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The Turkish version of the students' perceptions of respectful maternity care scale: An assessment of psychometric properties

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ABSTRACT

Aim: The aim of the research was to evaluate the psychometric properties of the Turkish validity and reliability of the Students' Perceptions of Respectful Maternity Care (SP-RMC) scale.

Background: Respectful maternity care is an important contributor to intrapartum care quality and maternal birth satisfaction. Determining students' perceptions of respectful maternity care can identify knowledge gaps and inform their future practice.

Design: A descriptive, methodological and cross-sectional design was used.

Methods: This study was conducted with 226 undergraduate nursing and midwifery students in the western region of Turkey. Data were collected between May and December 2022 from students who completed their birth courses (theory and clinical practicum). Data included sociodemographic details and the Students' Perceptions of Respectful Maternity Care scale (Turkish version). Factor analysis, Cronbach's alpha and item-total score analyses were conducted.

Results: The mean age of the students was 21.88 (SD 1.39). The average number of births observed was 2.57 (SD 3.16). The scale comprised 18 items including three subdimensions. In both exploratory and confirmatory factor tests, the overall factor loading was greater than 0.30, and the total explained variance was 64.89%. The Cronbach's alpha coefficient of the scale was 0.91, with Cronbach's alpha values ranging between 0.80 and 0.91 for the subscales. Pearson correlation coefficients of all the items ranged between 0.42 and 0.78.

Conclusions: The SP-RMC (Turkish version) is a valid and reliable measure, with 18 items and three dimensions. In this regard, measuring and reporting respectful maternity care perceptions and intrapartum care experiences of students, who are future members of the profession, could contribute to the improvement of the quality of care and the development of educational interventions for behavioral changes

1. Introduction

Respectful maternity care (RMC) is not only an important component of the quality of care but also a human right. The World Health Organization (WHO) accepted this concept in 2014 and prepared a guideline on the issue in 2018 (World Health Organization (WHO), 2018). Besides, the importance of respect, dignity and effective communication was emphasized in the quality vision published by the WHO for pregnant women and newborns in 2015 (Tunçalp et al., 2015). According to the results of the 'What Women Want' research including 1,2 million participants from 114 countries, RMC is the top fundamental demand of women and girls worldwide for the improvement of reproductive health services (White Ribbon Alliance, 2011). Studies show that according to

women, health professional's respectful behaviors during childbirth are the main component of the improvement of the quality of care and birth satisfaction for women. Based on the current research, negative attitudes and behaviors of health professionals are important indicators of the mistreatment and quality of care and an important barrier to RMC (Agyenim-Boateng et al., 2021).

However, the WHO warns that an increasing number of studies on women's pregnancy and particularly childbirth experiences report a worrisome scenario, and many women worldwide are exposed to disrespectful, abusive, or negligent treatment during childbirth (World Health Organization WHO, 2014; World Health Organization WHO, 2018). Disrespectful and abusive care has become a problem encountered worldwide, particularly in low-income and developing countries

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with gender inequality (Bohren et al., 2019; Thapaliya et al., 2021; Ghimire et al., 2021).

Midwives and nurses are among the health professionals to provide women with supportive care during labor (Adams et al., 2016). The fundamentals of practice philosophy for midwives and nurses are formed with respect for human dignity and encouragement of privacy and human rights. Childbirth is one of the most important and unforgettable events in women's lives, and women should be supported by health professionals in terms of RMC during childbirth (WHO, 2018). However, health professionals may unconsciously become individuals who perform disrespectful and abusive care and even normalize such practices (Das et al., 2021). Studies in the literature indicate that health professionals were aware of RMC, yet their knowledge and practices indicated differences due to motivational, institutional, and socio-cultural barriers (D-Zomeku et al., 2020; Sharma et al., 2021).

The clinical environment has a strong effect on the practices of midwifery and nursing students, who are future members of the profession, and could affect their learning and awareness about RMC positively or negatively. Students should learn how to maintain patient dignity and respect in their education process (Matiti, 2015). However, there is evidence showing that students from many countries witnessed disrespect and abuse during childbirth (Rominski et al., 2017; Mayra et al., 2022), which indicates that students implemented practices in environments where disrespectful and abusive care are common (Khresheh et al., 2019). In addition, observing disrespect and abuse during practices may contribute to students' beliefs that these kinds of behaviors are acceptable (Bowser and Hill, 2010).

Intrapartum care is provided by obstetrical nurses and midwives in Turkey. Nursing and midwifery students receive knowledge about intrapartum care during their education and clinical placement, yet RMC is not explicitly tackled in the undergraduate education curriculum. Therefore, it is essential to evaluate the RMC perceptions of students with valid and reliable measurement tools. Then, the "Students' Perceptions of Respectful Maternity Care Scale (SP-RMC)" developed by Dhakal et al. (2022) in Nepal (a lower-middle income country) was determined to be a measurement tool that can evaluate students' perceptions about RMC. It is recommended that the validity and reliability studies of the scale, which was developed for nursing students in Nepal, be conducted in midwifery and nursing student groups and in developing countries (Dhakal et al., 2022). Although there are differences between countries in terms of intrapartum care protocols and undergraduate education curricula, it is important to adapt the scale to different cultures because the perception of RMC has universal importance. In Turkey, there is no scale to evaluate students' perception of respectful maternity care. Like many other countries, Turkey has been making an effort to increase the quality of intrapartum care services and improve RMC. The SP-RMC scale in this study is believed to help to define critical points that need to be considered and improved to increase students' positive perceptions about RMC.

The aim of the research was to evaluate the reliability and validity of the the students' perception of respectful maternity care scale developed by Dhakal et al., in Turkish society.

2. Methods

2.1. Study design

The present study used a descriptive, methodological, and cross-sectional design.

2.2. Sample

The research was carried out undergraduate nursing and midwifery students who had taken birth courses in a public university between May 2022 and December 2022. Reaching a sample size of 10–20 times higher than the number of items in the scale is recommended in scale studies

(Karagöz, 2018). Therefore, the study aimed to access at least 250 students to conduct the reliability and validity of the 18-item SP-RMC-T scale, and a minimum of 225 students were planned to be reached considering a 10% data loss. As a result, 226 nursing and midwifery students (100 midwifery, 126 nursing students) who had taken birth courses (theory and clinical practicum) were included in the study. Nursing and midwifery students took the theory and practice of the birth course. Only the midwifery department has more hours of birth course. Both groups of students are responsible for intrapartum care. Sampling inclusion criteria include being voluntary, Turkish speaking and understanding, aged 18 years and over, has taken birth courses. Sampling exclusion criteria include the desire to leave the research at any stage.

2.3. Data collection tools

The data were collected by using the socio demographic form and students' perceptions of respectful maternity care (SP-RMC) scale.

2.3.1. Socio demographic form

This form was composed of seven questions related to the student's age, gender, year level, department of education, number of births observed, assisted the health personnel in birth during your clinical practice and provided supportive care to the woman in labor during your clinical practice.

2.3.2. Students' perceptions of respectful maternity care (SP-RMC) scale

The SP-RMC (Dhakal et al., 2022) is a 5-point Likert type scale with 18 items. The factor analysis revealed a three-factor structure with an explained variance ratio of 37.44%. Factor loadings of the three dimensions ranged between 0.43 and 0.75. Internal consistency analysis yielded a Cronbach's α coefficient of 0.81 overall and 0.81 (Respectful Care), 0.69 (Safety and Comfort) and 0.62 (Supportive Care) on each dimension. The scale was found to be a valid and reliable instrument in assessing student's perception respectful maternity care.

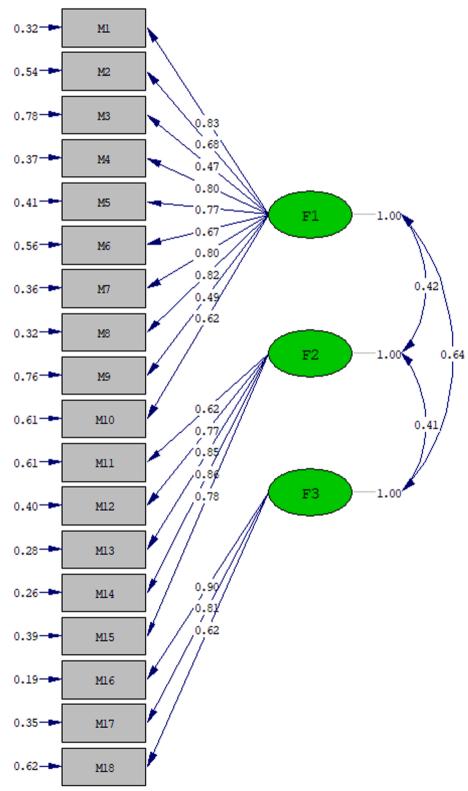
2.4. Procedure

Prior to implementation, permission was obtained from the original author of the Students' Perceptions of Respectful Maternity Care (SP-RMC) Scale to perform the reliability and validity analysis of the scale in Turkish. Translations were performed separately by two translators specialized in English Literature and Language. Then the translated Turkish form was checked in terms of meaning and grammar. This form was then back-translated from Turkish to English by three instructors with an advanced level of English. Then the scale was checked in terms of English meaning and grammar again (Sousa and Rojjanasrirat, 2011). To assess the appropriateness of the Turkish version, seven nurses and/or midwives with either clinical or academic expertise in maternity care reviewed the items. Each item was responded by experts as "(1) Not relevant", "(2) Requires major revision", "(3) Requires minor revision", "(4) Relevant". The experts were asked to give suggestions for responses other than the "Relevant" response. Item Content Validity Index (I-CVI) and the Scale Content Validity Index (S-CVI) were used for the assessment of expert opinions. It is recommended that the scale be administered to a group of about 20-30 people who have similar characteristics to the subjects of the study but will not be included in the study's sampling after expert opinions have been obtained (Sencan, 2005). After obtaining a fit between the experts' opinions, a draft of the Turkish version of the scale was piloted to 25 nursing and midwifery students who has taken birth courses. At the end of the pilot, students did not give any negative feedback about the readability, intelligibility or response time. No negative feedback was provided about the clarity of the scale after the pilot. After determining that the language and content equivalence of the scale was sufficient, the scale was deemed the final version.

2.5. Data collection

After the informed consent procedures were completed, nursing and midwifery students who received birth courses were administered the Descriptive Information Form and the Students' Perceptions of

Respectful Maternity Care Scale Turkish Version (SPRMC-T). Verbal and written approvals were obtained from students who confirmed to attend in this study, and the data collection tool was distributed to the students in classroom. Data collection was collected by the researcher in the classroom environment. Students were given 15–20 minutes to fill out



Chi-Square=183.14, df=120, P-value=0.00018, RMSEA=0.048

Fig. 1. Confirmatory Factor Analysis.

the data collection tool, and then the filled data collection tools were taken back from the students.

2.6. Data analysis

Data were analyzed in Statistical Package for Social Sciences (SPSS) 21 and LISREL (Linear Structural Relations) version 8.8 software programs. Demographic data obtained from the study were presented using numbers, standard deviations, and percentage distributions. The normality distribution of the data was tested using the Shapiro-Wilk normality test. Content Validity Index (CVI) values were used to determine the content validity of the scale. The reliability of the scale was assessed using Cronbach's alpha value and the split-half method, and item-total correlation coefficients were calculated to determine the internal validity of the scale items. Exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were used for the construct validity of the scale. Before conducting the EFA, the adequacy of the data for factor analysis was evaluated using the Kaiser-Meyer-Olkin (KMO) test, Bartlett's test of sphericity and anti-image correlations (DeVellis, 2017; Carpenter, 2018; Kyriazos, 2018). EFA is used to determine the conceptual structure that the scale aimed to assess and determine the sub-scales concerning this structure. In scale validity studies, CFA should be used to test the validity of the structure obtained following EFA (Fig. 1). Hotelling's T-square test was used to determine the bias in the responses to scale items and floor and ceiling effect analysis was performed (Şencan, 2005; Şimşek, 2010).

2.7. Ethical considerations

The research was approved by Non-Interventional Research Ethics Committee (number: 2022/486). Participating students were informed about the purpose of the study; participation in the study was on a voluntary basis, and the participants' written and verbal consent was received. Publication and research ethics were followed in all phases of this study.

3. Results

3.1. Sample characteristics

The mean age of the students in the sample group was 21.88 (SD 1.39). Most (74.3%) of the student were women. The average number of births observed was 2.57 (SD 3.16). The socio-demographic characteristics of the participants are presented in Table 1.

Table 1Descriptive Characteristics.

Characteristics							
Age (mean±SD years) (min-max)	21.88	$21.88 \pm 1.39 \ (19.0 – 27.0)$					
Number of births observed	2.58	± 3.16 (0.00–15.00)					
	N	%					
Gender							
Woman	168	74.3					
Man	58	25.7					
Year level							
3th grade	167	73.9					
4th grade	59	26.1					
Department of education							
Nursing	126	55.8					
Midwifery	100	44.2					
Assisted the health personnel in birth during your clinical practice							
Yes	101	44.6					
No	125	55.3					
Provided supportive care to the woman in labor during your clinical practice?							
Yes	108	47.8					
No	118	52.2					
Total	226	100					

3.2. Validity

3.2.1. Content validity

Seven experts provided their opinions of the draft of the Turkish version of the scale. Based on those opinions, the scope validity index on the basis of the items was found to range between 0.80 and 1.00, and the scope validity index of the scale basis was 0.97.

3.2.2. Explanatory Factor Analysis (EFA)

Kaiser-Meyer-Olkin (KMO) value, which was used to determine the relevance of data in terms of factor analysis and to test the adequacy of the sample size, was found 0.90, and the Barlett's Test of Sphericity was found (x²: 2437.116, p: 0.000). The diagonals cells of the anti-image correlation matrix were found to range between 0.82 and 0.95. EFA results showed that the three items in the scale had an eigenvalue of 1 or over. When the total variance explanation percentages of the factors were analyzed, the first factor was found 25.80%, the second factor was found 20.18%, and the third factor was found 18.92%. With its three-factor structure, this scale was found to explain 64.89% of the total variance of this scale. Besides, factor load values of the three-factor structure scale were found to range between 0.56 and 0.86 (Table 2).

3.2.3. Confirmatory Factor Analysis (CFA)

According to the result of CFA, factor load values were found to range between 0.47 and 0.90 (Fig. 1). Fit indices were analyzed to assess model fit. Fit indices were calculated as chi-square degrees of freedom statistics ($\chi 2/df$) = 1.53, root mean square error approximation (RMSEA) = 0.048, goodness fit index (GFI) = 0.92, Adjusted goodness fit index (AGFI)= 0.88, comparative fit index (CFI) = 0.99, normed fit index (NFI) = 0.97, relative fit index (RFI)=0.96, incremental fit index (IFI)= 0.99, and non-normed fit index (NNFI) = 0.98. In the CFA,

Table 2Explanatory Factor Analysis and Item-Total Score Analysis for the Sub-Scales.

Sub-Scales	Explanatory Factor Analysis	Sub-Scales			
Items	Factor value of items	Item-Total Score Correlation (r)	p		
Factor 1					
1	0.56	0.78	< 0.05		
2	0.64	0.73	< 0.05		
3	0.77	0.68	< 0.05		
4	0.61	0.78	< 0.05		
5	0.58	0.77	< 0.05		
6	0.78	0.78	< 0.05		
7	0.62	0.77	< 0.05		
8	0.61	0.79	< 0.05		
9	0.74	0.68	< 0.05		
10	0.76	0.75	< 0.05		
Eigenvalues	7.39				
Described Variance	25.80				
%					
Factor 2					
11	0.73	0.75	< 0.05		
12	0.82	0.83	< 0.05		
13	0.85	0.86	< 0.05		
14	0.86	0.88	< 0.05		
15	0.80	0.83	< 0.05		
Eigenvalues	2.82				
Described Variance	20.18				
%					
Factor 3					
15	0.85	0.90	< 0.05		
16	0.85	0.85	< 0.05		
17	0.65	0.81	< 0.05		
Eigenvalues	1.48				
Described Variance %	18.92				
Total Described Variance %	64.89				

correlations between subscales were between 0.41 and 0.64. (Fig. 1).

3.3. Reliability

Item-total score correlations score, one of the reliability indicators of the scale and its sub-scales, was calculated. The correlation coefficients of the items were found to be between 42 and 78 (p < 0.05) (Table 3). The correlation coefficients between sub-scale item scores and the sub-scale total scores were in the range of 68–79 for Factor 1,.75–88 for Factor 2,.81–90 for Factor 3, respectively, and the correlations were found to be statistically significant (p < 0.05) (Table 2). to examine the alignment of each sub-scale with the scale, correlations of the sub-scale scores and the total score of the scale were calculated. The correlation coefficients of the sub-scales were between 64 and 91 and were statistically significant (p < 0.05) (Table 4).

3.3.1. Internal consistency reliability coefficients

Cronbach's alpha reliability coefficient was found as 0.91 for the total score of the scale. Cronbach's alpha reliability coefficients were calculated between 0.80 and 0.91 for the sub-scales. Split-half reliability results of the scale were found 0.89 for the first half and 0.83 for the second half; the correlation between the two halves was determined as 0.57. The spearman-Brown coefficient was found 0.73 and the Guttman Split-Half coefficient was found 0.72 (Table 4).

3.3.2. Hotelling's T² Test

Hotelling T^2 statistics are used to determine the measurement ability of the items in the scale and find out if they are close to each other. Item means were found to be different (Hotelling $T^2 = 257.490$, p. 0.000).

3.3.3. Ceiling and floor effect of the scale

When the ceiling and floor percentages were analyzed within the scope of reliability analyses, the floor effect of the scale was found 0.4 and the ceiling effect was found 1.8. The floor and ceiling effects were as follows: 0.4 and 7.5 for the Factor 1, 0.4 and 13.3 for the Factor 2, 1.3 and 16.4 for the Factor 3, respectively (Table 4).

4. Discussion

Nursing and midwifery education involves theoretical and practical applications; therefore, it is important to determine the attitudes of students towards RMC. Determining the attitudes of students towards RMC is important in evaluating the current situation and taking steps to improve the attitudes of students RMC. This study analyzed the reliability and validity of the SP-RMC for nursing and midwifery students in Turkish society and performed content validity, construct validity,

Table 3 Item-Total Score Analysis.

Items	Item-Total Score Correlation (r)
Item 1	0.78
Item 2	0.67
Item 3	0.54
Item 4	0.75
Item 5	0.78
Item 6	0.68
Item 7	0.74
Item 8	0.77
Item 9	0.54
Item 10	0.66
Item 11	0.42
Item 12	0.52
Item 13	0.55
Item 14	0.59
Item 15	0.60
Item 16	0.63
Item 17	0.56
Item 18	0.57

reliability, and internal consistency analyses of the scale.

4.1. Validity

Content Vvalidity is an indicator of the degree to which the scale and each item in the scale serve the purpose as a whole. It is reported that in scale adaptations, I-CVI and S-CVI should be greater than 0.80 for proving language and content equivalence and evaluating expert views (Polit and Beck, 2006). I-CVI and S-CVI of the scale were found to be greater than 0.80. This study found that the SPRMC-T can be used in the Turkish population, is comprehensible and suitable for the measurement tool, and represents the field that is wanted to be measured.

Construct validity was evaluated using CFA and EFA to reveal how accurately a concept or behavior is measured with the adapted scale. Before that, the tests performed included suitability of the data for factor analysis, sample adequacy (KMO), and significance of correlation coefficients between variables Bartlett's Test of Sphericity (BTS). The literature reports that the KMO coefficient should be 0.60 or more, and BTS should be p < 0.05 and anti-image correlation matrix should be 0.50 (DeVellis, 2017; Carpenter, 2018; Kyriazos, 2018). The KMO value of the scale was found = 0.90, and the Barlett's test result was found $\chi = 2437.116$, p: 0.000 and the diagonals cells of the anti-image correlation matrix were all > 0.50. These results indicate that the data fit each other, the sample size is not big enough to affect the analysis result, and the sample is appropriate for factor analysis.

It is recommended that the factor loads in the scale should be 0.30 and over. (DeVellis, 2017; Kyriazos, 2018; Carpenter, 2018). In the present study, item factor loads were found to range between 0.56 and 0.86. Factor loads greater than 0.30 in all sub-scales show that the scale had a high factor structure in this analysis. Factor loads in the original scale ranged between 0.43 and 0.75, which were lower than the values obtained in this analysis (Dhakal et al., 2022).

EFA results in this study showed that the scale had a three-factor structure, and it explained 64.89% of the total variance. The original scale similarly had a three-factor structure, and these three factors were found to explain 37.4% of the total variance. (Dhakal et al., 2022). The literature reports that the total explained variance should range between 40% and 60%. Besides, it is reported that higher total explained variance rates indicate stronger factor structure (DeVellis, 2017; Carpenter, 2018; Ahmed and Ishtiaq, 2021).

The literature emphasizes that the scale structure revealed by EFA should be examined by confirmatory factor analysis (CFA) (Brown, 2015). CFA included the use of $\chi 2/df$, SRMR, RMSEA, CFI, GFI, AGFI, NFI and NNFI fit index values. When the model fit indices criteria were analyzed within the scope of fit limits, (model fit indices were greater than 0.90 and RMSEA was less than 0.080; χ^2/df ratio was less than 5) it was found that the scale was within the acceptable fit limits (DeVellis, 2017; Carpenter, 2018; Kyriazos, 2018). The literature recommends removing items that have standardized coefficient values below 0.30 according to analyses obtained from CFA (DeVellis, 2017; Carpenter, 2018; Kyriazos, 2018). All factor load values in this study were found to be greater than 0.30 and confirmed the factor patterns formed.

4.1.1. Reliability analyses

Reliability analyses included the use of α coefficient, a method to assess internal consistency, and item-total correlations. Cronbach's alpha coefficient of SPRMC-T was determined 0.91, indicating a high level of reliability. Besides, in the original scale, Cronbach's alpha reliability coefficient was determined 0.76 for the total score (Dhakal et al., 2022). Cronbach's alpha reliability coefficient, which is commonly used for determining reliability in Likert-type scales, is expected to have a minimum value of 0.70. (DeVellis, 2017; Carpenter, 2018; Ahmed and Ishtiaq, 2021). This result shows that the Turkish version of the scale has acceptable internal consistency.

Item-total score and the item-sub-scale total score were other methods used for the assessment of internal consistency. In the present

Table 4
Item-Total Score Correlation and Reliability Analysis of the Scale Total and Sub-Scales.

Sub-Scales	Sub-so Total S Correl	Score	Scale Cronbach's Alpha (α)	First half of Cronbach α	Second half of Cronbach α	Spearman- Brown	Guttman split-half	Correlation between two halves	Floor effect %	Ceiling effect %
	r	p								
Factor 1 Respectful Care	0.91	< 0.05	0.91						0.4	7.5
Factor 2 Safety and Comfort	0.64	< 0.05	0.88						0.4	13.3
Factor 3 Supportive Care	0.69	< 0.05	0.80						1.3	16.4
Total Scale			0.91	0.89	0.83	0.73	0.72	0.57	0.4	1.8

study the correlation coefficients of the 18-item scale showed that all the scale items had positive correlations between each other and with the total score of the scale. Correlation coefficients of all the items ranged between 0.42 and 0.78. The acceptable value should be > 0.20, as close to 1 as. Positive and high item-total correlations indicate that the items illustrate similar behaviors and the scale has high internal consistency (DeVellis, 2017; Carpenter, 2018; Ahmed and Ishtiaq, 2021).

Split half was one of the methods used for the determination of the reliability of the SPRMC-T scale. Cronbach's alpha values of the Split half analysis results were found to be greater than 0.70, and the correlation between the two halves was found 0.67. Spearman-Brown coefficient and Guttman Split-Half coefficient were found to be greater than 0.70. (Rattray and Jones, 2007; Çam and Baysan-Arabacı, 2010). Although these findings indicate the strong internal validity of the scale, the results could not be compared with the first report results because split half was not performed. (Dhakal et al., 2022).

Hotelling T^2 test analyzed if the scale responses were biased. The Hotelling T^2 test (Hotelling's $T^2=1360.277, p=0.000$) showed that the item mean scores were different. These values showed that students' responses were not biased while responding to the scale and the items were comprehended in the same way. Biased responses are an important characteristic affecting the reliability of the scale.

The ratio of over 20% in terms of the students cumulated in the minimum and maximum scores of the scale indicates that responses given to the items composing that dimension are in extreme values. When the ceiling and floor percentages exceed 20%, the sub-scale of the scale is considered not to measure the desired feature adequately (Özdamar, 2016). This study found that the floor and ceiling effects were < 20% in both the total scale and sub-scales, indicating the reliability of the SPRMC-T scale. This analysis was not done in the original scale, so no comparisons could be made (Dhakal et al., 2022).

The results exhibited that the SPRMC-T was a valid and reliable tool. Measuring students' perceptions of RMC during labor and birth is an important preliminary step to guide the development and implementation of RMC education, practice interventions, and measure effectiveness. The literature reports the use of various educational strategies for students to encourage RMC (workshops, courses, curriculum studies) (Shimoda et al., 2020). Education on RMC could positively improve the knowledge, attitudes, and practices of health personnel candidates and members of health professions (Montoya et al., 2020).

On the other hand, the limitation of the study should be noted. The participants included undergraduate nursing and midwifery department students enrolled in a university located in western Turkey. Assessment of the psychometric features of the SPRMC scale in different student groups could contribute to the stronger confirmation of the psychometric strength of this scale.

5. Conclusion

The 18-item SPRMC scale with a 3-factor structure is a valid and

reliable measurement tool for nursing and midwifery students in Turkish society. The scale could also help to enhance respectful childbirth care perception among educators, women, and students as well as students' RMC competence. The ultimate goal in the assessment of students' RMC perceptions is to improve health professionals' perceptions of respectful childbirth care from education to professional life and improve the quality of care by planning necessary intervention studies.

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CRediT authorship contribution statement

MÇ: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Resources, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing. **EU:** Conceptualization, Data curation, Formal analysis, Methodology, Resources, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Author contributions

All authors contributed to the study design, the collection, evaluation and interpretation of the data, the writing of the article and the submission of it for publication.

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