

## Positive parenting by parents of children up to three years of age: development and validation of measurement scales

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This study aimed to describe the development and validation of three multidimensional scales in which the same 30 items, distributed among five dimensions, measure parents' self-perceived confidence, difficulties and knowledge needs in the exercise of positive parenting during the first three years of the child's life. The content of the scales resulted from the literature and exploratory studies and was validated by experts. The analysis of its reliability and validity, using Pearson's correlations and Cronbach's alpha, was based on data from a questionnaire administered to a non-probabilistic sample of 1011 parents. In the dimensions and items,  $\alpha$ -values ranged between 0.769 and 0.890 and r-coefficients were  $>0.37$ ;  $p < 0.01$ . It was concluded that the scales measure three variables that correspond to the practice of positive parenting and their use permits guiding nursing support.

Descriptors: Parents; Parenting; Child Rearing; Psychometrics; Measures.

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## **Exercício da parentalidade positiva pelos pais de crianças até três anos: construção e validação de escalas de medida**

Os objetivos deste estudo foram descrever a construção e obtenção de algumas evidências de validade de três escalas multidimensionais em que os mesmos 30 itens, distribuídos por cinco dimensões, medem a autopercepção da confiança, das dificuldades e da necessidade de conhecimentos dos pais no exercício da parentalidade positiva, nos primeiros três anos da criança. O conteúdo das escalas resultou da literatura e de estudos exploratórios e foi validado por peritos. A análise da sua fidedignidade e validade, por meio de correlações de Pearson e coeficiente alfa de Cronbach, partiu dos resultados de um questionário aplicado a uma amostra não probabilística de 1.011 pais. Nas dimensões e itens, os valores de  $\alpha$  situaram-se entre 0,769 e 0,890 e os de  $r$  foram  $>0,37$ ;  $p < 0,01$ . Concluiu-se que as escalas medem três variáveis que operacionalizam o exercício da parentalidade positiva, e a sua utilização permite direcionar o apoio de enfermagem.

Descritores: Pais; Pátrio Poder; Educação Infantil; Psicometria; Medidas.

## **Ejercicio parental positivo por los padres de niños hasta tres años: construcción y validación de escalas de medición**

Este estudio tuvo el objetivo de describir la construcción y validación de tres escalas multidimensionales en que los mismos 30 ítems, distribuidos en 5 dimensiones, miden la auto-percepción de la confianza, de las dificultades y de la necesidad de conocimientos de los padres en el ejercicio parental positivo en los primeros tres años del niño. El contenido de las escalas resultó de la literatura y de estudios de explotación y fue validado por expertos. El análisis de su fidelidad y validez partió de los resultados de un cuestionario aplicado a una muestra no probabilística de 1011 padres. En las dimensiones e ítems, los valores de Coeficiente Alfa de Cronbach se situaron entre 0,769 y 0,890 y los de fueron  $>0,37$ ;  $p < 0,01$ . Se concluyó que las escalas miden tres variables que hacen operacional el ejercicio parental positivo y su utilización permite direccionar el apoyo de enfermería.

Descriptorios: Padres; Patria Potestad; Crianza del Niño; Psicometría; Medidas.

## **Introduction**

Positive parenting is part of the set of functions attributed to parents in order to take care of and educate their children and is fundamental for the child's health and development. It is defined as parental behavior that guarantees the raising and education of the child, setting limits, maintaining a positive relationship and optimizing their developmental potential<sup>(1)</sup>.

The promotion of positive parenting competencies is recommended as a strategy to prevent child maltreatment<sup>(2)</sup> and further the child's development in the first three years of life<sup>(3)</sup>. During these years, the human brain comes with great learning potential and parents have the opportunity to optimize their children's development.

Positive parenting involves a complex set of responsibilities for the parents and presupposes daily activities that prevent risk behaviors, encourage desired behaviors and attend to the child's needs<sup>(1-4)</sup>. They fit into five functional domains or dimensions<sup>(2)</sup>: 1. The child's physical needs (covers activities aimed at seeing to the child's basic needs, such as eating, rest and hygiene); 2. The child's safety (covers activities aimed at health protection and protection against danger and care in case of illness); 3. Development, behavior and stimulation of the child (covers attitudes to promote adequate behaviors and development promotion and stimulation activities); 4. Positive communication with the child (covers positive attitudes and the development

of interaction between parents and children and the adoption of a relationship of affection and love) and 5. Positive discipline (covers the promotion of self-control and the establishment of limits for the child with consistency and love).

In feeding, activities related to breastfeeding are evidenced, due to its importance for the child and the effect of nursing support<sup>(5)</sup>. Care in case of the child's illness is also included because it represents a source of difficulties for the parents<sup>(6)</sup>.

Health professionals play a fundamental role in training parents to perform these activities<sup>(1)</sup> and serve as a resource to cope with the parents' difficulties<sup>(7)</sup>. This support should depart from the parents' potentials, interests, difficulties and differences<sup>(8-9)</sup> and permit the valuation of their practical knowledge and their participation in decision-making, which are premises for the practical success of nursing interventions<sup>(9)</sup>.

Parents' potentials can be expressed as self-confidence and knowledge to manage the parenting process and their assessment permits and directs anticipated nursing interventions<sup>(10)</sup>. This presupposes the use of measurement instruments to diagnose this potential (confidence and knowledge) and the parents' difficulties.

Based on the analysis of other studies<sup>(8,11)</sup>, it was verified that the instruments used did not cover all activities and specific dimensions of positive parenting. Therefore, we decided to construct original instruments. As recommended<sup>(12)</sup>, for this type of instruments, items were included that resulted from specific activities in the positive parenting domain, as well as items resulting from inquiries among parents about their difficulties. These instruments are described in this study, with two aims: to construct three scales for parents to self-assess their positive parenting practice in the first three years of the child's life (1) and to analyze the psychometric qualities of these scales by obtaining evidence on their reliability and validity (2).

## Method

To achieve these goals, a two-phase methodological study was designed, involving (1) the construction of the scales and (2) their psychometric analysis.

### Phase 1. Construction of the scale

Based on the structure that describes the transition processes from a nursing intervention perspective<sup>(10)</sup>

and which indicates the parents' confidence as the indicator of this process, the parents' difficulties as critical points for support and knowledge as a condition, the assessment of positive parenting practice was considered according to three variables: self-perceived confidence, self-perceived difficulties and self-perceived need for knowledge. These three variables were put in practice by using the same items and dimensions the three scales have in common. All scales consist of two parts, one with the items that serve as stimuli to trigger the responses and the other with the responses<sup>(13)</sup>. In this study, the stimuli are shared among the three scales, while the response items differ. In their construction process, the following recommended procedures<sup>(14)</sup> were performed:

#### Selection of items for inclusion in the instruments

Based on a literature review<sup>(8)</sup> and orientations by child health promotion organizations<sup>(1-4,15)</sup>, for each definition mentioned earlier, the items were defined that translated specific activities of positive parenting practice, which the same entities consider fundamental for the child's health and development. In addition, activity-related items that were more difficult for the parents were selected and added (e.g.: breastfeeding procedures and taking care of the child when ill). These were identified through exploratory studies<sup>(6-7)</sup>, involving fathers and mothers of children up to three years of age, with information collected through a questionnaire with open-ended questions.

#### Content validity

To interpret and determine the pertinence of the items, the Delphi technique was applied in three phases, resulting in a 100% consensus among the experts' opinions about the structure and contents of the items and their inclusion in each dimension of the instrument. After identifying available resources and defining communication means, criteria to define experts and the acceptance level of a consensual opinion<sup>(16)</sup>, we departed from an instrument that was elaborated with the selected items for each dimension and, in a continuous re-elaboration process, the experts' commented agreement or disagreement was obtained.

More than ten years of experience in child health care delivery and/or teaching and research and being active in functions attributed through competency-based acknowledgement were criteria that permitted the

selection of an eight-member expert group, including one faculty member from the nursing research area and one from the pediatric nursing area, both holding a Ph.D. degree; two faculty members in maternal health nursing, one faculty in community health nursing; one faculty member in education for health and one psychologist in positive psychology, both holding a Ph.D. degree; and one pediatrician who was the director of a pediatric hospital service.

Then, the contents and form of the items were analyzed, involving the parents of children in the age group required for this research. The thinking aloud method was applied<sup>(14)</sup> to four parents, followed by a pretest of 16 parents.

### Scoring and interpretation of results

The valuation process of the items and determination of the results was the same for the three positive parenting scales. On each scale, there were five response categories for each item. Score 1 was attributed to answers that stated not confident at all, no difficulty or no need for further knowledge. On the other hand, score 5 was attributed to answers indicating great confidence, a lot of difficulty and great need for further knowledge. Hence, all answers were scored on a five-point intervals, with the highest scores referring to parents' greater confidence, more difficulties and more need for knowledge in positive parenting practice.

### Phase 2. Psychometric analysis of the scales on positive parenting practice

The psychometric analysis of the constructed instrument was based on the results of its application to a parent sample.

#### Population and sample

Departing from the population of parents of children between three months and three years and a half of age (age of children attending kindergartens) in the Leiria District, located in Central Portugal, a non-probabilistic convenience sample was constituted.

In total, 2750 questionnaires were distributed across kindergartens and health centers in different cities, indicating that mothers and fathers should complete them. The sample comprised the 1011 parents (664 mothers and 347 fathers) who completed and returned the questionnaires. These participating parents were mainly Portuguese (94.4%). The remaining

parents belonged to twelve other nationalities but were able to read and write Portuguese. Their ages ranged between 17 and 54 years ( $M=33.02$ ;  $SD=4.91$ ), 92.1% were married, 87.7% lived in their own home, 87.1% were employed, 64.7% held a primary or secondary education degree and 55.5% of the participants gained a family income ranging between 1000 and 2000 euros, while 22.7% gained less than 1000 euros.

#### Information collection instrument

In line with the study design and objectives, a questionnaire was constructed, containing questions to characterize the sample and 40 questions that corresponded to the selected items to measure the three variables in positive parenting practice. The same item should be answered in Likert style in three different columns, one for the parents' self-perceived confidence, another for the parents' self-perceived difficulties and the third for the parents' self-perceived knowledge needs to practice positive parenting [e.g.: in the item "in the introduction of new foods", the parents answered between 1 (not confident at all) and 5 (very confident), in the other from 1 (no difficulty) to 5 (great difficulty) and in the third also from 1 (no knowledge needs) to 5 (great knowledge needs)].

#### Formal and ethical procedures in data collection

In the assessment of the items and the study's acceptability and in the data collection procedures, the premises of research involving human behaviors and organizational entities were taken into account.

The study neither infringed on the participants' rights nor their integrity and the institutions that served as intermediaries sustained its ethical acceptability. Formal authorization was requested from the directors of the Health Center Groups in the Leiria District and the directors or managers of kindergartens in the same district to apply the data collection instrument.

The questionnaires were delivered to the kindergartens in individual envelopes for completion at home and returned in a closed envelope. They contained an introductory text to explain the study objectives and the voluntary, anonymous and confidential nature of the answers, although results would be used in scientific studies. Their free completion and return translated the consent to participate in the study.

At the Health Centers, meetings were scheduled with the head nurse and nurses who were active in

child health, in order to distribute the questionnaires for completion while awaiting the consultation. The parents placed the questionnaire (whether completed or not) in a closed box available for this purpose.

#### Data treatment and analysis

To study the scales' psychometric properties, Pearson's item-total correlation coefficient was used for the analysis of homogeneity, convergence and item discrimination. Cronbach's Alpha coefficients were used for the dimensions as a whole and for the items, so as to analyze internal consistency, calculating the elimination of one item at a time<sup>(14)</sup>.

Items with item-total correlation coefficients below 0.20 were eliminated and Alpha coefficients higher than 0.70 were considered appropriate as the items contained a small number of items<sup>(14)</sup>.

## Results

### Items included in the multidimensional scales

The procedures to obtain evidence of content validity by the experts and the other psychometric property analysis motivated the elimination of ten items, so that the three multidimensional scales consisted of the following 30 items and five dimensions, defined based on theory and validated by the experts:

Dimension 1: Physical Needs of the Child, including items 1 to 9: 1- *In breastfeeding procedures*, 2- *In feeding procedures*, 3- *When dealing with the child's behavior during breastfeeding/feeding*, 4- *When assessing whether breastfeeding/feeding is sufficient for the child*, 5- *In the introduction of new foods*, 6- *In the preparation of the first soups*, 7- *When helping the child to establish his/her sleeping pattern*, 8- *When giving the first baths*, and 9- *When taking care of the child during colic*.

Dimension 2: Safety of the Child, including items 10 to 15: 10- *When identifying healthy foods*, 11- *When preparing a safe environment (without danger) for the child*, 12- *When identifying harmful environments for the child (exposure to tobacco, lead, mercury, toxins)*, 13- *When perceiving signs of illness in the child*, 14- *When taking care of the child when ill*, 15- *To understand the importance of child health surveillance (taking to consultations and vaccines)*.

Dimension 3: Development, Behavior and Stimulation of the Child, comprising items 16 to 21: 16 - *When getting to know the phases of the child's development*, 17- *Knowing what actions stimulate the child*, 18 - *In the choice of learning materials according to the child's age (toys, music, books)*, 19- *In attitudes that promote adequate behaviors in the child*, 20- *When using bathing times to stimulate the child*, 21- *When using feeding times to stimulate the child*.

Dimension 4: Positive Communication with the Child, including items 22 to 26: 22 - *When answering the child's crying with affection*, 23- *When interpreting the signs the child uses to communicate*, 24- *In the benefits of a warm and loving relationship for the child*, 25- *In the establishment of activities that make the child feel special and important*, 26- *In attitudes that enhance positive communication with the child (simple, clear and stimulating)*

Dimension 5: Positive Discipline, corresponding to items 27 to 30: 27 - *When understanding the importance of discipline for the child*, 28- *When setting rules appropriate to the child's age and development*, 29- *When using positive discipline (of teaching or an alternative proposal) instead of punishments, threats and restrictions* and 30- *When being a good model for the child*.

### Psychometric analysis of the scales

#### Reliability

Table 1 displays statistical data for the items included in the scales, evidencing the internal consistency analysis based on Cronbach's Alpha coefficient ( $\alpha$ ) for the five dimensions in the three scales (Parents' self-perceived confidence in positive parenting practice - ECPPP; parents' self-perceived difficulties in positive parenting practice - EDPPP; and parents' self-perceived knowledge needs in positive parenting practice - ENCPPP). All items in the five dimensions and three scales obtained Cronbach's Alpha coefficients ( $\alpha$ ) superior to 0.71.

Homogeneity analysis is accomplished using Pearson's correlation coefficients between the items and the dimension they belong to, excluding the item. These surpass 0.46 for the ECPPP, 0.37 for the EDPPP and 0.50 for the ENCPPP.

Table 1 – Means, standard deviations and Cronbach's Alpha coefficients ( $\alpha$ ) for the items and dimensions and Pearson's correlations ( $r$ ) for the ECPPP, EDPPP and ENCPPP scale items

D	Item	ECPPP				EDPPP				ENCPPP			
		M	SD	r without item	$\alpha$ without item	M	SD	r without item	$\alpha$ without item	M	SD	r without item	$\alpha$ without item
1		3.55	0.65		0.827	2.53	0.65		0.796	2.58	0.75		0.855
	1	3.55	1.06	0.548	0.807	2.57	1.12	0.483	0.776	2.52	1.13	0.577	0.840
	2	3.66	0.94	0.554	0.807	2.36	1.00	0.565	0.766	2.43	1.07	0.606	0.837
	3	3.56	0.96	0.633	0.798	2.53	1.00	0.619	0.758	2.56	1.03	0.656	0.833
	4	3.33	1.01	0.552	0.807	2.71	1.01	0.525	0.771	2.76	1.06	0.614	0.837
	5	3.71	0.87	0.547	0.808	2.47	0.97	0.474	0.777	2.64	1.05	0.606	0.838
	6	3.76	0.97	0.541	0.808	2.26	1.06	0.470	0.778	2.44	1.12	0.613	0.837
	7	3.46	1.01	0.462	0.817	2.71	1.11	0.374	0.791	2.63	1.14	0.512	0.847
	8	3.70	1.13	0.465	0.818	2.27	1.14	0.459	0.780	2.28	1.15	0.525	0.846
	9	3.26	1.02	0.496	0.813	2.92	1.06	0.419	0.785	2.99	1.11	0.505	0.847
2		3.82	0.64		0.799	2.31	0.65		0.769	2.60	0.82		0.824
	10	3.96	0.89	0.513	0.777	2.17	0.98	0.514	0.735	2.47	1.10	0.600	0.794
	11	3.77	0.88	0.600	0.757	2.38	0.94	0.577	0.719	2.52	1.08	0.654	0.783
	12	4.09	0.97	0.510	0.779	1.99	1.00	0.493	0.740	2.28	1.18	0.565	0.802
	13	3.27	0.92	0.568	0.764	2.78	0.95	0.460	0.748	3.13	1.11	0.568	0.800
	14	3.50	0.90	0.597	0.757	2.77	0.95	0.541	0.728	3.06	1.08	0.609	0.792
	15	4.33	0.84	0.537	0.771	1.78	0.95	0.493	0.740	2.14	1.14	0.553	0.804
3		3.74	0.66		0.860	2.37	0.67		0.845	2.68	0.87		0.896
	16	3.76	0.87	0.598	0.847	2.34	0.90	0.573	0.829	2.70	1.08	0.657	0.888
	17	3.55	0.87	0.649	0.837	2.55	0.88	0.631	0.818	2.90	1.08	0.729	0.876
	18	3.89	0.84	0.659	0.836	2.25	0.88	0.621	0.820	2.59	1.06	0.706	0.880
	19	3.59	0.82	0.695	0.830	2.51	0.85	0.648	0.815	2.79	1.01	0.746	0.874
	20	3.90	0.89	0.639	0.839	2.19	0.92	0.655	0.813	2.47	1.10	0.738	0.875
	21	3.78	0.89	0.672	0.833	2.36	0.93	0.620	0.820	2.58	1.05	0.747	0.874
4		4.00	0.67		0.856	2.19	0.71		0.841	2.48	0.90		0.886
	22	4.02	0.89	0.623	0.839	2.22	0.97	0.557	0.834	2.49	1.10	0.680	0.872
	23	3.75	0.82	0.612	0.841	2.47	0.88	0.620	0.815	2.69	1.01	0.700	0.867
	24	4.32	0.81	0.662	0.828	1.84	0.90	0.642	0.809	2.16	1.11	0.709	0.865
	25	4.02	0.83	0.728	0.811	2.10	0.91	0.729	0.785	2.47	1.10	0.778	0.849
	26	3.85	0.80	0.733	0.810	2.27	0.86	0.685	0.798	2.59	1.06	0.760	0.854
5		3.75	0.71		0.840	2.52	0.77		0.837	2.78	0.95		0.890
	27	3.92	0.84	0.673	0.798	2.42	0.97	0.694	0.783	2.69	1.13	0.772	0.853
	28	3.70	0.85	0.738	0.769	2.58	0.94	0.712	0.775	2.83	1.08	0.780	0.850
	29	3.53	0.90	0.662	0.804	2.65	0.91	0.651	0.802	2.94	1.06	0.765	0.856
	30	3.86	0.83	0.624	0.819	2.39	0.92	0.621	0.815	2.63	1.08	0.717	0.874

D – Dimension

ECPPP: Scale of Parents' Self-Perceived Confidence in the Practice of Positive Parenting

EDPPP: Scale of Parents' Self-Perceived Difficulties in the Practice of Positive Parenting

ENCPPP: Scale of Parents' Self-Perceived Knowledge Needs in the Exercise of Positive Parenting

### Validity

Table 2 describes Pearson's correlation coefficients between the dimensions of each positive parenting practice scale. For all scales these coefficients exceed

0.45 and are significant ( $p \leq 0.01$ ), indicating convergent validity among the dimensions of each scale, as well as the fact that these dimensions measure the same construct.

Table 2 – Pearson's correlation matrix among five dimensions of each scale in the exercise of positive parenting

D	ECPPP					EDPPP					ENCPPP				
	D1	D2	D3	D4	D5	D1	D2	D3	D4	D5	D1	D2	D3	D4	D5
	<i>r</i>														
D1	1					1					1				
D2	0.67	1				0.63	1				0.76	1			
D3	0.60	0.72	1			0.58	0.68	1			0.66	0.74	1		
D4	0.48	0.65	0.75	1		0.45	0.59	0.69	1		0.59	0.68	0.79	1	
D5	0.49	0.62	0.75	0.76	1	0.48	0.56	0.69	0.68	1	0.55	0.66	0.76	0.80	1

p≤0.01

D – Dimension

ECPPP: Scale of Parents' Self-Perceived Confidence in the Practice of Positive Parenting

EDPPP: Scale of Parents' Self-Perceived Difficulties in the Practice of Positive Parenting

ENCPPP: Scale of Parents' Self-Perceived Knowledge Needs in the Exercise of Positive Parenting

Table 3 describes the results that permit assessing the items' discriminant validity, in which these items' correlation coefficients with the dimension they belong to are more than 0.1 higher than the correlation coefficient

with the dimensions they do not belong to. Only items 8 and 9 of the ENCPPP scale reveal a difference of 0.07 and 0.06, respectively.

Table 3 – Pearson's correlations between the item results and the different scale dimensions in the exercise of positive parenting

Items	ECPPP					EDPPP					ENCPPP				
	D1	D2	D3	D4	D5	D1	D2	D3	D4	D5	D1	D2	D3	D4	D5
1	0.67	0.35	0.30	0.26	0.26	0.62	0.28	0.28	0.21	0.24	0.68	0.42	0.33	0.30	0.30
2	0.66	0.39	0.33	0.26	0.26	0.68	0.43	0.38	0.30	0.33	0.70	0.47	0.38	0.38	0.31
3	0.73	0.40	0.33	0.29	0.28	0.72	0.38	0.36	0.27	0.30	0.74	0.50	0.42	0.39	0.36
4	0.67	0.36	0.30	0.23	0.28	0.64	0.35	0.35	0.23	0.28	0.71	0.48	0.43	0.36	0.38
5	0.65	0.50	0.43	0.33	0.34	0.60	0.42	0.38	0.32	0.30	0.70	0.57	0.48	0.43	0.41
6	0.65	0.50	0.42	0.32	0.28	0.61	0.49	0.36	0.32	0.28	0.71	0.59	0.47	0.45	0.37
7	0.59	0.45	0.45	0.35	0.42	0.53	0.34	0.37	0.27	0.35	0.63	0.53	0.50	0.44	0.42
8	0.61	0.45	0.45	0.34	0.33	0.61	0.45	0.40	0.32	0.30	0.64	0.57	0.47	0.44	0.36
9	0.62	0.52	0.49	0.43	0.43	0.56	0.38	0.35	0.26	0.28	0.62	0.56	0.53	0.45	0.45
10	0.49	0.67	0.50	0.45	0.38	0.49	0.69	0.49	0.43	0.35	0.61	0.73	0.52	0.48	0.44
11	0.48	0.74	0.57	0.49	0.51	0.45	0.73	0.51	0.45	0.49	0.59	0.77	0.58	0.52	0.51
12	0.35	0.69	0.44	0.42	0.40	0.34	0.67	0.39	0.41	0.33	0.48	0.72	0.49	0.51	0.46
13	0.53	0.72	0.48	0.41	0.43	0.41	0.64	0.40	0.29	0.36	0.55	0.71	0.53	0.43	0.50
14	0.57	0.74	0.54	0.46	0.48	0.50	0.70	0.50	0.39	0.42	0.58	0.74	0.56	0.46	0.51
15	0.42	0.68	0.54	0.52	0.43	0.40	0.67	0.48	0.47	0.34	0.54	0.70	0.56	0.57	0.46
16	0.47	0.61	0.73	0.53	0.54	0.48	0.59	0.71	0.49	0.47	0.60	0.66	0.77	0.60	0.59
17	0.47	0.55	0.77	0.52	0.59	0.48	0.51	0.75	0.50	0.55	0.53	0.60	0.82	0.60	0.62
18	0.43	0.56	0.77	0.60	0.55	0.39	0.49	0.75	0.50	0.47	0.51	0.59	0.80	0.63	0.58
19	0.46	0.57	0.79	0.60	0.65	0.45	0.52	0.76	0.52	0.59	0.50	0.58	0.83	0.64	0.64
20	0.43	0.49	0.76	0.57	0.52	0.38	0.47	0.78	0.53	0.51	0.50	0.57	0.83	0.68	0.60
21	0.50	0.54	0.79	0.62	0.59	0.44	0.46	0.75	0.55	0.53	0.55	0.60	0.83	0.69	0.66
22	0.37	0.49	0.56	0.77	0.56	0.35	0.42	0.49	0.73	0.50	0.50	0.58	0.65	0.80	0.63
23	0.43	0.52	0.60	0.76	0.60	0.40	0.48	0.58	0.76	0.55	0.51	0.55	0.68	0.81	0.69
24	0.33	0.49	0.54	0.79	0.56	0.27	0.44	0.47	0.78	0.44	0.45	0.54	0.59	0.82	0.60
25	0.37	0.52	0.60	0.84	0.62	0.35	0.48	0.58	0.84	0.58	0.50	0.57	0.66	0.87	0.67
26	0.42	0.55	0.67	0.83	0.70	0.39	0.50	0.59	0.80	0.61	0.50	0.58	0.69	0.85	0.75

(continue...)

Table 3 - (continuation)

Items	ECPPP					EDPPP					ENCPPP				
	D1	D2	D3	D4	D5	D1	D2	D3	D4	D5	D1	D2	D3	D4	D5
27	0.41	0.54	0.62	0.69	0.82	0.40	0.48	0.59	0.61	0.84	0.49	0.58	0.68	0.74	0.88
28	0.44	0.53	0.66	0.63	0.86	0.46	0.50	0.62	0.58	0.85	0.50	0.58	0.67	0.68	0.88
29	0.39	0.47	0.59	0.56	0.82	0.34	0.40	0.52	0.49	0.81	0.44	0.54	0.65	0.64	0.87
30	0.39	0.50	0.59	0.63	0.79	0.37	0.46	0.53	0.55	0.79	0.47	0.57	0.62	0.71	0.84

D - Dimension

ECPPP: Scale of Parents' Self-Perceived Confidence in the Practice of Positive Parenting

EDPPP: Scale of Parents' Self-Perceived Difficulties in the Practice of Positive Parenting

ENCPPP: Scale of Parents' Self-Perceived Knowledge Needs in the Exercise of Positive Parenting

## Discussion

The importance attributed to positive parenting and the acknowledged importance of professionals' role to support the parents justify the aim of this study, which described the construction and evidence collection of some psychometric properties for instruments to self-assess positive parenting practice in the first three years of a child's life. This instrument measures variables that are considered signs of parents' need for support and permit early and adequate nursing interventions<sup>(9-10)</sup>.

The literature review and exploratory studies permitted the development of a set of items, whose interpretation and pertinence was assessed by a multidisciplinary team of experts and two samples of parents, as recommended in the literature<sup>(13-14)</sup>. After the suggested corrections, 40 items resulted that were joined in three scales with five common dimensions and different answers, in which the parents perceived their confidence, difficulties or knowledge needs in positive parenting practice.

These answers were collected, using a questionnaire, in a sample of 1011 parents of children up to three and a half years of age. Based on the analysis of the results, some psychometric properties could be defined for the three multidimensional scales.

After eliminating those items with item-total correlation coefficients below 0.20 and Cronbach's Alpha coefficients below 0.70, Alpha coefficients between 0.769 and 0.896 were obtained for all scale dimensions. According to the literature<sup>(14)</sup>, these coefficients are appropriate, as they refer to sub-scales with few items and indicate the items' good internal consistency and the reliability of the results.

Coefficients obtained when correlating the items with the dimension they belong to, when excluding the item, surpassed 0.46 for the ECP, 0.39 for the EDPP and 0.50 for the ENCP. Thus, 100% homogeneity of the items can be appointed, as well as the items'

convergent validity with the dimension they belong to, as coefficients are superior to 0.20<sup>(14)</sup>.

In discriminant validity analysis, the correlation between the item and the dimension it belongs to should be 0.1 higher than the coefficients between the item and the dimensions it does not belong to<sup>(14)</sup>, as verified in the different dimensions of the three scales, except for two items in the dimension physical needs of the child, which is part of the ENCP. One item revealed a difference by only 7 and another by only 6 points when compared with the coefficients in the safety dimension. Given the importance of their conceptual contents<sup>(1-4)</sup> and the fact that they indicate activities that cause difficulties for the parents<sup>(6,8)</sup>, we decided not to eliminate them. They were inserted in the dimensions where they obtained the highest score and, at the same time, where their content fit. Consequently, it is guaranteed that the 30 items in the final scales measure the dimensions they belong to.

The three scales with common items permit measuring the three variables by completing only a one-page questionnaire and do not oblige the parents to read different items for each scale. The multidimensional nature of the scales also permits the individual use of each dimension as a subscale. The correlation coefficients among the dimensions of each scale superior to 0.48 ( $p \leq 0.01$ ), however, indicate that convergent validity exists among the dimensions and that all of them contribute to measure the same construct<sup>(13-14)</sup> - positive parenting practice.

The testing of the instruments in a non-probabilistic sample represents a limitation, as this affects the generalizability of its results. Also, the lack of reference measures did not permit the analysis of the construct's external validity. Nevertheless, the considerable sample size and the fact that it included mothers and fathers indicate its potential, which should be confirmed through further research.

## Conclusion

The procedures followed to construct and validate three multidimensional positive parenting practice scales were described, according to the steps recommended in the literature. The obtained scales reveal common dimensions and items as well as good psychometric properties, and are entitled: Scale of Parents' Self-Perceived Confidence in Positive Parenting Practice (ECPPP), Scale of Parents' Self-Perceived Difficulties in Positive Parenting Practice (EDPPP) and Scale of Parents' Self-Perceived Knowledge Needs in Positive Parenting Practice (ENCPPP). The use of these scales will contribute to improve clinical practice, based on the parents' needs and with a view to child health promotion. They permit diagnosing the parents' support needs and directing and anticipating nursing interventions. They also serve as measurement instruments to assess the effect of these interventions and other studies in this sensitive area for nursing care.

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