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Validity and reliability of the Family Empowerment Scale for parents of children with cleft lip and/or palate

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Abstract

Background: Empowerment is recognized as a crucial concept in strengthening the position of parents in healthcare services. This study aimed to evaluate the validity and reliability of the Turkish Family Empowerment Scale (FES).

Methods: This methodological study was conducted between January and March 2021, with 348 family members actively caring for their children in the age group of 0–18 years with cleft lip and/or palate (CL/P). The English FES was translated into Turkish using back translation and modified so that it is generic and convenient for all families. The construct validity, internal validity, internal consistency, and split-half test reliability and responsiveness of the Turkish FES were examined.

Results: The original FES structure with three factors (family, health services provided to the child and community participation) and 34 items was verified in Turkish culture. This obtained structure can explain 66% of the variance of the relevant concept. Scores of parents ranged between 34 and 170 points. Increasing scores indicated a positive significance regarding family empowerment. The Cronbach's α reliability coefficient of the scale was calculated as 0.976.

Conclusion: The study findings and the goodness-of-fit values indicated that the FES and its Turkish version are a valid and reliable measurement instrument to be used in Turkish culture.

KEYWORDS

cleft lip and/or palate, family empowerment, reliability, validity

1 | INTRODUCTION

Empowerment is a key concept of the World Health Organization's (WHO) vision for improving health (World Health Organization, 2009). Empowerment is recognized as a crucial concept in strengthening the position of parents in the healthcare system (Barlow & Ellard, 2004; Hook, 2006). Although there are different definitions of empowerment, it is generally recognized as a process enabling the people to influence the institutions and their environments and simultaneously allowing them to gain strength in their own lives and improve their well-being up to a certain extent (Fumagalli et al., 2015; Koren et al., 1992; Vuorenmaa et al., 2014).

Family empowerment is an extremely crucial concept for children, families and societies (McAllister et al., 2012). The increased empowerment of parents and the other family members has a positive effect on their self-efficacy and stress levels, and it is associated with the development of skills of parents to make the correct choices regarding the treatment of their children (Koren et al., 1992; Vuorenmaa et al., 2014). In addition, it provides an opportunity to understand whether the implemented care interventions contribute to the support and in measuring the empowerment of parents effectively. Moreover, the empowerment of parents prevents the delay in the physical, psychosocial, and cognitive development of the child (McAllister et al., 2012; Segers et al., 2019). Empowerment is an effective and

crucial strategy for creating changes in individual health behaviours (Yeh et al., 2016).

Over the past few decades, empowering the families providing care for their patients gained importance, particularly the parents of children with a chronic illness, because of their primary responsibility in care procedures (Holmström & Röing, 2010; Segers et al., 2019; Smith et al., 2015).

According to the literature, because of the implementation of empowerment programs developed on the basis of various empowerment theories, the families had an increased level of self-confidence and self-efficacy in providing care for their children with diabetes, cerebral palsy, and mental health problems (Han et al., 2018; Wakimizu et al., 2018). However, studies evaluating the effect of healthcare provision on family empowerment are still insufficient (An et al., 2019; Kalleon et al., 2020). Although there is an increasing awareness in Turkey about the concept of family empowerment and its importance, studies on this topic are insufficient in the literature (Dönmez & Arslan, 2018).

CL/P is a congenital anomaly that occurs because of a fusion defect of the facial structures during the embryological period. It is one of the most common craniofacial congenital anomalies worldwide, with an average incidence of one in 700–1000 births, albeit regional variations (Fan et al., 2018; Raghavan et al., 2018).

A prenatal or postnatal diagnosis of CL/P in an infant leads to emotional problems in most of the parents (Nelson et al., 2012; Owens, 2008). Following the diagnosis, most of the parents begin an intense search of information for understanding the disease, meeting the needs of the infant, and empowering themselves psychologically (Nusbaum et al., 2008). The follow-up and treatment of CL/P require several years, starting from the intrauterine period with prenatal diagnosis and continues until adulthood until aesthetic integrity is achieved. Throughout this entire process, parents, infants, and healthcare professionals remain in continuous interaction, and a coordinated approach of multidisciplinary care plays a considerable role in the success of the provided health services (Han et al., 2018; Khanchezar et al., 2019).

The parents of children with CL/P may sometimes feel inadequate in adapting to parental roles and providing care for their children (Çınar & Koc, 2020; Nelson et al., 2012). In addition, they have to manage various difficulties other than that of the parents of healthy children, often experiencing sadness, anxiety, anger, and feeling of guilt (Nusbaum et al., 2008; Owens, 2008). Confronting these difficulties is crucial for such parents, and they also need to be prepared to participate in decisions and management of the care of their child (Payroovee et al., 2014; Vuorenmaa et al., 2014).

Among the limited measurement tools for family empowerment, FES (Koren et al., 1992) is the most widely used scale (Herbert et al., 2009). The FES was developed to measure the family empowerment status of parents with mentally retarded children. The FES has been translated into several languages, including Finnish, Hebrew, Japanese, Spanish, and more recently Dutch (Florian & Elad, 1998; Kageyama et al., 2016; Martínez et al., 2009; Segers et al., 2019; Vuorenmaa et al., 2014). Moreover, it is widely used and validated in

Key messages

- FES is widely used to determine the level of empowerment of parents' emotions.
- Family empowerment is associated with the ability of parents to manage their children and make a positive effect on services and environments associated with their children.
- The FES aims to support and empower parents individually in different crisis situations for their children.
- This study showed that FES is a valid and reliable tool to be used in Turkish culture.

different populations, including parents of children with diabetes, cerebral palsy, and mental health problems (Kageyama et al., 2016; Kalleon et al., 2020; Vuorenmaa et al., 2014). No study has been conducted in the literature on the validity and reliability of FES in any language for the use of families having children with CL/P. This study aimed to assess the validity and reliability of the Turkish 'FES', with a view to being used by health service providers and health personnel.

2 | METHODS

This methodological study, conducted between January and March 2021, included family members (mothers and fathers) actively caring for their children in the age group of 0–18 years diagnosed with CL/P. The FES scale in the literature was adapted into the Turkish language.

2.1 | Study place and features

The study was conducted in the outpatient and inpatient clinics of the 'Plastic, Reconstructive and Aesthetic Surgery Department' of a University Hospital. In addition, there is a multidisciplinary team called 'Cleft Lip-Palate and Craniomaxillofacial Deformity Treatment, Application and Research Center', moderated by this department. This centre provides healthcare services to patients with CL/P and their families undergoing multidisciplinary treatments. The study was conducted in an institution called 'Cleft Lip-Palate and Craniomaxillofacial Deformity Treatment, Application and Research Center' providing treatment to a large patient population of CL/P and admitting referrals from the other hospitals that are not specialized on CL/P. The inclusion criteria of patients were children with CL/P with no other congenital malformations in addition to the orofacial cleft and those aged 0 to 18 years. Data were collected from parents when children received treatment at the outpatient and inpatient clinics. Parents having difficulty speaking and understanding Turkish were excluded. The adaptation of the FES consisted of several stages, which are as follows:

Stage 1: Determining the Need and Deciding the Concept to Measure: After a literature review, a need for a measurement tool on this issue was determined, particularly for families having children with congenital anomalies.

Stage 2: Determining the Appropriate Scale and Meeting the Needs: In the literature review, a scale named 'FES' developed by Koren was found, which was considered an appropriate tool to be adapted into Turkish. The FES measures parents' own sense of their empowerment at three levels. The family subscale refers to the parents' sense of their ability to manage everyday life with their children. The health services provided to the child subscale refers to parents' perception of their ability to obtain and influence services that their own child needs from the service system. The community participation subscale refers to opinions of parents on how they can be an agent for a change in the family service system in general with legislative bodies, policymakers, and agencies on behalf of children in general (Koren et al., 1992). This was a six-point Likert-type scale consisting of 34 items in total. Permission was obtained from the relevant authors for adapting the scale into Turkish.

Stage 3: Translation into Turkish Language and Back Translation Method: The translation process was performed separately by two expert translators of English language and literature and three translators specialized in health sciences. The translated scale items were examined for appropriateness and compared with each other, and the relevant corrections were made.

Back translation is recommended by independent experts who were not previously involved in the original translation (Coster & Mancini, 2015). Therefore, two experts of English language and literature, who were not included in the first translation, performed the back translation and then compared it with the original scale. In the end, only a few and insignificant differences were found between the two versions. The back translation was sent to the authors who developed the original form and were requested to review the text for any semantic shift. Therefore, the back translated and original forms were determined to be similar regarding semantic analysis and cognition.

Stage 4: Content Validity: WHO recommends getting an expert opinion after the translation is completed to identify inadequate concepts in translation and specify the discrepancies between the two languages after advanced translations (Jesus & Valente, 2016). Experts can express their opinions on each item using a Likert-type rating scale as 'Necessary', 'Useful but not necessary' and 'Inadequate' (Yurdugül, 2005). Content validity ratio (CVR) and content validity index (CVI) were calculated using the opinions of minimum 5 and maximum 40 experts (Esin, 2014; Yurdugül, 2005).

CVRs were obtained by dividing the number of experts expressing the opinion as 'Necessary' by half of the total number of experts expressing an opinion on the item and subtracting 1 from this number ($KGO = [N_G / (N/2)] - 1$) / $(CVR = [N_v / (N/2)] - 1)$. The items with a negative or zero CVR value were eliminated at the first step. Analyses on statistical criteria and significance were implemented for items with positive CVR values (Yurdugül, 2005). Veneziano and Hooper converted the minimum values (content validity rates) to a table at a significance level of $p < 0.05$ for ease of calculation.

Accordingly, the minimum values relating to the number of experts also contribute to the statistical significance of the item (Veneziano, 1997).

Although the CVR is used for accepting or rejecting certain items, the CVI is calculated for the entire test. Therefore, the CVI value is obtained by calculating the mean of CVR values for the items included in the scale (Lawshe, 1975).

The preliminary form of the scale, translated and validated for language, was sent to a total of 12 expert academicians for evaluation, working on scale development ($n:5$), nursing ($n:6$) and statistics ($n:1$). The recommended adjustments and calculations were made in line with the feedback. The minimum CVR value to be obtained for 12 experts was 0.667 (Colin & Andrew, 2013).

The data obtained from the experts for the content validity of the 'FES' were tested by determining CVR values and calculating the CVI. According to expert opinions, CVR was calculated for each item of the preliminary form, and no item with a zero or negative value was obtained. Considering the CVR values of the items, all expressions in the preliminary form were found to be suitable for calculating the CVI. Therefore, CVI of 34 items was calculated in the preliminary form, and it was found to be 0.81.

In theoretical studies on form development, the obtained CVI value must be greater than the CVR value ($CVI > CVR$) for the form to be statistically valid. Table 1 shows that CVI (0.81) was greater than CVR (0.67) in this study, and the content validity of the preliminary form was statistically significant.

Stage 5: Creating the Final Form of the Translated Scale: The preliminary form was prepared after the translation was completed and expert opinions were obtained. The original scale is six-point Likert type, and its scoring is as follows: 'Not Applicable' = 0, 'Never' = 1, 'Rarely' = 2, 'Sometimes' = 3, 'Frequently' = 4 and 'Always' = 5. The Likert part of the scale was modified because 'Not applicable' and 'Never' expressions may cause ambiguity in Turkish culture, and it would be difficult for Turkish participants to respond to them. In accordance with the Turkish sample, the six-point Likert part of the scale was reconstituted as follows: 'Not applicable at all' = 0, 'Not applicable' = 1, 'Rarely applicable' = 2, 'Sometimes applicable' = 3, 'Frequently applicable' = 4 and 'Always applicable' = 5.

Stage 6: Practices for Language Validity: The final configuration of the preliminary form was then sent to three experts of the Turkish language to evaluate its suitability for the Turkish language and review for spelling and comprehensibility of expressions. In line with the expert opinions, a consensus was reached on Turkish text by making arrangements in the original expressions of the scale. The items of the Turkish form were evaluated by two different language experts regarding compliance with the syntax of the Turkish language. Necessary corrections were then made, and the preliminary form was finalized.

Stage 7: Pilot Study Administration: The pilot study will be implemented, depending very much on the variable to be measured and the target group. Several characteristics, such as age range, gender, and education level of the sample group in the pilot study, should be the same as the target group of the original scale (Erkuş, 2016).

TABLE 1 Content validity ratio and content validity index values of the scale

Item nm	Applicable	To be corrected	To be excluded	CVR	Item nm	Applicable	To be corrected	To be excluded	CVI
I.1	10	2	0	0.66	I.18	10	1	1	0.66
I.2	10	2	0	0.66	I.19	12	0	0	1
I.3	11	0	1	0.83	I.20	10	2		0.66
I.4	10	2	0	0.66	I.21	11	1		0.83
I.5	11	1	0	0.83	I.22	10	2		0.66
I.6	10	2	0	0.66	I.23	11	1		0.83
I.7	10	1	0	0.66	I.24	11		1	0.83
I.8	10	2	0	0.66	I.25	10	2		0.66
I.9	10	2	0	0.66	I.26	10	3		0.66
I.10	10	1	1	0.66	I.27	10	2		0.66
I.11	10	1	1	0.66	I.28	11	1		0.83
I.12	10	1	1	0.66	I.29	12	0		1
I.13	10	1	1	0.66	I.30	10	2		0.66
I.14	10	1	1	0.66	I.31	10	2		0.66
I.15	10	2	0	0.66	I.32	10	1	1	0.66
I.16	11	1	0	0.83	I.33	11	1		0.83
I.17	10	1	1	0.66	I.34	11	1		0.83
Expert numbers (n: 12)									
Content validity ratio (CVR): 0.667									
Content validity index (CVI): 0.813									

Therefore, the pilot study was conducted on a sample of 52 parents of children with CL/P having similar characteristics with the study population to determine whether the preliminary form, language, and content validity which was already assured, was correctly understood by the sample participants. Data were collected from parents when children received treatment at the outpatient and inpatient clinics. A sample of 30–50 people was considered sufficient for pilot studies in the literature (Şeker & Gençdoğan, 2020). After the pilot study was conducted, the items were determined to be correctly evaluated by the samples, with no difficulty in responding to the statements.

Stage 8: Application on the Sample: The administration phase was conducted in the Plastic, Reconstructive, and Aesthetic Surgery Department of the University Hospital. A sample of 300 people was considered good for factor analysis in the literature (Çokluk et al., 2014), whereas at least 10 participants per variable were suggested by another author (Şencan, 2005). In this study, the latter was considered, and 10 participants were appointed per variable, constituting the sample size. The scale consisted of 34 statements in total; thus, the sample size was 340.

Stage 9: Reliability and Validity Assessments: For scale adaptation, confirmatory factor analysis (CFA) was used. CFA was implemented to determine the construct validity, and 27% lower-upper group comparison was made to determine the internal validity. The Cronbach's α coefficient was used to assess reliability, and split-half reliability test consistency was calculated.

Stage 10: Reporting of Adaptation Process: General terms concerning the adaptation process were defined at this stage, and the

reader was informed about the psychometric properties of the scale. In addition, the instructions for the scale were presented to the reader in this section. Technical information was provided regarding how to use the scale for whom it is suitable and how it will be scored.

3 | RESULTS

SPSS 23.0 and Amos 23.0 package programs were used to evaluate the obtained data. The Cronbach's α coefficient was calculated for the reliability calculations of the scale, and the split-half reliability test consistency was examined. CFA was performed to ensure the structural validity of the scale.

The sample consisted of participants from different social groups, with an average age of 32.2 ± 6.5 years; 64.4% of participants were women (Table 2).

3.1 | Construct validity

CFA was performed using Amos 23.0 programme to assess the construct validity of the scale. A three-dimensional structure was shown on the original scale. The maximum likelihood estimation technique was used for factor analysis because the structure with already known factors was tested in this study.

CFA was used to test the second-level multifactorial structure of the FES, consisting of three subscales and 34 items. The maximum

TABLE 2 Demographic characteristics of the sample

Variable	Parameter	N	%
Gender	Female	224	64.4
	Male	124	35.6
Marital status	Single	8	2.3
	Married	340	97.7
Educational status	Primary education	102	29.3
	Secondary education	91	26.1
	High education	155	44.6
	Mean	Standard deviation	
Age	32.2	6.5	

likelihood calculation method was used, as the data displayed normal distribution. The error terms of G5-G8, G17-G18 and G29-G30 were combined, as correction modifications of the items showed a high level of covariance between each other. Factor loads of the items in the scale varied between 0.51 and 0.85. In addition, goodness-of-fit values of the scale were examined ($\chi^2 = 1470.54$, $\chi^2/df = 2.82$, RMSE = 0.072, CFI = 0.92, GFI = 0.91, AGFI = 0.92), and the fit values were as desired. In the end, the scale was determined to be valid for the Turkish sample with its three-dimensional and 34-item structure (Figure 1).

3.1.1 | Internal validity

The SPSS 23 package programme was used to test the internal validity of the scale. The findings showed that the upper and lower groups differed significantly both in the subscales and in the overall scale. Thus, FES can distinguish between two groups having a high score and a low score (Table 3).

3.2 | Reliability

The internal consistency coefficient was calculated, and the split-half reliability was examined to test the reliability of FES.

3.2.1 | Internal consistency

The Cronbach's α reliability coefficient was calculated to determine the internal consistency of the scale. The family subscale of FES indicated that total correlation values of the items ranged between 493 and 848, and the Cronbach's α value of this subscale was 0.941. Total correlation values ranged between 0.703 and 0.823 for the subscale of healthcare services provided to the child, with the related Cronbach's α as 0.951. The total correlation value for another subscale, social participation, ranged from 0.700 to 0.823, with the Cronbach's α as 0.940. In total, Cronbach's α value of the FES was 0.976 (Table 4).

3.2.2 | Split-half test reliability

In addition to the Cronbach's α reliability coefficient, the split-half reliability test was performed to determine the reliability of the scale. To use this method, the odd-numbered items in the scale were grouped into one group and the even-numbered items into another. The total scores were then obtained for these groups, and the correlation between them was examined. The correlation between the groups is expected to be significant in this process. In this study, the correlation between the groups of the scale was statistically significant ($r = 0.97$; $p = 0.000$).

4 | DISCUSSION

The validity of the Turkish version of FES was evaluated by examining the construct and internal validity of the scale. CFA demonstrated three items included in the Turkish version of FES similar to the original FES subscales (Koren et al., 1992). The load on the items was more than 0.50, except for one item in the family subscale. Therefore, the items were found to be more associated with their own subscales compared with the others, indicating that the three subscales were separate but interrelated dimensions of empowerment. There was an item load at the limit value (0.493) in item 7, 'I can ask for help from others when I need due to problems in my family'. Studies demonstrated that families of children with CL/P perceived social support much less than the families of healthy children (Boztepe et al., 2020; Carmichael et al., 2014). The parents of this patient group were stigmatized because of frequent surgical interventions and a visible defect on the face, indicating that they could not receive sufficient social support (Nelson et al., 2012). Social support for the parents of children with CL/P was considerably low in Turkey (Boztepe et al., 2020; Çınar et al., 2021). This can be attributed to the concerns of the parents that their children with CL/P will not be accepted by their peers, will be excluded, and their self-esteem will be negatively affected, particularly because of their physical appearance and speech disorders.

To test the internal validity of the scale, 27% lower and upper group comparison was made. The 'health service provided to the child' had the highest score, whereas the 'social participation' had the lowest score. A study on FES determined the highest mean value in the family subscale and the lowest mean value in the community subscale (Vuorenmaa et al., 2014). Kageyama et al. found the lowest score for the health service provided to the child in the whole group (Kageyama et al., 2016). This may be because of differences in healthcare service delivery in different countries. Developed countries provide optimal healthcare services, including a multidisciplinary team approach and progressive surgical operations in CL/P treatment, whereas developing countries have serious difficulties regarding medical and financial resources (American Cleft Palate-Craniofacial Association, 2016). The multidisciplinary healthcare approach in patients with CL/P is already acknowledged in Turkey (Calis et al., 2016); however, there is only one Training and Research Center for Lip and Palate Clefts employing a multidisciplinary cleft team

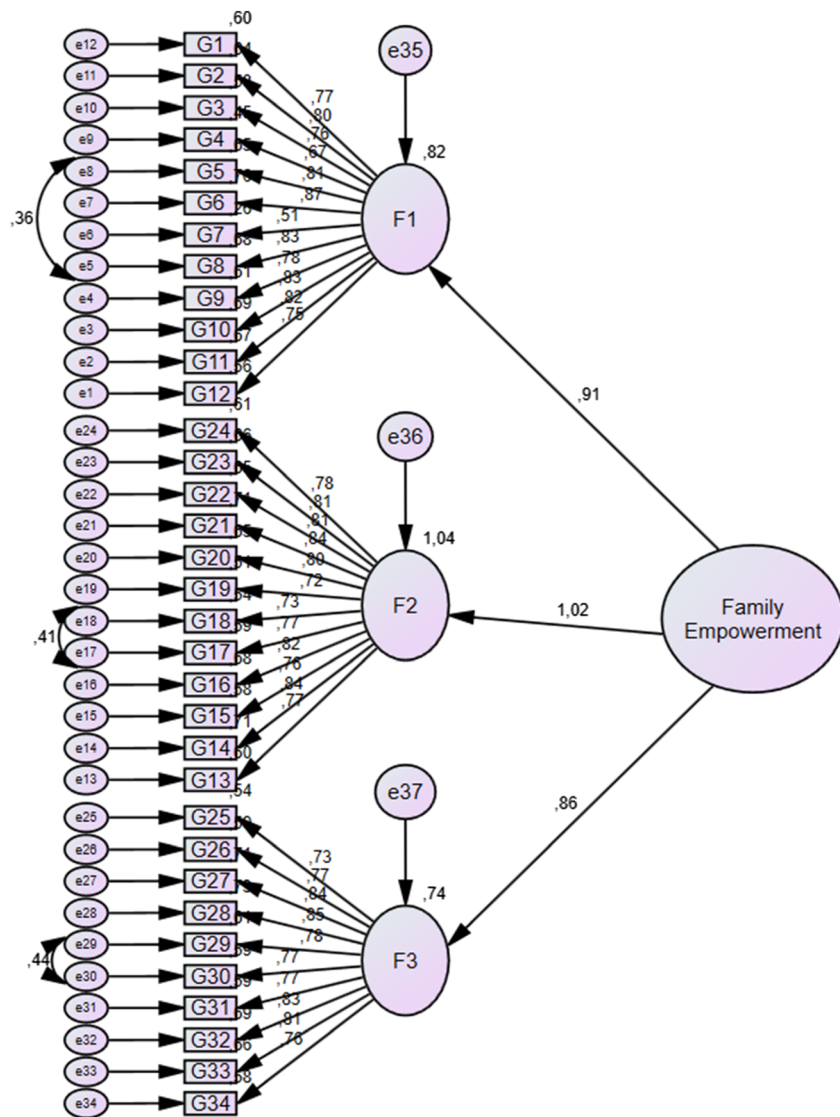


FIGURE 1 Second level multi-factorial structure of the Family Empowerment Scale (Subscales: F1= Family, F2 = Healthcare services provided to the child, F3 = Community participation) [Color figure can be viewed at wileyonlinelibrary.com]

TABLE 3 Family Empowerment scale 27% lower and upper group comparisons

Family empowerment scale and its subscales	Group	X	Standard error	T	p
Family subscale	Upper group	58.7	1.363	19.516	0.000
	Lower group	38.8	9.676		
Health services provided to the child subscale	Upper group	59.2	0.921	22.629	0.000
	Lower group	37.2	9.404		
Community participation subscale	Upper group	48.4	1.886	34.454	0.000
	Lower group	24.9	6.363		
Family empowerment scale	Upper group	164.5	4.493	22.721	0.000
	Lower group	103.6	25.593		

(Kucukkaraca, 2018). In CL/P centers, care is provided with a protocol specific to hospitals. In the management of this long-term disease, however, families should be followed up, and health care should also be provided outside the hospital. Most of the families start an

intensive search for relevant information after the diagnosis to get acquainted with the disease, meet the needs of the infant, and strengthen themselves psychologically (Nusbaum et al., 2008). In such a situation, the families may not know about the available healthcare

TABLE 4 Item total correlations and Cronbach α values

Subscales of family empowerment scale					
Family subscale		Health services provided to the child subscale		Community participation subscale	
G1	0.751	G13	0.744	G25	0.700
G2	0.766	G14	0.819	G26	0.737
G3	0.741	G15	0.745	G27	0.809
G4	0.659	G16	0.794	G28	0.823
G5	0.804	G17	0.772	G29	0.773
G6	0.848	G18	0.728	G30	0.759
G7	0.493	G19	0.703	G31	0.753
G8	0.810	G20	0.779	G32	0.816
G9	0.754	G21	0.823	G33	0.780
G10	0.792	G22	0.787	G34	0.739
G11	0.768	G23	0.785		
G12	0.725	G24	0.752		
Cronbach α = 0.941		Cronbach α = 0.951		Cronbach α = 0.940	
Family empowerment scale Cronbach α = 0.951					

services in detail, express their opinions, or take action to get better service.

The attention given to parental empowerment correlates with the care concept of 'Family Integrated Care', placing parents at the centre of care and empowering them as primary caregivers. Therefore, more attention should be paid to parental empowerment in health care and associated concepts such as participation and involvement in shared decision-making. Empowering families should be a part of the curricula for healthcare professionals (Gorter et al., 2010; Segers et al., 2019).

The Turkish version of FES allows to examine the empowerment of parents and compare different family services. This is particularly crucial in Turkey, considering the goals of improving family welfare and opportunities of reaching out to most of the families having children with congenital anomalies. Further research is warranted to reveal the factors affecting the empowerment of the parents. Moreover, it is crucial to explore how parents gain experience in affecting different family services and decision-making processes about health care and how these experiences are associated with their own empowerment.

5 | CONCLUSION

This study aimed to adapt the original FES, developed by Koren et al., into the Turkish language. In the light of the findings obtained, the three-factor and 34-item structure of the original scale was verified in Turkish culture. The obtained structure can explain 66% of the variance associated with the concept. Moreover, the findings and goodness-of-fit values indicated that this scale and its Turkish version are a valid and reliable measurement tool to be used in Turkish culture.

6 | LIMITATIONS AND FURTHER RESEARCH

This study has some limitations. First, this study focused on parents. The other relations (e.g., spouse and sibling) were not examined. Such caregivers may have different care experiences and roles that can possibly affect their empowerment. Second, because of the service-system specificity, using the original FES in other countries would require testing the psychometric properties again. However, the Turkish FES could easily be modified for use in other countries because of the similar service systems. The FES could be used to facilitate nursing interventions that encourage empowerment among parents.

The Turkish FES enables the examination of parent's empowerment in the different family services. In Turkey, this is crucial given their aim of promoting parents' welfare and their possibility to reach most parents having children with CL/P. However, it is necessary to explore how parents have experienced being able to influence and make decisions in the different family services and how this is associated with their empowerment. More studies are required on the use of the FES in healthcare services and the needs of parents to increase their empowerment. This study demonstrated the use of the FES for Turkish parents and helped focus future research on the use of the FES in health care.

INSTRUCTION

The FES, developed by Koren et al. (1992) and adapted to Turkish culture, consists of three factors and 34 items. The variance was determined as 66% for the whole scale. Factor 1 'Family subscale' consists of items 1–12, and the Cronbach's α value of this subscale

was determined as 0.94. Factor 2 'Healthcare service to children subscale' consists of items 13–24, and the Cronbach's α value of this subscale was calculated as 0.95. Factor 3 'Community participation subscale' consists of items 25–34, and the Cronbach's α value of this subscale was determined as 0.94. Cronbach's α value of the overall scale was computed as 0.95, indicating considerably high reliability. There are no reverse-scored items in the scale. The scale is six-point Likert type and designed as follows: 'Not applicable at all' = 0, 'Not applicable' = 1, 'Rarely applicable' = 2, 'Sometimes applicable' = 3, 'Frequently applicable' = 4 and 'Always applicable' = 5. While calculating the scale score, each subscale was computed separately by summing the item scores. The total score of the scale was obtained by summing the subscale scores. The scores obtained from the scale ranged between 34 and 170 points. The higher scores in the scale indicate more positivity in family empowerment.

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CONFLICT OF INTEREST

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

ETHICS STATEMENT

Ethical and institutional permissions were obtained before starting the study. The 'Ethics committee permission (date: 21.09.2020 and session number: 2020/12)' was obtained from the Scientific Research and Publication Ethics Board of the University and a written permission (date: 22.06.2020) from the institution where the study was carried out.

AUTHORS' CONTRIBUTIONS

Handan Boztepe: Conceptualization, Data curation, Funding acquisition, Investigation; Methodology, Project administration, Supervision; Validation, Visualization, Writing–original draft. **Sevil Çınar:** Conceptualization, Investigation, Methodology, Validation, Visualization. **Yalçın Kanbay:** Conceptualization, Data curation, Investigation, Methodology, Validation, Visualization, Writing–original draft. **Burcu Acımsı:** Conceptualization, Data curation, Investigation, Methodology, Validation, Visualization. **Figen Özgür:** Conceptualization, Investigation, Methodology, Validation, Visualization. **Fusun Terzioğlu:** Conceptualization, Investigation, Methodology, Validation, Visualization.

DATA AVAILABILITY STATEMENT

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

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