



Workplace breastfeeding support for working women: A scale development study

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ABSTRACT

Objective: In this study, authors aimed to develop a scale to evaluate workplace breastfeeding support.

Methods: The study was carried out with 490 working women who applied to the women's and children's outpatient clinics of a hospital in Turkey. The study data were collected by using a 'Personal Information Form' and the 'Workplace Breastfeeding Support for Working Women Draft Scale'. The data were analyzed on SPSS 25 and AMOS 21 software packages. In the development process of the scale; Content validity, exploratory factor analysis, item-total score correlation methods and Cronbach's Alpha coefficient were used.

Results: The content validity index of the scale was 0.90, and the Cronbach's alpha value was 0.93. Kaiser-Meyer-Olkin value of the scale was 0.91, Bartlett test values were $\chi^2 = 11,573.924$ and $p < 0.000$. According to the results of the exploratory factor analysis for the construct validity of the scale, the scale consisted of 31 items and 6 factors.

Conclusions: The developed scale can be used to evaluate workplace breastfeeding support for working women as a valid and reliable measurement tool.

Introduction

Breastfeeding is considered an important and effective strategy in reducing infant and under-five mortality. According to the World Health Organization, it is recommended that infants be fed only with breast milk for the first six months and continued breastfeeding with appropriate solid foods for two years or longer [1,2]. It is estimated that only 37 % of children under 6 months of age worldwide are exclusively breastfed [3]. By 2025, it is aimed to increase the rate of exclusive breastfeeding to 50 % worldwide [4]. Factors, such as the mother's age, education level, income level, mother-infant relationship, support of family members and spouse, previous experience, and working status, prevent adequate breastfeeding rates [5]. Among these factors, the employment and working conditions of the mother lead to the factors

that affect breastfeeding. The increased participation of women in the workforce has raised concerns about continuing breastfeeding while working [6–8].

Within the scope of women's right to maternity, protection of employment and income security of women is possible by providing them with equal opportunities and suitable workplace conditions for breastfeeding. Working mothers often find it difficult to continue breastfeeding at work in the absence of workplace support for breastfeeding [9]. Short maternity leave, timing and location issues, full-time work, inadequate breaks, lack of manager support, negative reactions from colleagues, lack of written policies regulating and supporting breastfeeding in the workplace, lack of privacy, and the mother's inability to find enough time and place to express her milk are among the barriers to maintaining breastfeeding in working women [10,11].

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Breastfeeding friendly practices should be put into practice in workplaces to protect, encourage, and support breastfeeding in working women. In this context, the assessment of workplace breastfeeding support for working women comes to the fore. The literature on this subject is limited in our country and a comprehensive scale developed in accordance with the country conditions has not been found. This scale will be an important assessment tool in determining the effect of workplace support and workplace related factors on the breastfeeding process of working women. For this reason, the study was conducted to develop a scale to evaluate workplace breastfeeding support for working women.

Methods

Design

This study is a methodological study designed to evaluate workplace breastfeeding support in working women and to develop a scale to examine its psychometric properties.

Sample and participants

The population of the study consisted of working women who applied to the obstetrics clinic and pediatrics clinic of a hospital in Turkey for any reason between November 2019 and November 2020. Inclusion criteria for the study were determined as women who were aged 18 or older, whose child was at most 5 years old, who continued or were still continuing to work during lactation period, who had a good command of Turkish, who presented to the outpatient clinics of the specified women and children's hospital for examination, and who voluntarily participated in the research. In the literature, it is argued that when developing a scale, the number of participants should be 5–10 times the number of items in the scale [12]. Therefore, considering the data losses, 490 women, which is 10 times the number of items in the draft scale form, were included in the study.

Data collection tools

The Personal Information Form

The Personal Information Form consists of 10 questions developed as a result of researcher experiences and literature review, including socio-demographic characteristics and postpartum employment status [6,7, 13].

The development of workplace breastfeeding support for working women scale (WBSWWS)

The scale was developed by the researchers to determine the workplace breastfeeding support status of working mothers. In the process of preparing the scale draft, a comprehensive literature review was conducted, a 55-item pool was created. To ensure content validity, the items on the WBSWWS were randomly ordered and submitted to 1 measurement and evaluation and 9 content experts. The 9 content experts whose opinions were obtained were working in the field of obstetrics and women's health nursing and pediatric nursing. Each expert was also sent information on the purpose of the WBSWWS and instructions about how to evaluate content validity. Experts were asked to rate each item in the scale on a four-point Likert-type scale (1 = not at all, 4 = very appropriate). The content validity index (CVI) for the scale is the percentage calculated over the total items rated as three or four by the experts. A CVI score of 80 % or higher is considered to indicate good content validity [14,15]. The results showed that 49 items of the scale had content validity. The draft scale was first piloted on 30 women with the same characteristics as the sample. These women were not included in the sample. In the pilot application, the expressions that the participants had difficulty in understanding were rearranged and after the rearrangement, it was deemed appropriate to apply the 49-item draft scale to

the main sample.

As a result of the analysis and evaluations, the scale, which aims to measure workplace support for breastfeeding in working women, consisted of 31 items and six theoretical dimensions. The lowest score for each item is determined as 1 and the highest score as 5. The lowest score that the scale can get is 31, and the highest score is 155. In this scale, besides the evaluation of general workplace support for breastfeeding, Workplace Physical Environment (9 items), Manager Support (5 items), Co-worker Support (5 items), Workflow (4 items), Workplace Pressure (4 items), Workplace Policies and Practices (4 items) can be evaluated for six sub-dimensions. As the scores obtained from this scale and its sub-dimensions increase, it means that the level of workplace support for breastfeeding of working women increases.

Data analysis

SPSS 25 and AMOS 21 package programs were used in the analysis of the research data. Reliability analysis, item analysis and explanatory factor analysis were performed in the SPSS program. AMOS software was used to perform confirmatory factor analysis. Descriptive statistics were presented as percentages and mean scores. The content validity of the scale is divided by the number of experts who give 3 or 4 points to each item. An item with a content validity score of 0.80 and above is considered an appropriate item [16–18].

In order to determine the discriminative power of the items, item analyzes were performed before the Exploratory factor analysis (EFA). EFA was performed to determine the construct validity of the scale. Confirmatory Factor Analysis (CFA) was performed to test the confirmability of the construct obtained from EFA. The principal components technique was used to determine the factor structure. The Bartlett test was used to determine whether the data were suitable for factor analysis, and the Kaiser-Meyer-Olkin (KMO) test was used to determine the adequacy of the sample [19–21]. Principal component analysis was chosen as the factorization method to reveal the factor pattern of the scale, and varimax, one of the orthogonal rotation methods, was chosen as the rotation method. Then, CFA was performed to test the construct validity [22]. The most frequently reported fitness values, including the standardized goodness-of-fit index (GFI), root-mean-square error of approximation (RMSEA), comparative fit index (CFI), and normal fit index (NFI), were employed [23]. AVE (Average Variance Extracted) and CR (Composite/Construct Reliability) values were examined for the discriminant validity of the scale. The floor-ceiling effect was analyzed to support construct validity. "Cronbach's alpha coefficient" was calculated for internal consistency.

Ethical aspect of the research

Ethics committee approval was obtained from a state university (Date: 12.09.2019, No.: 64075176-299-E.102239). Institutional permission was obtained from the hospital. Informed consent was also obtained from the women. The study was conducted following the principles of the Declaration of Helsinki.

Results

Sample characteristics

Of the women, 54.6 % were in the 31–40 age group, 62.2 % had an undergraduate-associate degree, 95.1 % were married, 65.9 % had equal income and expenses. Regarding their working conditions, 55.4 % stated that they worked in public institutions, 58 % were regular staff, 85.2 % had a full-time job, and 23.5 % worked in shifts.

Validity

Content validity, CFA and EFA were used to test the validity of the

scale To determine the discriminating power of the items, item analyses were performed before the EFA. Table 1. presents the independent sample t-test results showing the discriminating power of the items on the workplace breastfeeding support for working women scale. In order to determine the discriminative power of the items in the scale, the raw scores obtained from each factor were ranked in ascending order. Then, the mean scores of the groups in the lower 27 % and the upper 27 % were compared using the independent sample t-test. As a result of the comparison, there was a statistically significant difference between the mean scores of the upper and lower group items for each sub-dimension in terms of all items (p < 0.05). The statistically significant difference between these groups (p < 0.05) shows that the items in the scale have good discrimination and no item should be deleted [24].

Exploratory factor analysis

The KMO value applied to test the suitability of the sample size for factor analysis before the exploratory factor analysis is 0.910. Chi-square statistics obtained using the Bartlett test of sphericity were found to be significant ($\chi^2(465) = 11,573.924$; Bartlett Sphericity Test (p)= 0.000). For this reason, principal component factor analysis was deemed appropriate for the data. In addition factors were determined according to criteria that explained 60 % of the variance and factor loads of 0.40 and above [24,25]. In addition, another process related to the removal of the items from the scale was evaluated according to a criterion in which the factor load values took values whose difference is less than 0.1 in two or more factors. According to these criteria, the workplace breastfeeding support for working women was developed as a scale with 31 items and a 6-factor structure and explained 72.201 % of the total variance. The eigenvalues, the percentage of variance explained, and factor loadings are reported in Table 2.

Confirmatory factor analysis

As a result of the confirmatory factor analysis, it was found that the

Table 1

Item analysis results of the sub-dimensions of the workplace breastfeeding support for working women scale.

	Item no	Item total correlation*	t(Lower % 27-Upper %27)**
F1	Item 39	0.748	-27.205***
	Item 40	0.789	-31.525***
	Item 41	0.517	-12.327***
	Item 43	0.758	-26.367***
	Item 44	0.806	-31.486***
	Item 45	0.810	-29.753***
	Item 46	0.780	-27.684***
	Item 47	0.787	-28.101***
F2	Item 48	0.667	-22.018***
	Item 23	0.850	-26.972***
	Item 24	0.894	-36.369***
	Item 25	0.878	-33.183***
	Item 27	0.814	-29.522***
F3	Item 29	0.777	-29.544***
	Item 32	0.631	-21.267***
	Item 34	0.593	-16.331***
	Item 35	0.723	-19.953***
	Item 36	0.844	-25.649***
F4	Item 37	0.800	-24.277***
	Item 13	0.854	-42.068***
	Item 14	0.858	-44.941***
	Item 17	0.707	-27.156***
F5	Item 18	0.795	-36.603***
	Item 15	0.534	-24.768***
	Item 30	0.729	-30.064***
	Item 31	0.721	-26.078***
F6	Item 38	0.631	-25.995***
	Item 7	0.523	-19.568***
	Item 8	0.622	-25.981***
	Item 11	0.645	-30.607***
	Item 12	0.617	-23.119***

* n = 460, ** n1 = n2 = 124, *** significant values at p < 0,05.

Table 2

Explanatory factor analysis results of the workplace breastfeeding support for working women scale.

	Factors					
	F1	F2	F3	F4	F5	F6
Item45	0.836					
Item46	0.826					
Item44	0.824					
Item47	0.818					
Item39	0.809					
Item40	0.800					
Item43	0.757					
Item48	0.676					
Item41	0.585					
Item23		0.835				
Item24		0.832				
Item25		0.813				
Item27		0.733				
Item29		0.714				
Item36			0.863			
Item35			0.850			
Item37			0.835			
Item34			0.734			
Item32			0.612			
Item14				0.808		
Item13				0.798		
Item18				0.704		
Item17				0.656		
Item30					0.846	
Item31					0.828	
Item38					0.750	
Item15					0.543	
Item11						0.815
Item12						0.802
Item8						0.690
Item7						0.619
Reliability (α = 0,936)	0.929	0.942	0.880	0.913	0.823	0.791
Explained variance (%) (72,201)	20.052	13.452	11.754	9.704	8.635	8.605
Eigenvalue (λ)	11.094	3.904	2.718	2.100	1.541	1.025

KMO = 0.910; $\chi^2(465) = 11,573.924$; Bartlett Test of Sphericity (p) = .000.

structural equation modeling result of the scale was significant at the p = 0.000 level. In addition, it was found that the items forming the scale and six factors were related to the structure of the scale. According to the results of the first level multi-factor confirmatory factor analysis, the goodness of fit indexes of the workplace breastfeeding support for working women scale were found as RMSEA, 0.074; GFI, 0.828; CFI, 0.909; NFI, 0.877; and χ^2/df , 3.525 (p = 0.000), which were at an acceptable level [26–28] (Fig. 1).

Discriminative validity

In line with the common procedure, the next step is to investigate the validity of the measurement model, which is usually assessed by convergent and discriminant validity. Convergent validity was tested using conditions where the construct reliability (CR) was greater than 0.70 [29] and the average variance extracted (AVE) was greater than 0.40 [30]. Convergent validity refers to the tendency of all items to confirm each other. Convergent validity can be assessed by examining composite reliability (CR) and average variance extracted (AVE), where CR indicates the consistency of constructs, while AVE measures the amount of variance attributed relative to the construct. The results showed that the scale had discriminant validity (Table 3).

Reliability

The Cronbach α coefficient is an approach used to test the reliability of the scale. In general, a Cronbach α coefficient of ≥ 0.7 for the scale and its sub-dimensions is considered appropriate [31]. It was found that

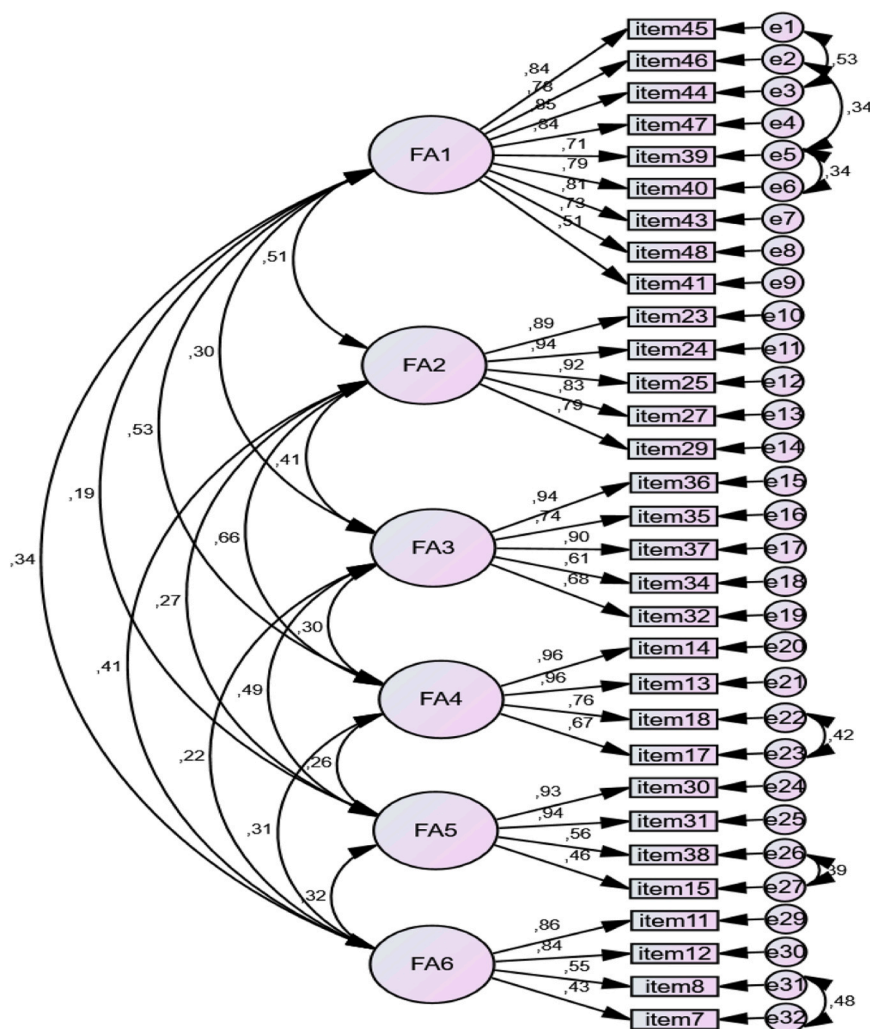


Fig. 1. The results of the first level multi-factor confirmatory factor analysis of the workplace breastfeeding support for working women scale. FA1: Workplace physical environment; FA2: Manager support; FA3: Co-worker support; FA4: Workflow; FA5: Workplace pressure; FA6: Workplace policies and practices.

the workplace breastfeeding support for working women scale (0.936) and the factors of the scale was found to be highly reliable (“F1” 0.929; “F2” 0.942; “F3” 0.880; “F4” 0.913; “F5” 0.823; “F6” 0.791).

Analysis of the distribution: floor and ceiling effects

The score distributions of the WBSWWS items were examined in terms of floor and ceiling effects across the samples, and it was found that they were below 20 %. The floor and ceiling percentages are desired to not exceed 20 %. Otherwise, it is assumed that the scale does not adequately measure the desired quality [32].

Discussion

It is extremely important to evaluate the workplace breastfeeding support for working women and related factors from a female perspective. In this direction, a measurement tool that will provide accurate, consistent, and valid data collection and evaluation was brought to the literature, and the reliability and validity of the scale were tested to develop the workplace breastfeeding support for working women scale. It was determined that the Workplace Breastfeeding Support for Working Women Scale was a valid and reliable scale and consisted of 31 items and six sub-dimensions. It can be said that the scale developed has a structure that can comprehensively evaluate workplace breastfeeding support with its various dimensions.

Factor analysis is one of the most powerful and common approaches used to validate a measurement tool. It is suggested that scale items are statements about the concepts to be measured [16]. The factors that may affect breastfeeding in working women were examined in light of the literature, and the relevant scale items were created within this framework. The factor analysis results of the scale revealed six factors: workplace policies, workflow, workplace pressure, manager support, co-worker support, and workplace physical environment. Few studies in the literature, which examine workplace breastfeeding support, also show that factors such as managers, co-workers, workplace physical environment, and workplace policies may have an effect on breastfeeding. The examination of studies in the literature that evaluate workplace breastfeeding support for working women has shown that there are two scales related to the topic. One of these scales consists of 12 items and 4 factors (technical, environmental, facility and peer support) [33,34]. The other scale that is ready to be piloted consists of 15 items and evaluates 5 sub-dimensions (workplace policies, workflow, manager support, physical environment, and co-worker support). However, it was stated that the scale needed piloting and conducting validity and reliability analyses [35]. It can be stated that the scale developed in this study contains six factors and can make a more comprehensive assessment compared to the scales in the literature.

KMO test was used to evaluate the suitability of the sample size for factor analysis. If this value is between 0.5 and 1.0, it is acceptable, and below 0.5 indicates that factor analysis is not suitable for the data set

Table 3

Results of the measurement model of the workplace breastfeeding support for working women scale.

Factors	Items	Factor loads	t values	p values	CR	AVE
F1	Item45	0.839	-	-	0.93	0.59
	Item46	0.779	19.617	***		
	Item44	0.846	32.753	***		
	Item47	0.841	22.042	***		
	Item39	0.714	17.251	***		
	Item40	0.788	19.950	***		
	Item43	0.808	20.704	***		
	Item48	0.727	17.765	***		
	Item41	0.506	11.251	***		
F2	Item23	0.889	-	-	0.94	0.77
	Item24	0.941	32.603	***		
	Item25	0.919	30.778	***		
	Item27	0.831	24.611	***		
	Item29	0.789	22.310	***		
F3	Item36	0.938	-	-	0.88	0.61
	Item35	0.743	20.731	***		
	Item37	0.904	31.149	***		
	Item34	0.606	15.020	***		
F4	Item32	0.679	17.810	***	0.91	0.72
	Item14	0.956	-	-		
	Item13	0.960	42.974	***		
	Item18	0.765	23.146	***		
F5	Item17	0.667	17.979	***	0.83	0.57
	Item30	0.930	-	-		
	Item31	0.936	27.035	***		
	Item38	0.560	13.278	***		
F6	Item15	0.456	10.292	***	0.78	0.48
	Item11	0.861	-	-		
	Item12	0.839	16.034	***		
	Item8	0.547	11.383	***		
	Item7	0.433	8.835	***		

***p < 0.05.

[22,36]. As a result of the analyzes made for this study, the KMO value in the study was found to be 0.910. This result shows that the sample size is “adequate” for factor analysis. The chi-square value obtained according to the Bartlett Sphericity test result was acceptable ($\chi^2(465) = 11,573,924$; $p < 0.01$). ($\chi^2(465) = 11,573.924$; $p < 0.01$). Since exploratory factor analysis only identifies the underlying dimensions, CFA was performed to test the construct validity of the scale in more detail. In the literature, a model fit indicator of confirmatory factor analysis of > 0.85 , X^2/DF of less than five, and RMSEA of < 0.08 are accepted as good fit indicators [37,38]. According to the confirmatory factor analysis results, the goodness of fit indices of the workplace breastfeeding support for working women scale were RMSEA, 0.074; CFI, 0.909; NFI, 0.877; GFI, 0.828; and χ^2 , 3.525, which were at an acceptable level ($p = 0.000$).

The items in the scale were grouped under 6 factors as a result of the analysis. It was found that these factors explained 72,201 % of the total variance. In the explanatory factor analysis performed to reveal the factor pattern of the workplace breastfeeding support scale for working women, factor loads were found to be above 0.40 in the study, where the sample size was 490. The factors on the scale were determined according to criteria in which factor loadings were 0.40 or greater and factors explained 60 % of the total variance [25,39]. In the analysis performed for the six-factor scale, when the items were evaluated in terms of the acceptability level of the factor load values, it was determined that the factor loads were at an acceptable level (between 0.543 and 0.863). In the literature, it is recommended to use the floor and ceiling effect in evaluating the reliability and validity of scales. Floor or ceiling effects occur when a significant proportion of a population tested achieves the lowest or highest possible score, respectively, on a test [40]. The floor and ceiling percentages shouldn't exceed 20 %. Otherwise, it is assumed that the scale does not adequately measure the desired quality [32]. It was observed that this aspect of the scale supported the construct validity and that the items adequately measured the quality to be

measured. The most appropriate method for determining the internal consistency of the scale and frequently used one in Likert-type scales is the calculation of Cronbach's alpha reliability coefficient. A Cronbach's alpha coefficient less than 0.40 is considered unreliable, and a Cronbach's alpha between 0.80 and 1.00 is considered highly reliable [37, 41]. The Cronbach alpha reliability coefficient of the workplace breastfeeding support scale for working women was found to be 0.93. In addition, the Cronbach alpha reliability coefficients of the subscales of the scale are over 0.79. According to the research results; It has been shown that the items measure the desired situation adequately and that the reliability of the scale and subscales is at a very good level.

Limitations and strengths

Although this research makes important contributions to the literature, it also has limitations. Since this study was planned in accordance with Turkish culture, validity and reliability analyzes should be done in order to apply the scale in different cultures and countries. In addition, for the ease of remembering the breastfeeding experience; The sample of the study consisted of women with children up to 5 years old. Although the sample group represented a homogeneous population in terms of features related to working status, it generally consisted of educated women. For this reason, it is recommended to apply the scale to women who are still breastfeeding. Despite these limitations, the strength of this study is that it is a scale that comprehensively evaluates workplace breastfeeding support for working women. In addition, the scale has construct validity with an explanatory variance of over 72 %. The fact that the Cronbach alpha coefficient of the scale is above 0.93 also indicates that its reliability is very good.

Conclusion

Breastfeeding support in the workplace should be evaluated regularly to create work environments that support and sustain breastfeeding. It can be said that the scale is a valid and reliable tool that can be used in the evaluation of workplace breastfeeding support for working women. Thanks to scale, a lot of factors about workplace breastfeeding support for working women will be evaluated via the workplace physical environment, co-worker support, manager support, workplace pressure, workflow, and workplace policies and practices sub-dimensions. The data to be obtained from the application of the scale will guide taking necessary precautions by determining the factors about the workplace in terms of the continuation of breastfeeding. By applying the scale to female employees in public and private workplaces, the deficiencies of workplaces in terms of breastfeeding support can be eliminated. In addition, it is thought to be useful in improving the mother-friendly climate and contributing to breastfeeding. Increasing breastfeeding support in workplaces will contribute positively to the economy by reducing health care costs as well as maintaining mother-infant and public health. The scale was developed in accordance with the Turkish society. It is recommended to conduct validity and reliability studies for the scale to be used and applied in different societies. In addition, conducting different studies using the scale will make important contributions to this field in the literature.

CRedit authorship contribution statement

Concept – HYS, NO, BMS, EG; Design – HYS, NO, BMS, EG; Data Collection and/or Processing – HYS, BMS; Analysis and/or Interpretation – HYS, NO, BMS, EG; Literature review and writing – HYS, BMS; Critical Review – HYS, NO, BMS, EG.

Ethical Aspect of the Research

Ethics committee approval (date: 12.09.2019 and issue: 64075176-299-E.102239) of Eskişehir Osmangazi University Ethics Committee

and the institutional permission of the hospital where the research would be conducted was obtained. Verbal and informed written consent of the working women who agreed to participate in the study was obtained. The research and publication ethics were followed at all stages of the study.

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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. This study was presented as an oral presentation at the 3rd International/4th National Postpartum Care Congress.

Data Availability

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

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References

- [1] Yang X, Ip W-Y, Gao L-I. Maternal intention to exclusively breast feed among mainland Chinese mothers: a cross-sectional study. *Midwifery* 2018;57:39–46.
- [2] Riaz S, Condon L. The experiences of breastfeeding mothers returning to work as hospital nurses in Pakistan: a qualitative study. *J Women Birth* 2019;32(2):e252–8.
- [3] Gupta A, Dadhich J, Suri S. Infant malnutrition: breastfeeding. *Int Encycl Public Health* 2017:207–15.
- [4] Türkmen H, Yalniz Dilcen H, Akin B. The effect of labor comfort on traumatic childbirth perception, post-traumatic stress disorder, and breastfeeding. *Breastfeed Med* 2020;15(12):779–88.
- [5] Rollins NC, et al. Why invest, and what it will take to improve breastfeeding practices? *Lancet* 2016;387(10017):491–504.
- [6] Soomro J, et al. Factors affecting breastfeeding practices among working women in Pakistan. *EMHJ-East Mediterr Health J* 2016;22(11):810–6.
- [7] Vilar-Compte M, et al. Costing a maternity leave cash transfer to support breastfeeding among informally employed Mexican women. *J Food Nutr Bull* 2019; 40(2):171–81.
- [8] Santos MN, Azeredo CM, Rinaldi AEM. Association between maternal work and exclusive breastfeeding in countries of Latin America and Caribbean. *Matern Child Health J* 2022;26(7):1496–506.
- [9] Daniels L, Du Plessis L, Mbhenyane X. Breastfeeding support practices in designated workplaces in the Breede Valley sub-district, Western Cape, South Africa. *South Afr J Child Health* 2020;14(2):94–8.
- [10] Lin WT, et al. Effects of workplaces receiving “accreditation of health workplaces” on breastfeeding promotion, parental leave, and gender equality. *J Occup Health* 2020;62(1):e12140.
- [11] Payton C, Romney M, Olson BH, Abatemarco DJ, LaNoue M, Leader AE. Evaluation of workplace lactation support among employers in two Pennsylvania cities. *Bus. Horiz.* 2019;62(5):579–87.
- [12] Ma K, Treveltham R, Lu S. Measuring teacher sense of efficacy: insights and recommendations concerning scale design and data analysis from research with preservice and inservice teachers in China. *Front Educ China* 2019;14:612–86.
- [13] Altamimi E, et al. Knowledge, attitude, and practice of breastfeeding among working mothers in South Jordan. *Workplace Health Saf* 2017;65(5):210–8.
- [14] Li HCW, Lopez V. Children’s emotional manifestation scale: development and testing. *J Clin Nurs* 2005;14(2):223–9.
- [15] Chiang HY, Lin SY. Psychometric testing of the Chinese version of nursing practice environment scale. *J Clin Nurs* 2009;18(6):919–29.
- [16] Shyamamala WS, et al. Development and validation of a self-efficacy scale for nursing educators’ role in Sri Lanka. *Int J Environ Res Public Health Nurs* 2021;18(15):7773.
- [17] Ghavibazou E, Abdollahi A, Hosseinian S. Validity of the Persian translation of the differentiation of self inventory (DSI) among Iranian adults. *Heliyon* 2022;8(7): e09834.
- [18] Navarro-Prado S, et al. Development and validation of a rating scale of pain expression during childbirth (ESVADOPA). *Int J Environ Res Public Health* 2020; 17(16):5826.
- [19] Abbass-Dick J, et al. Development, psychometric assessment, and predictive validity of the comprehensive breastfeeding knowledge scale. *Midwifery* 2020;83: 102642.
- [20] Boateng GO, et al. Best practices for developing and validating scales for health, social, and behavioral research: a primer. *Front Public Health* 2018;6:149.
- [21] Huthcheson GD, Sofroniou N. The multivariate social scientist: introductory statistics using generalized linear models. Sage; 1999.
- [22] Erguvan ID. An attempt to understand plagiarism in Kuwait through a psychometrically sound instrument. *Int J Educ Integr* 2022;18(1):1–17.
- [23] Schermelleh-Engel K, Moosbrugger H, Müller H. Evaluating the fit of structural equation models: tests of significance and descriptive goodness-of-fit measures. *Methods Psychol Res Online* 2003;8(2):23–74.
- [24] Xiao Y-Y, et al. The Chinese version of Instrument of Professional Attitude for Student Nurses (IPASN): assessment of reliability and validity. *Nurse Educ Today* 2017;49:79–83.
- [25] Pett MA, Lackey NR, Sullivan JJ. Making sense of factor analysis: the use of factor analysis for instrument development in health care research. Thousand Oaks, CA: Sage Publications; 2003.
- [26] Browne MW, Cudeck R. Alternative ways of assessing model fit. In: Bollen KA, Long JS, editors. Testing structural equation models. CA: Newbury Park: Sage; 1993. p. 136–62.
- [27] Dehon C, et al. A cross-sectional evaluation of the factorial invariance of anxiety sensitivity in adolescents and young adults. *Behav Res Ther* 2005;43(6):799–810.
- [28] Simon D, et al. Confirmatory factor analysis and recommendations for improvement of the Autonomy-Preference-Index (API). *Health Expect* 2010;13(3): 234–43.
- [29] Fornell C, Larcker DF. Evaluating structural equation models with unobservable variables and measurement error. *J Mark Res* 1981;18(1):39–50.
- [30] Psailla G, Wagner R. E-commerce and web technologies: 8th international conference, EC-Web 2007, Regensburg, Germany, September 3–7, 2007, Proceedings. Vol. 4655. Springer; 2007.
- [31] Taber KS. The use of Cronbach’s alpha when developing and reporting research instruments in science education. *Res Sci Educ* 2018;48(6):1273–96.
- [32] Portney LG, Watkins MP. Foundations of clinical research: applications to practice, 892. River, NJ: Pearson/Prentice Hall Upper Saddle; 2009.
- [33] Bai Y, Peng C-YJ, Fly AD. Validation of a short questionnaire to assess mothers’ perception of workplace breastfeeding support. *J Am Diet Assoc* 2008;108(7): 1221–5.
- [34] Huang Y-Y, et al. Breastfeeding practices of women returning to full-time employment in China: prevalence and determinants. *Workplace Health Saf* 2022. 21650799221126371.
- [35] Greene SW, Olson BH. Development of an instrument designed to measure employees’ perceptions of workplace breastfeeding support. *Breastfeed Med* 2008; 3(3):151–7.
- [36] Satir DG, Hazar S. Validity and reliability of the Turkish version of the Body Understanding Measure for Pregnancy scale (BUMPs). *Perspect Psychiatr Care* 2022;58(2):456–63.
- [37] DeVellis RF. Scale development: theory and applications, 26. Sage publications; 2016.
- [38] Karani VB, Seren Intepeler S. Cross-cultural adaptation and psychometric evaluation of the Turkish version of the Self-Efficacy for Preventing Falls-Nurse. *J Nurs Manag* 2019;27(8):1791–800.
- [39] Yilmaz T, et al. Psychometric properties of the Pregnancy-Unique Quantification of Emesis (PUQE-24) Scale. *J Obstet Gynaecol* 2022;42(6):1739–45.
- [40] Wang YP, Su CY, Huang MH. Psychometric comparisons of three measures for assessing motor functions in preschoolers with intellectual disabilities. *J Intellect Disabil Res* 2012;56(6):567–78.
- [41] Karadağ A, Yıldırım A. Nurse managers’ perceived sources of power: a scale development study. *J Health Nurs Manag* 2019;6(1):1–10.