dimensions ranged between 0.79 and 0.92, with a reliability coefficient of 0.91 for the overall scale. As a result of these analyses, it was found to be a valid and reliable measurement tool.

Keywords

midwifery, profession, intention, scale development, retention

Introduction

The sustainability of the midwifery workforce has become a growing global concern due to increasing challenges within the profession and a significant shortage of healthcare personnel (Manthorpe and Baginsky, 2023; Matthews et al., 2024; World Health Organization (WHO), 2019, 2021). According to the World Health Organization, a global shortage of approximately nine million nurses and midwives is projected by 2030 (WHO, 2019, 2021). Midwifery students, as future members of this workforce, are directly affected by these challenges, which may influence their intention to remain in the

profession. While these challenges are reported globally, the structure, roles, and working conditions of the midwifery profession may vary across countries depending on healthcare

¹Atatürk University, Erzurum, Türkiye

²Tarsus University, Mersin, Türkiye

Corresponding author:

Tuğçe Sönmez, Department of Midwifery, Faculty of Health Sciences, Tarsus University, Mersin 33400, Türkiye.

Email: tugcesonmez@tarsus.edu.tr

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systems, educational models, and sociocultural factors (Dato et al., 2025; Dawson et al., 2023). In Turkey, midwifery education and practice have distinct characteristics shaped by national health policies, workforce distribution, and professional role expectations (Demir and Taşpınar, 2021; Sarıtaş et al., 2014; Yücel et al., 2018). These contextual differences are important to consider when examining students' career intentions and their commitment to the profession.

Midwifery education and practice involve a range of demanding conditions, including high workload, stressful clinical environments, insufficient staffing, limited resources, lack of financial compensation during clinical placements, and shift-based working systems (HakemZadeh et al., 2020; WHO, 2021; Wilson et al., 2013). In addition, the intensive nature of midwifery education, which combines theoretical knowledge with extensive clinical practice, may further contribute to students' stress and uncertainty about their future careers. These factors have been associated with decreased motivation and increased intention to leave the profession among students (Demir and Taşpınar, 2021).

In this context, understanding the factors that influence midwifery students' intention to remain in the profession is critical for workforce sustainability. One of the key concepts related to this intention is professional identity, which reflects how individuals perceive, internalize, and commit to their profession. Recent studies have highlighted that professional identity development during midwifery education plays a critical role in students' commitment to the profession and their future career decisions. Students who develop a stronger sense of professional belonging, perceive greater value in their professional role, and report positive clinical learning experiences are more likely to express intentions to remain in the profession after graduation. Similarly, exposure to supportive educational and clinical environments has been associated with stronger professional commitment and reduced intention to leave among future healthcare professionals (Dawson et al., 2023; Parry et al., 2024). In this regard, midwifery, as a historically rooted and

socially significant profession, contributes to both individual and societal well-being. Recognized by UNESCO as an element of Intangible Cultural Heritage, midwifery integrates scientific knowledge with ethical and humanistic care practices (Arslan et al., 2008; UNESCO Intangible Cultural Heritage, 2023). Throughout their education, midwifery students acquire professional roles, values, and competencies that influence their perceptions of the profession and their future career intentions (Beşen and Yurdakul, 2023).

Despite the importance of this issue, many existing studies on midwifery students' career intentions have been qualitative, focusing on experiences and perceived challenges (Feeley and Stacey, 2024; Manthorpe and Baginsky, 2023; Matthews et al., 2024). While these studies provide valuable insights, there is a lack of quantitative tools specifically designed to measure students' intention to remain in the profession. This gap highlights the need for a valid and reliable measurement instrument.

Therefore, this study aims to develop a scale to assess midwifery students' intention to remain in the profession and to identify the factors influencing this intention.

Materials and methods

Study design and process overview

This methodological study was conducted face-to-face with midwifery students from universities in Erzurum and Van between January 15, 2024, and December 2024.

The scale development process was carried out in four consecutive stages:

- Content validity,
- Pilot testing,
- Exploratory Factor Analysis (EFA), and
- Confirmatory Factor Analysis (CFA).

Each stage was performed with different participant groups to ensure methodological rigor.

Content validity

Item writing and item pool. A literature review was conducted to establish the conceptual framework of the Midwifery Students' Intention to Remain in the Profession Scale, resulting in the creation of a pool of 52 items. A comprehensive literature review was conducted between January 2010 and December 2024 across PubMed, Scopus, Web of Science, and CINAHL databases. Search terms included "midwifery students," "intention to remain," "retention," "professional commitment," "career intentions," "turnover intention," "workforce sustainability." Empirical peer-reviewed studies in English or Turkish focusing on midwifery/nursing students or early-career professionals were included. After removing duplicates and screening titles and abstracts, 30 articles were assessed for eligibility. Studies without primary data or unrelated to professional intentions were excluded. Finally, 12 studies met the inclusion criteria and were included in the review (Deasy et al., 2021; Demir and Taşpınar, 2021; Feijen-de Jong et al., 2022; HakemZadeh et al., 2020; Harvie et al., 2019; Matthews et al., 2024; Muluneh et al., 2022; Parry et al., 2024; Pressley and Garside, 2023; Pugh et al., 2013; Taşkıran et al., 2020; Tett and Meyer, 1993). The items were written by two researchers and checked by two other researchers. The scale items were written in Turkish, and both Turkish (2) and English (10) articles were used in the literature search. Findings from this review informed the conceptual framework and guided the item pool development.

Expert selection criteria. To assess the appropriateness of the scale items, the draft version of the 52-item scale was reviewed by 10 experts in the field. The experts selected for content validity were faculty members with at least 5 years of experience in the field of midwifery and demonstrated expertise in both midwifery practice and scale development. Their knowledge and experience ensured that the scale items were relevant, clear, and appropriate for the target population. Based on their feedback, the items in the scale were revised, and the initial version

was developed. The first version of the scale was then pilot-tested on a sample group of 20 participants to evaluate the clarity of the items.

Content Validity Index (CVI). The scale's content validity was assessed using expert opinion, with 10 faculty members from the midwifery field evaluating the scale. The content validity was determined using the Davis method (Yusoff, 2019). Experts were asked to rate each item on a scale from 1 to 4 (1 = "not appropriate," 2 = "should be modified," 3 = "appropriate but needs minor changes," and 4 = "very appropriate") in order to evaluate the relevance of the scale's items and their clarity. Following the analysis of the scores the experts gave, items with low agreement were either completely removed or revised (Almanasreh et al., 2019). Based on the experts' feedback, items considered very appropriate were accepted without changes, while those requiring revision were re-examined. The item-level content validity index (CVI) was above 0.80, and the overall scale CVI was 0.98. The final version of the scale was completed without removing any items.

Pilot testing. The research data were collected using a survey form and a draft version of the Midwifery Students' Intention to Remain in the Profession Scale, consisting of 52 items. Before the main data collection, a pilot study was conducted with 20 midwifery students to evaluate the clarity and comprehensibility of the items. Based on the feedback from the pilot study, it was determined that two items were difficult to understand, and these items were simplified in terms of language. Following the pilot study, the scale remained with 52 items, ready for the Exploratory Factor Analysis (EFA).

Survey form

This form, consisting of 10 questions, was designed to determine the sociodemographic characteristics of midwifery students (age, family type, place of residence, income status, year of university admission, preference rank for the

program, and reasons for choosing the profession).

Exploratory Factor Analysis (EFA). The Exploratory Factor Analysis (EFA) was conducted to determine the underlying factor structure of the Midwifery Students' Intention to Remain in the Profession Scale. In order to access an appropriate sample, the researcher started with midwifery students from nearby and easily accessible universities, then attempted to reach students from other universities. According to the validity and reliability procedures of the scale development process, it was aimed to reach a sample size 10 times the number of items generated (Bryman and Cramer, 2001; Çokluk et al., 2012; Evci and Aylar, 2017). The data were collected from a total of 548 midwifery students enrolled in the second, third, and fourth years of study at universities in Erzurum and Van. Data collection was carried out face-to-face by the researchers during times when students were not in class, such as lunch breaks. Before data collection, the purpose of the study was explained, and written informed consent was obtained from all participants.

The adequacy of the sample for factor analysis was first examined using the Kaiser-Meyer-Olkin (KMO) test and Bartlett's Test of Sphericity. A KMO value above 0.80 and a significant Bartlett's test result ($p < 0.05$) confirmed the suitability of the data for factor analysis. The EFA was performed using principal axis factoring with varimax rotation in IBM SPSS 25.0.

Items with factor loadings below 0.30 were eliminated. In cases where an item exhibited double loading (a loading of ≥ 0.30 on more than one factor with a difference smaller than 0.10 between them), the item was also removed to ensure conceptual clarity. After the elimination of low or double-loading items, the final analysis yielded a 35-item, four-factor structure, which explained a substantial portion of the total variance. The factors were conceptually interpretable and theoretically consistent with the underlying construct of the scale.

Confirmatory Factor Analysis (CFA). Following EFA, Confirmatory Factor Analysis (CFA) was conducted to test the factor structure of the Midwifery Students' Intention to Continue the Profession Scale and to verify model fit. A minimum of 300 participants were required for CFA (Çokluk et al., 2012), and data were collected from 376 midwifery students studying at universities in Erzurum and Van. Data were collected a second time through face-to-face interviews using the "Midwifery Students' Intention to Continue the Profession Scale." Qualitative methods and open-ended questions were not used in data collection. This ensured standardization across all participants and ensured reliable factor analysis. The sociodemographic characteristics of the study groups are presented in Table 1.

Subsequently, new data were collected from a different sample group, and Confirmatory Factor Analysis (CFA) was performed using the IBM AMOS 23 software to assess model fit. The acceptable values for RMR, RMSEA, and SMR are < 0.08 , with an excellent fit limit of < 0.05 (Bryman and Cramer, 2001; Marcholudis and Schumacher, 2001). The χ^2 value in CFA should be below 3.

Ethical consideration

Ethical approval was obtained from the Faculty of Health Sciences Ethics Committee, Atatürk University, with decision number 2024/01/01 dated 03.01.2024. Data collection began after midwifery students read the "Informed Consent Form" and provided their written consent to the researcher.

Results

For exploratory factor analysis (EFA), the draft version of the 52-item Midwifery Students' Intention to Remain Scale was administered to 548 midwifery students. For confirmatory factor analysis (CFA), data were collected from a separate sample of 376 students from the same universities but from different grades to ensure sample independence.

Table 1. Distribution of midwifery students according to their sociodemographic characteristics.

Characteristics	EFA study group (548)		CFA study group (376)	
	21.43 ± 2.19 (min:18-max:39)		21.37 ± 1.63 (min:17-max:35)	
Age	<i>n</i>	%	<i>n</i>	%
Family type				
Nuclear	413	75.4	297	79.0
Extended	135	24.6	79	21.0
Place of residence				
Urban center	283	51.6	215	57.2
District center	181	33.1	105	27.9
Rural area	84	15.3	56	14.9
Income status				
Income less than expenditure	135	24.6	68	18.1
Income equal to expenditure	361	65.9	273	72.6
Income greater than expenditure	52	9.5	35	9.3
Year of university admission				
First attempt	148	27.0	102	27.1
Second attempt	287	52.4	206	54.8
Three or more attempts	113	20.6	68	18.1
Preference rank for the program				
Rank 1–3	322	58.8	178	47.3
Rank 4–6	63	11.5	57	15.2
Rank 7 and above	163	29.7	141	37.5
Average (min: 1 – max: 24)		5.36 ± 5.72		6.43 ± 5.98
Reasons for choosing the profession*				
It is my ideal	97	17.70	45	11.96
The university entrance exam score was	84	15.32	74	19.68
Sufficient for the program				
Recommendation from close acquaintances	72	13.13	46	12.23
High employment opportunities in the field	299	54.56	316	84.04
Total	548		376	

*Multiple selections can be made.

Exploratory Factor Analysis (EFA)

Before performing EFA, the suitability of the data set was assessed using the Kaiser-Meyer-Olkin (KMO) measure and Bartlett's Sphericity test. The KMO value was 0.915, indicating sampling adequacy, and Bartlett's test χ^2 value was 14,693.060 ($p < 0.001$), confirming that the correlation matrix was suitable for factor analysis. The EFA aimed to explore the underlying factor structure of the

scale by allowing all items to freely load on factors. Items with factor loadings below 0.30 or exhibiting redundancy were removed, resulting in a final scale of 35 items. Double-loading items—those with loadings ≥ 0.30 on more than one factor with differences smaller than 0.10—were also removed to maintain conceptual clarity. The resulting four-factor structure explained 58.86% of the total variance. Factor 1 included 16 items (loadings 0.433–0.873; variance explained 31.97%),

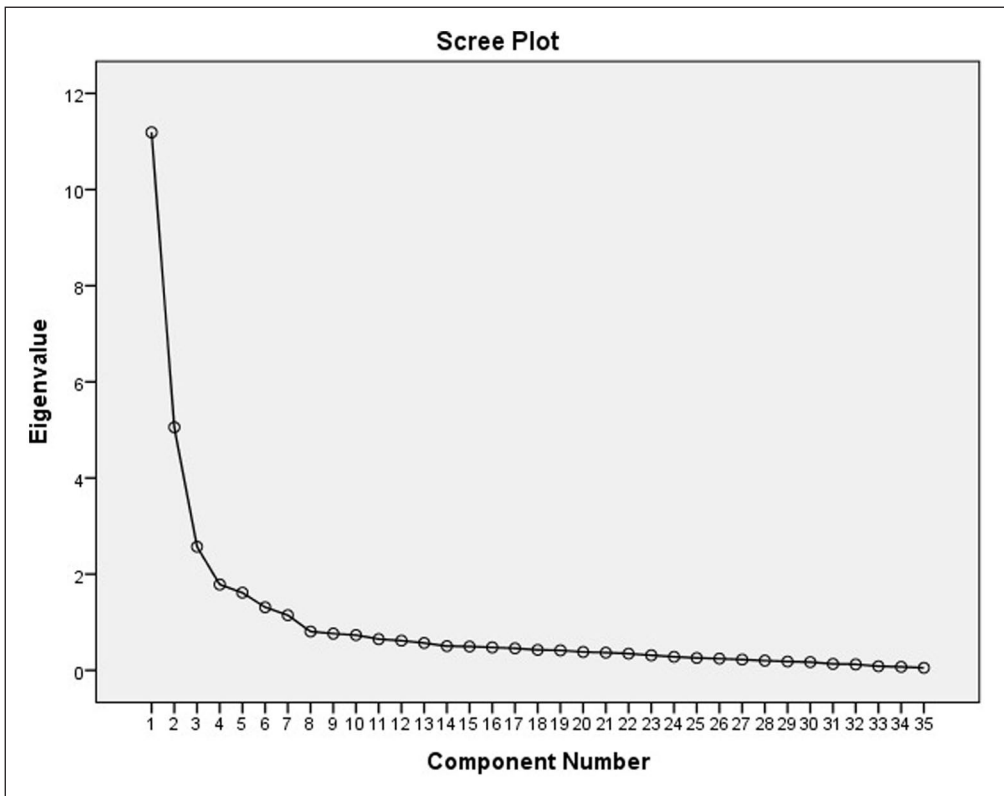


Figure 1. Scree plot of the factor structure.

Factor 2 had 9 items (loadings 0.483–0.843; variance 14.44%), Factor 3 contained 6 items (loadings 0.627–0.974; variance 7.35%), and Factor 4 included 4 items (loadings 0.716–0.797; variance 5.09%). The Scree Plot confirmed a four-factor solution (Figure 1), and factor loadings are provided in Table 2.

Confirmatory factor analysis (CFA)

The four-factor model identified in EFA was tested with CFA using an independent sample of 376 students. Fit indices were examined according to established guidelines (Browne and Cudeck, 1992; Byrne, 2001; Hooper et al., 2008; Hu and Bentler, 1999; Kriston et al., 2008; Schermelleh-Engel et al., 2003; Seçer, 2021; Simon et al., 2010). Some modifications were suggested by the modification indices and

applied between items M1–M2, M30–M31, M32–M33, M33–M34, M34–M35, M24–M25, M26–M27, and M44–M45, which improved model fit. Factor loadings for CFA were as follows: Factor 1 (16 items, 0.43–0.83), Factor 2 (9 items, 0.40–0.72), Factor 3 (6 items, 0.57–0.93), and Factor 4 (4 items, 0.62–0.83). All item-factor loadings were statistically significant, confirming the hypothesized structure. The path diagram is shown in Figure 2, and fit indices are reported in Table 3.

Reliability

Internal consistency of the scale was assessed using Cronbach's Alpha (α) and McDonald's Omega (ω) coefficients. Both indices exceeded 0.80 for the overall scale, indicating high reliability. Subdimension values ranged from 0.79

Table 2. Results of the exploratory factor analysis (EFA) of the midwifery students' intention to stay in the profession scale.

Items	Common factor variance	Factor loadings			
		Factor 1	Factor 2	Factor 3	Factor 4
I4	0.554	0.873			
I1	0.593	0.859			
I37	0.512	0.839			
I5	0.575	0.830			
I2	0.656	0.825			
I8	0.563	0.799			
I35	0.663	0.776			
I34	0.722	0.773			
I33	0.726	0.718			
I31	0.679	0.712			
I32	0.645	0.640			
I22	0.467	0.610			
I30	0.581	0.521			
I15	0.398	0.514			
I17	0.472	0.472			
I7	0.318	0.433			
I26	0.606		0.843		
I27	0.612		0.836		
I49	0.375		0.684		
I24	0.555		0.666		
I45	0.504		0.654		
I25	0.549		0.646		
I44	0.464		0.574		
I48	0.303		0.552		
I47	0.477		0.483		
I41	0.905			0.974	
I42	0.904			0.971	
I40	0.871			0.941	
I43	0.873			0.938	
I38	0.543			0.647	
I46	0.485			0.627	
I20	0.664				0.797
I23	0.638				0.788
I21	0.613				0.773
I16	0.537				0.716
Explained variance	58.86%	31.97%	14.44%	7.34%	5.09%

to 0.92, further confirming the consistency of the scale items (Table 4).

Discussion

This study demonstrated construct validity and internal consistency for the scale assessing

intentions to remain in the profession for these midwifery students. It should be noted that the evidence of reliability and validity applies only to the sampled population; therefore, further testing in different contexts is warranted. Scale development is critical for strengthening the theoretical foundation of the construct and

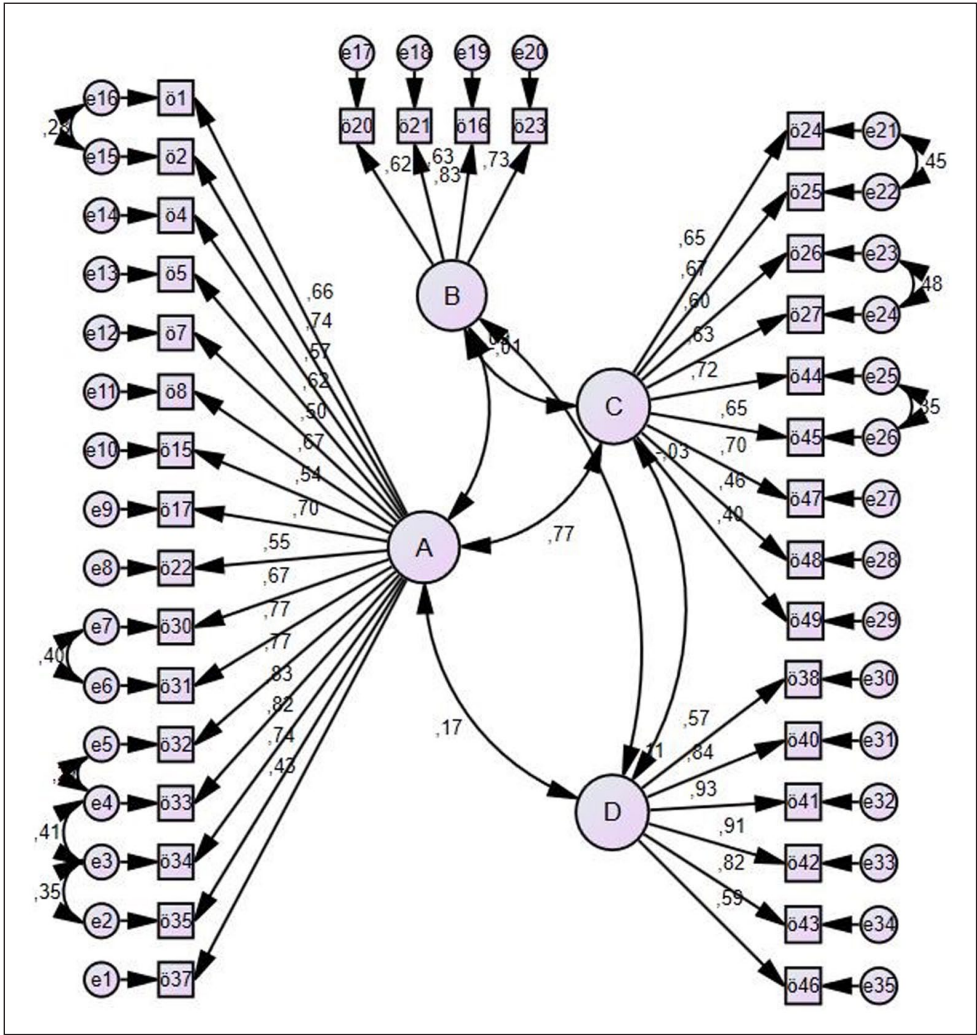


Figure 2. Results of the Confirmatory Factor Analysis (CFA) for the Midwifery Students' Intention to Remain in the Profession Scale (Factor Structure).
Note. CMIN= 1486,357; DF=546; CMIN/DF=2722; $p=0.000$; RMSEA=0.068; CFI=0.875; TLI=0.863.

Table 3. Fit Indices for CFA (confirmatory factor analysis).

Goodness of fit measurements	Excellent fit	Acceptable fit	Values
CMIN/Df	$0 \leq \chi^2 / df \leq 3$	$3 \leq \chi^2 / df \leq 5$	2.722
GFI	$0.90 \leq GFI$	$0.80 \leq GFI$	0.800
CFI	$0.95 \leq CFI$	$0.85 \leq CFI$	0.875
RMSEA	$0.0 \leq RMSEA \leq 0.05$	$0.06 \leq RMSEA \leq 1.0$	0.068
NFI	$0.95 \leq NFI$	$0.80 \leq NFI$	0.816
TLI	$0.90 \leq TLI$	$0.80 \leq TLI$	0.863
IFI	$0.95 \leq IFI$	$0.85 \leq IFI$	0.875

Table 4. Cronbach's alpha and McDonald's omega internal consistency coefficients.

Scale/Dimension	Cronbach's α	McDonald's ω
Total scale	0.910	0.918
Dimension 1 (A)	0.927	0.929
Dimension 2 (B)	0.793	0.799
Dimension 3 (C)	0.854	0.857
Dimension 4 (D)	0.897	0.906

ensuring objective measurement (Boateng et al., 2018; Clark and Watson, 2019). The midwifery profession plays a key role in the sustainability of healthcare systems, and accurately assessing students' attitudes and intentions is essential for workforce planning and educational policy development. A review of the literature indicated a lack of measurement tools specifically designed to assess midwifery students' intention to remain in the profession, highlighting the significance of the present study (WHO, 2021; HakemZadeh et al., 2020). This need has become increasingly important in light of recent evidence demonstrating growing concerns regarding recruitment and retention within the global midwifery workforce. Recent studies conducted in Australia, England, and other healthcare systems have reported increasing levels of career uncertainty, burnout, and intentions to leave the profession among both student and practicing midwives (Feeley and Stacey, 2024; Matthews et al., 2024; Parry et al., 2024). Therefore, the availability of a valid instrument capable of identifying retention-related attitudes during the educational period may support early interventions aimed at strengthening workforce sustainability.

In this scale study, the Davis technique was used for content validity, and in this regard, obtaining 10 expert opinions is consistent with the literature (Yurdugül, 2006; Yusoff, 2019). The fact that the scale's CVI score is 0.80 and above, and that it is 0.98 in this study, indicates that the content validity of the study is appropriate.

Factor analysis is one of the statistical methods used to examine construct validity (Karakoç

and Dönmez, 2014). Before proceeding to the factor analysis of the Midwifery Students' Intent to Stay in the Profession Scale, the Kaiser-Meyer-Olkin (KMO) sample adequacy test and Bartlett's Sphericity Test were applied to assess the adequacy of the sample size and the suitability of the data for factor analysis. The KMO value in the study is 0.915. The results obtained indicate that the sample is of sufficient size for factor analysis and that the data are suitable for factor analysis. The Bartlett test uses the chi-square (χ^2) statistic to assess whether the correlations between the data are at a significant level. In this test, a significance (p) value less than 0.05 indicates that there is a sufficient level of relationship between the variables and that the data are suitable for factor analysis. Bartlett's test χ^2 value was 14,693.060 ($p < 0.001$), indicating that the sample is adequate and suitable. This study determined that, with the removal of items below 0.30, all items on the scale had factor loadings between 0.43 and 0.87 and that the four-factor structure of the scale was valid in this study. These values are consistent with the literature (Boateng et al., 2018; Çapık, 2014; Kline, 2011; Seğer, 2021). After confirming the model fit, the scale's four-factor structure was identified as Education, Social Activity, Sense of Duty, and Perception of the Profession. These findings are also consistent with the study conducted by HakemZadeh et al. (2020). This study demonstrated that midwifery students' intentions to remain in the profession are shaped by their educational experiences, their professional perceptions before and after clinical practice, their sources of social support, and their expectations for work-life balance. Furthermore, consistent with the conceptual framework proposed by Mharapara et al. (2022), this study reflects the multidimensional nature of well-being and professional identity. Mharapara et al. emphasize that midwives' well-being and retention are shaped by contextual factors such as professional support, work environment, motivation, identity, and belonging. Education represents students' satisfaction with their academic and clinical learning experiences. In Mharapara's

model, professional development and access to supportive learning environments are key determinants of well-being and retention. When midwifery students perceive their education as meaningful and empowering, their motivation to remain in the profession increases. Social activity reflects interaction with peers and participation in academic or social groups, which corresponds to Mharapara's dimensions of commitment and collegiality. Social belonging fosters emotional resilience and strengthens professional identity, which are critical factors for retention among midwifery students. A sense of duty reflects intrinsic motivation and commitment to professional ethics and aligns with the moral and altruistic components of the Mharapara model. Midwives who view their work as a calling are more likely to persevere despite challenges, supporting long-term workforce sustainability. Perception of the profession relates to how students perceive it.

Furthermore, the scale explained 58.8% of the total variance, indicating an acceptable level of explained variance (DeVellis and Thorpe, 2021; Yaşlıoğlu, 2017). After the EFA the 35 items were tested using CFA resulting in model fit indices of CMIN=1486.357, $df=546$, CMIN/DF=2.722, RMSEA=0.068, CFI=0.875, TLI=0.863, RMR=0.0683, and SRMR=0.0663. The obtained fit indices from CFA suggest an acceptable level of model fit (Browne and Cudeck, 1992; Byrne, 2001; Hooper et al., 2008; Hu and Bentler, 1999; Kriston et al., 2008; Schermelleh-Engel et al., 2003; Seçer, 2021; Simon et al., 2010). The chi-square/degrees of freedom ratio was found to be 2.722 which according to Marcholudis and Schumacher should be less than 3 (Marcholudis and Schumacher, 2001). The SRMR value is 0.0663 and a value below 0.08 indicates an excellent fit (Hu and Bentler, 1999). The GFI, CFI, RMSEA, NFI, TLI, and IFI values were found to be within acceptable limits (Dorukoğlu and Bozkurt, 2021; Hooper et al., 2008; Kline, 2011; Schermelleh-Engel et al., 2003; Simon et al., 2010).

The reliability of the Midwifery Students' Intention to Remain in the Profession Scale was determined using Cronbach's Alpha (α) and McDonald's Omega (ω). The Cronbach's Alpha (α) reliability coefficient for the scale and subdimensions ranged from 0.79 to 0.92 while the McDonald's Omega (ω) reliability coefficient also ranged from 0.79 to 0.92. These results indicate that the reliability and structural reliability are appropriate (McDonald, 1985; Yurdugül, 2005). In scale development studies a reliability score of 0.70 is considered sufficient (Seçer, 2021). McDonald's Omega (ω) coefficient provides more unbiased results (Bonniga and Saraswathi, 2020; Yurdugül, 2005).

The findings suggest a positive relationship between higher total scale scores and students' intention to remain in the profession. Specifically, higher levels of satisfaction with educational experiences, engagement in social activities, sense of professional duty, and positive perception of the profession were associated with stronger retention intentions. Some items were reverse-scored to control for response bias and ensure accurate measurement. These findings align with Mharapara et al.'s (2022) model of well-being in midwifery, emphasizing the interconnectedness of professional engagement, personal motivation, and commitment to the profession.

Strengths and limitations

A key strength of this study is its psychometric rigor, demonstrated through comprehensive validity and reliability analyses, including both exploratory and confirmatory factor analyses. These procedures provide strong evidence that the "Midwifery Students' Intention to Remain in the Profession Scale" is a valid and reliable measurement tool. However, the study was conducted within a single national and educational context, which may limit the generalizability of the results to other settings. Future studies are recommended to test the scale among midwifery students from different institutions and cultural

backgrounds to confirm its broader applicability and to further refine the instrument.

Conclusion

In line with the purpose of the study, a valid and reliable data collection tool was developed to assess midwifery students' intention to remain in the profession. Following the analyses the scale consists of 35 items and four sub-dimensions (education, social activity, sense of duty, perception of the profession). The final scale consists of 35 items and four sub-dimensions (education, social activity, sense of duty, and perception of the profession). Some items were reverse-scored. The analyses indicated that the scale provides a valid and reliable measurement of midwifery students' intention to remain in the profession. This developed scale is recommended for use with students in the midwifery program (second, third, and fourth-year students).

Author note

This study was presented as an oral presentation at the 3rd International Anatolian Midwives Association Congress between 21-24 November 2024.

ORCID iDs

Elif Erdoğan  <https://orcid.org/0000-0003-4186-4369>

Tuğçe Sönmez  <https://orcid.org/0000-0001-9495-526X>

Serap Ejder Apay  <https://orcid.org/0000-0003-0978-1993>

Adnan Taşgın  <https://orcid.org/0000-0002-3704-861X>

Ethical considerations

Ethical approval was obtained from the Faculty of Health Sciences Ethics Committee, Ataturk University, with decision number 2024/01/01 dated 03.01.2024. After, the researcher was added due to the need for statistics in the study. This situation was reported to the Ataturk University, Ethics Committee of Faculty of Health Sciences and approval numbered 2025/05/03 dated 27.05.2025 was obtained. Since it is a human study, the ethical situation must be declared.

Consent to participate

Data collection began after midwifery students read the "Informed Consent Form" and obtained consent.

All study participants provided informed written consent prior to study participation.

Consent for publication

Participants were informed that anonymized data may be used for publication purposes and consented accordingly.

Author contributions

Elif Erdoğan: Writing – review & editing, Writing – original draft, Project administration, Supervision, Conceptualization. Tuğçe Sönmez: Writing – review & editing, Writing – original draft, Supervision, Conceptualization. Serap Ejder Apay: Writing – review & editing, Writing – original draft, Validation, Methodology, Formal analysis, Project administration, Investigation. Adnan Taşgın: Writing – original draft, Validation, Methodology, Formal analysis.

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Declaration of conflicting interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Data availability statement

The data that support the findings of this study are available on request from the corresponding author.

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