Inventory of Parenting Systems and Styles: A Measure for Early Childhood

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Abstract: The Component Model of Parenting (CMP), from an evolutionary perspective, proposes a phylogenetically evolved repertoire of six systems (body contact, body stimulation, face-to-face exchange, object stimulation, and primary care) and two parenting styles (distal and proximal) by combining some of these systems. We developed the Inventory of Parenting Systems and Styles (ISEP) and applied it to hospitals and schools to analyze its psychometric properties. The parenting measure analysis we propose evolved 70 primary caregivers of young children with a mean age of 22.44 months. ISEP consists of 26 daily situations and assesses the most common parenting practices caregivers adopted in each one of them. Besides, we created a Coding Guide to Parenting Practice. It enabled us to classify each response according to the CMP systems. We found a variance of 84.67% and 95.55% in codification agreement between expert judges and a significant intraclass correlation coefficient for all parenting systems, which discloses validity evidence on the response process of the inventory. Our analyses indicated the occurrence of all parental systems, with a prevalence of narrative envelope and body stimulation. Cluster analysis revealed two clusters, one formed by proximal style and another by distal style, in accordance with the interactions of the system, representing a validity of evidence based on the internal structure of the instrument. ISEP provides reasonable measures for research and professional practice in Psychology. Further research with more extensive and diverse samples is necessary to refine the instrument and, especially its guide.

Keyword: Parenting, Children, Psychometrics, Test Validity.

Inventário de Sistemas e Estilos Parentais: Uma Medida para a Primeira Infância

Resumo: O Modelo de Componentes da Parentalidade (MCP) da perspectiva evolucionista propõe seis sistemas – contato corporal, estimulação corporal, contato face a face, estimulação por objeto, envelope narrativo e cuidado primário – universais e filogeneticamente evoluídos, e dois estilos parentais – distal e proximal – oriundos da combinação de alguns desses sistemas. Para analisar propriedades psicométricas de uma medida de parentalidade, o Inventário de Sistemas e Estilos Parentais (ISEP) foi aplicado em contexto escolar e hospitalar, em 70 cuidadores primários de crianças com idade média de 24,44 meses. O ISEP, construído para este estudo, apresenta 26 situações cotidianas e solicita que cuidadores indiquem a prática parental mais comumente adotada em cada uma delas, e cada resposta foi classificada em um dos sistemas do MCP por um Guia de Codificação de Práticas Parentais. A concordância entre juízes com a codificação variou entre 84,67% e 95,55%, e os coeficientes de correlação intraclasse foram significativos para todos os sistemas de parentalidade, representando uma evidência de validade por processo de resposta do inventário. As análises indicaram a ocorrência de todos os sistemas parentais, com predominância de envelope narrativo e estimulação corporal. Uma análise de

cluster formou dois conglomerados, um derivando o estilo proximal e outro o estilo distal, de acordo com a interação entre os sistemas, constituindo uma evidência de validade baseada na estrutura interna do instrumento. O ISEP mostrou ser uma medida promissora para a pesquisa e a prática profissional em Psicologia. Outras pesquisas com amostras mais amplas e diversificadas são necessárias para refinamento do instrumento e do guia.

Palavras-chave: Parentalidade, Crianças, Psicometria, Validade do Teste.

Inventario de Estilos y Sistemas de Crianza: Una Medida para la Primera Infância

Resumen: El Modelo Componencial del Parentaje (MCP), desde una perspectiva evolutiva, propone seis sistemas (contacto corporal, estimulación corporal, contacto cara a cara, estimulación con objetos, envoltura narrativa y atención primaria), universales y filogenéticamente evolucionados, así como dos estilos parentales (distal y proximal) que se originan combinando algunos de ellos. Para analizar las propiedades psicométricas de una medida parental, se aplicó el Inventario de Estilos y Sistemas de Crianza (ISEP), en el contexto escolar y hospitalario, a 70 cuidadores primarios de niños con una edad media de 24,44 meses. El ISEP fue construido para el presente estudio, presenta 26 situaciones cotidianas y crianza los cuidadores deben indicar la práctica parental más común adoptada en cada una de ellas. Una Guía de Codificación de Prácticas Parentales permite clasificar cada respuesta en uno de los sistemas del MCP. La concordancia entre los jueces con la codificación varió entre 84,67% y 95,55% y los coeficientes de inter-correlación en todos los sistemas parentales fueron significativos, evidenciando su validez por el proceso de respuesta al inventario. Los análisis indicaron la ocurrencia de todos los sistemas parentales, con predominio de envoltura narrativa y estimulación corporal. Un análisis de clusters formó dos conglomerados, derivando el estilo proximal y el estilo distal, según la interacción entre los sistemas, constituyendo evidencia de validez basada en la estructura interna del instrumento. El ISEP demostró ser una medida valida y fiable para la investigación y la práctica profesional en Psicología. Se necesita más investigación con muestras más grandes y diversificadas para perfeccionar el instrumento.

Palabra clave: Parentaje, Niños, Psicometría, Validez de la Prueba.

Parenting can be understood as a broad set of tasks that mothers, fathers, and other primary caregivers must perform to promote a person's healthy development from conception to independence (Bjorklund, Yunger, & Pellegrini, 2002). It includes the capacity of creating and providing protection and care to children to guarantee their survival, maximize their potential (Bjorklund et al., 2002), and pass on cultural norms and values (Keller, 2002, 2007).

According to Keller (2002, 2007), biological predispositions and specific cultural environment conditions shape parenting. Thus, we may consider certain types of care as universal trends and practices, as they are relevant to species survival (Keller, 2009). Culture, in turn, selects, reinforces, and shapes strategies from the universal behavioral repertoire according to contextual priorities, causing care to vary according to different environmental and historical settings surrounding families (Keller, 2007, 2015). Thus, parenting is a cultural process steeped in beliefs and behaviors common to the specific environmental demands of each culture (Keller, 2007, 2015).

Thus, Keller's Component Model of Parenting (CMP) (2002, 2007) includes units that capture parenting universal propensities and cultural peculiarities during infancy. It is an evolutionary lifespan perspective that adopts an interactionist and contextual position of parenting practices to evaluate child development.

CMP (Keller, 2002, 2007) organizes care categories parents provide to children — called parenting

systems — and which suffer modulation by the interactional mechanisms among mode of attention (exclusive or shared), contingency (prompt reactivity), and emotional warmth. The author proposes six parenting systems:

1. Primary Care (PC) – It represents the oldest phylogenetic parenting system. It involves providing shelter, food, and hygiene. The psychological function of this system is to reduce the infant's distress. The response promptness an infant receives assists the primary dimension development of the emerging self. Besides, it provides experiences of safety and confidence due to caregivers' protection and availability. In some cultural environments, health and survival are the main socialization purposes. Then, nursing in anticipation of infant distress promotes closeness and interpersonal fusion.

2. Body Contact (BC) – It includes body-to-body contact and extensive carrying, which may involve sleeping together. The psychological function of this system consists of the experience of emotional warmth, ensuring the baby's feelings of social relatedness and belonging to a group. These feelings seem to be associated with the acceptance of norms and values, preparing individuals for a life based on harmony and hierarchy among family members or their primary social group.

3. Body Stimulation (BS) – It involves body communication and takes place in a dyadic activity characterized by challenging motor stimulation, involving touch and movement. This system relates to motor development, and its psychological function consists of intensifying infants' body perception and the environment that surrounds them, thus promoting a body self.

4. Object Stimulation (OS) – It connects the baby to the world of objects and the physical environment in general. It is closely related to exploratory activities, emphasizes processes of shared extradyadic attention, and initiates and supports metacognitive development. Its psychological function consists of promoting cognitive development and making the infant more independent from social relationships.

5. Face-to-Face Contact (FF) – It consists of mutual eye contact between the caregiver and the infant, in which the parental investment is dyadic and exclusive. FF exchanges are highly stimulating, full of affection, and it occurs through short interactional events that expose the child to high levels of cognitive and social information. Via this exchange system, infants notice contingencies in which the readiness of the adult's responses makes them perceive themselves as the cause of parental behavior. The psychological function of this system encompasses the perception of psychological states and others. It also includes the child realizing that they are a unique and self-effective being. This system can also facilitate the development of verbal dialogue and the infant's self-regulatory capacity.

6. Narrative Envelope (verbal and vocal interactions) (NE) – It consists of the language use (frequency, structure, and content) in early caregiver-infant interaction. It provides children access to a culturally appropriate concept of the self and others. How parents talk to their infants reflects these cultural models of the self and its relationship with others. Thus, conversational practices and parental narratives compose an extra parenting system. The psychological function of NE is to direct infants' attention and understanding, representing the main tool for transgenerational transmission and cultural learning.

Cultural specificities enable combinations and adaptations of parental systems and interactional mechanisms (Keller & Kärtner, 2013). Among the many potential manifestations and combinations of systems, Keller (2002, 2007) identified that their co-occurrence creates distinct parenting styles, prioritizing, according to each cultural expression, two universal human needs: the need to connect with other people and the need for autonomy.

Keller's empirical studies (Keller et al., 2004b) show the prevalence of two parenting styles: proximal and distal ones. They derive from the combination of the BC, OS, BS, and FF systems via nonverbal behaviors (Keller, 2007). These styles are associated with prototypical cultural models of independence/autonomy and interdependence/relatedness, respectively. BC and BS characterize the former, guaranteeing that the infant has a close and warm interpersonal relationship related to a cultural model of interdependence. It is prominent in traditional rural societies with low levels of formal education and subsistence economics. In turn, FF and OS characterize the distal style, favoring

psychological autonomy, promoting the development of uniqueness and individuality, autonomy, competition, and self-confidence. It is associated with the model of cultural independence and is more characteristic of highly educated urban societies, common to Western middle-class families (Carra, Lavelli, Keller, & Kärtner, 2013; Keller et al., 2007; Keller, Borke, Yovsi, Lohaus, & Jensen, 2005b; Lamm et al., 2015).

Based on CMP and the observation of mother-infant interactions in different societies and cultures, Keller and collaborators (Carra et al., 2013; Keller, 2017; Keller, Otto, Lamm, Yovsi, & Kärtner, 2008; Keller et al., 2007) observed that cultural environments also differ regarding the emphasis they give to infants' verbal behavior. They found that cultural models that advocate independence and show a predominance of distal parenting styles place greater emphasis on verbal interactional exchanges, on the reciprocity of dialogue. The model is more oriented to infants, in which mothers are responsive to the expression of their needs, resulting in babies' greater vocalization. Objects enter this dyadic face-to-face interaction to stimulate and promote cognitive development (e.g., reading a book). In the proximal and interdependent style, parents are more oriented to the nonverbal monitoring of their infants and their concern with infants' health and physical development. They found that the more the infants vocalized, the more they received vocal and verbal responses from their caregivers, showing that infants and caregivers' behavior significantly relate to each other, rather than showing independence (Keller, 2007).

The CMP construction derives from the results of Keller and collaborators' several cross-cultural surveys (Keller, 2002, 2007; Keller et al., 2004a). Most evaluated three-month-old babies, which research considers a key age during early infancy. Typically, it is a crucial developmental phase for the first stage of relationship formation (e.g., the appearance of social smile and changes in quality interactions with adults). Also, it works as a predictor of future developmental achievements (Keller, 2007). Even though parental care changes and adapts according to the child's developmental status over time, it remains structurally consistent with the systems and styles adopted in the infant's first months of life (Keller, 2015).

Although infants' first three months represent their first receptive phase of development, it extends over the child's first three years of life (Keller, 2002). This period also activates behavior propensities for parental care. The caregiver's parenting styles and practices develop and improve in response to the child's increased capacity for interaction, exchange, and social responsiveness (Keller et al., 2004b).

Research has primarily measured parenting systems and styles via video recording of mother-infant interactions with CMP-based coding (Carra, Lavelli, & Keller, 2014; Lavelli, Carra, Rossi, & Keller, 2019; Ulitsa, Keller, & Otto, 2017), naturalistic observation (Keller & Zach, 2002; Keller et al., 2005a), and interviews with picture cards (Carra et al., 2014; Keller et al., 2007), the first of which is the most used technique in Keller's recent research (Keller, 2018; Lavelli et al., 2019; Ulitsa et al., 2017). They have also adopted the use of scales, such as the Parenting Ethnotheories Scale (Keller et al., 2006; Lamm & Keller, 2007), which consists of a list of 10 descriptive statements of parenting practices and aims at identifying the psychological prototype (independence or interdependence) adopted by the caregiver. This instrument does notidentify caregivers' practices.

Brazil has a Parenting Beliefs and Caring Practices Scale (Martins et al., 2010) based on Keller's theoretical model (2007). It consists of two subscales, Practices Performed by the Mother and Importance Attributed to Practices that match caregivers' practice with their belief of what is important in childcare. Results showed that it is not able to identify the systems and styles proposed by the CMP. Furthermore, except for some studies, Brazilian research has scarcely studied CMP (Macarini, Crepaldi, & Vieira, 2016; Macarini, Martins, Sachetti, & Vieira, 2010; Martins, Vieira, Seidl-de-Moura, & Macarini, 2011; Mendes & Seidl-de-Moura, 2013; Pessôa, Seidl-de-Moura, Ramos, & Mendes, 2016; Seidl-de-Moura et al., 2008, 2013, 2014).

We developed the Inventory of Parenting Systems and Styles (ISEP) (Barbosa, Guimarães & Silva, 2019) as parenting systems and styles represent valuable predictors of child development (Keller et al., 2007) and given the lack of national and international CMP measures and studies with children older than six months. This instrument seeks to overcome some

limitations of other measures based on this model. Therefore, it offers a wide range of everyday situations and enables caregivers to present the main parenting practice they adopt to deal with each one of them.

Like any other psychological measure, ISEP must have three minimum requirements: validity evidence, precision estimates, and a score correction and interpretation system (American Educational Research Association, American Psychological Association, National Council on Measurement in Education, 2014; Resolução CFP nº 9, 2018). Thus, this study focused on analyzing some of the psychometric properties of this inventory. Specifically, we aimed to obtain validity evidence via the response process based on internal structure, system correction adequacy, and score interpretation.

Method

Participants

Our non-probabilistic sample (n=70) consisted of mothers (n=61; 87.14%), fathers (n=5; 7.14%), and other primary caregivers (grandparents, n=4; 5.71%) of children aged between six and 42 months, living in the municipality or region of Juiz de Fora, in Minas Gerais, Brazil. Only primary caregivers (one caregiver for each child) were included in our sample, i.e., those who spend more time taking care of the child.

Most of our sample consist of young (M=34.17; SD=8.30), married (n=49; 70%) women (n=65; 92.85%). Most were highly educated (n=45; 78.58%), i.e., had completed high school (n=28; 40%) and were undergraduates (n=12; 17.15%) or graduates (n=25; 21.43%) and, based on their monthly family income (Associação Brasileira de Empresas de Pesquisa [ABEP], 2018), belonged to the economic strata C2 (BRL 1,691.44; n=16; 21.43%), C1 (BRL 2,965.69; n=15; 22.06%), B1 (BRL 10,363.19; n=15; 22.06%) or B2 (BRL 5,363.19; n=11; 16.18%). They take care of girls (n=34; 48.57%) and boys (n=36; 51.43%) with an average age equal to 24.44 months (SD=10.41).

Both public (n=2) and private (n=3) (early childhood education centers were included in our sample selection. It also contained a child health care unit in a public hospital. Institutions were chosen based on their convenience and caregivers, by their availability to collaborate with our study.

Instruments

ISEP (Barbosa, Guimarães, & Silva,, 2019) was constructed and elaborated following Keller's theoretical model (2002, 2007). An initial list of everyday situations was created that covered the six dimensions of parenting systems. Then, their relevance was assessed by our research group. Next, focal interviews were conducted with primary caregivers to review, refine, and improve the instructions of the instrument. This procedure improved statements (e.g., clarity) and included new situations so the instrument could contemplate Problem Situations and positive occurrences in a balanced way. Once construction and evaluation were completed, our proposed version of ISEP was finally used.

The daily situations mentioned above enabled us to identify parenting systems and styles. Circumstances, such as the child's refusal to eat, were analyzed and primary caregivers, asked about their most common practice for each situation. The instrument has 13 statements that represent problems, difficulties, or parental challenges (Situations 2, 5, 7, 10, 12, 14, 15, 17, 19, 23, 24, 25, and 26), and 13 positive occurrences (Situations 1, 3, 4, 6, 8, 9, 11, 13, 16, 18, 20, 21, and 22), i.e., circumstances involving positive affection, well-being, among others – e.g., "You want the child to relax, to feel at ease." the answers were registered via interview or self-report. In the former situation, audio was recorded or answers, transcribed. In the latter, respondents were to fill in answer fields. An option stating "I never went through this" was included in all the statements of the instrument for situations caregivers had never experienced.

ISEP includes many ways to express parenting practices. The most common involves a word or sentence, in which the same content may have different meanings according to specific situations. General answers may also appear. Whenever they are eligible to be classified in more than one system, they should be disregarded. Likewise, behaviors which fail to represent a practice that promotes the child's healthy development, such as punitive or aggressive parental behaviors, were excluded.

The first step to calculate the score of each parenting system is to segment, if necessary, the answer given to each of the 26 situations so that a meaning

unit corresponds to a parental practice. Then, based on thematic content analysis, we classified each practice into a CMP system (Keller, 2007) according to the Coding Guide to Parenting Practices (CGPP) (Appendix A). Parenting styles were identified after our parental systems were defined.

As the number of practices primary caregivers showed can vary significantly in each situation, the corresponding percentage of each system had to be calculated. Thus, let us suppose, a mother may provide answers to our 26 situations, which were then subdivided into 50 practices (meaning units), generating the following illustrative scores: FF (F=20; 40%); OS (F=15; 30%); BS (F=10; 20%); BC (F=5; 10%); PC (zero); and NE (zero). Therefore, their predominant parenting style would be distal with 70% [FF (40%) + OS (30%)] in this hypothetical situation. Notice that we can calculate the percentages based on four nonverbal systems or all six, including NE and PC.

To describe family and educational aspects in the sample, a Demographic Characterization Form (DCF) was also used. It consists of an instrument with 22 questions about the child (such as age), primary caregivers (such as age, marital status, and educational background), and family (such as total household income).

Procedure

Data were collected after ethical care measures, including approval by an ethics committee (CAAE:11747119.9.0000.5147) and an informed consent form. Instruments were individually applied in a reserved space provided by the institutions. Participant had the option of filling forms by themselves (n=28) or being interviewed (n=42). For the interviews, questions from the DCF and the ISEP were read and recorded. Answers were transcribed as spoken. Instruments had no time constraints. In our study, data were collected in about 40 minutes.

Data Analysis

Qualitative treatment followed the ISEP presentation. To judge our analysis process, 14 psychologists were selected based on their educational background in the measurement area. Guided by the CGPP, each referee analyzed the responses of five caregivers in all 26 situations. To quantify the agreement between judges (i.e., how strongly units in the same group resemble each other), the intraclass correlation coefficient was compute. Our quantitative treatment is based on descriptive and inferential statistics, with a significance level of 5% by default. The Kolmogorov-Smirnov test enables us to identify whether our variables followed a normal distribution. Friedman's non-parametric tests (χ2) with multiple comparisons and chi-square tests were also used. Our parametric approach follows a Bonferroni Correction for post hoc analysis in ANOVA (*F*) and t-tests (*t*) for paired samples. Also, hierarchical and K-means frameworks were adopted to estimate clustering. The former uses the squared Euclidean distance as the default rule to define the number of clusters. The latter follows the ANOVA (*Z*) analysis to identify the link between variables (systems) and clustering.

Results

Table 1 shows that the agreement between judges varies between 84.67 and 95.55%. Intraclass correlation coefficients were significant for all parenting systems, ranging between 0.567 (FF) and 0.946 (NE). In the non-categorized meaning unit, agreement was insignificant (ICC=0.258; p=0.111; 79.76%).

Table 2 shows the scores of parenting practices for each ISEP situation. We observe that the statistic mode for all the cases is equal to one; their minimum, zero; their maximum, six; and their averages range between 0.82 and 2.07. The chi-square test shows that most primary caregivers experienced all Positive Situations ($\chi^2(1)=22.857$; p<0.001), whereas an equivalent proportion of people either experienced Problem Situations or not ($\chi^2(1)=2.057$; p<0.151). In 20 (76.92%) of the 26 ISEP situations, at least one primary caregiver reported not having experienced a given situation. Situations 10 (You are alone with the child and want to use the internet for leisure without disturbing him/her.) (30%; n=21), 19 (The child needs but does not want to take a shower.) (27.14%; n=19), and 14 (You are alone with the child, and you want to watch TV without disturbing him/her.) (22.86%; n=16) are three of the 13 Problem Situations, standing out for the number of participants who did not experience them.

Table 1
Percentage of agreement among judges and interclass correlation coefficient.

Situations	Body contact	Body Stimulation	Face-to-face	Narrative Envelope	Object Stimulation	Primary Care	PNPHD*	UMU**
	%	%	%	%	%	%	%	%
Situation 1	95.72	62.85	94.28	90	71.43	100	100	83.72
Situation 2	98.57	98.57	91.43	94.28	92.86	100	88.57	84.29
Situation 3	95.71	97.14	84.29	81.43	95.71	97.14	92.86	65.72
Situation 4	88.15	67.15	92.86	97.14	70	80	100	67.14
Situation 5	82.85	91.43	94.29	88.58	94.29	71.43	98.57	82.85
Situation 6	94.29	92.86	82.86	82.86	98.57	97.14	91.43	75.72
Situation 7	97.14	97.14	93.72	91.43	87.15	55.72	88.57	62.86
Situation 8	95.71	58.58	92.86	97.14	80.01	100	98.57	75.71
Situation 9	80	82.86	97.14	94.28	82.86	76.81	100	85.72
Situation 10	95.71	90	94.28	98.57	88.54	94.29	92.86	85.72
Situation 11	68.57	71.43	92.86	97.14	98.57	100	100	95.71
Situation 12	95.72	54.28	88.57	95.72	81.44	98.57	98.57	74.29
Situation 13	94.29	92.86	81.43	91.44	98.57	100	94.29	67.15
Situation 14	95.72	91.43	94.29	92.86	85.72	91.43	90	87.14
Situation 15	91.42	92.86	92.85	90	95.71	91.43	94.29	85.71
Situation 16	95.72	74.29	88.57	97.14	85.71	97.14	100	77.14
Situation 17	92.86	94.29	74.28	97.14	88.58	87.14	92.86	77.14
Situation 18	88.57	74.29	91.43	92.85	92.86	100	100	94.29
Situation 19	100	97.14	98.56	91.44	92.86	92.86	95.72	85.72
Situation 20	98.57	88.57	84.28	97.14	84.29	78.57	95.71	71.43
Situation 21	72.86	71.43	95.71	94.29	98.57	100	100	91.43
Situation 22	90	91.43	95.71	88.58	94.29	97.14	97.14	85.71
Situation 23	95.72	92.86	92.86	95.71	94.28	98.57	98.57	87.14
Situation 24	95.71	97.14	95.71	75.71	97.14	77.15	92.86	82.86
Situation 25	94.28	90	92.86	90.01	88.58	85.71	92.86	67.14
Situation 26	81.43	88.57	91.43	88.57	92.86	75.72	90	74.29
Total	91.36	84.67	91.13	91.98	89.67	90.15	95.55	79.76
ICC	0.780[a]	0.744[a]	0.567[a]	0.946[a]	0.739[a]	0.627[a]	0.868[a]	0.258[b]

[a]$p<0.001$. [b]$p=0.111$. *Practice that does not promote healthy development. ** Uncoded meaning unit

Responses which refer to parenting practices which failed to promote infants' healthy development appeared in all 13 Problem Situations. In the Problem Situation, participants that reported only parenting systems (n=42; 60%) were proportional [$\chi 2(1)$ 2,800; p<0.05] to the ones that showed practices that do not promote a healthy development along with parenting systems (n=28; 40%). We only found parenting systems in Positive Situations.

Table 2
Scores of parental practices for situations proposed by the inventory of parenting systems and styles.

Situation	PNPHD*		UMU**		Parental Practice					Did not experience the situation	
	n	*%*	*n*	*%*	*M*	*SD*	*Mode*	*Min*	*Max*	*n*	*%*
Situation *1*[a]	-	-	3	4.28	1.81	1.05	1	1	6	-	-
Situation 2[b]	10	14.28	7	10	0.85	0.68	1	0	3	7	10
Situation *3*[a]	-	-	17	24.28	1.40	0.96	1	0	5	1	1.42
Situation *4*[a]	-	-	10	14.28	1.58	1.01	1	0	5	-	-
Situation 5[b]	3	4.28	7	10	1.58	1.04	1	0	5	2	2.85
Situation *6*[a]	-	-	23	32.85	1.30	0.82	1	0	5	-	-
Situation 7[b]	6	8.57	29	41.42	0.95	0.80	1	0	3	2	2.85
Situation *8*[a]	-	-	8	11.42	1.51	0.92	1	0	4	2	2.85
Situation *9*[a]	-	-	12	17.14	1.61	0.82	1	1	4	2	2.85
Situation 10[b]	4	5.71	5	7.14	0.82	0.78	1	0	3	21	30
Situation 11[a]	-	-	2	2.85	1.73	0.81	1	1	4	-	-
Situation 12[b]	1	1.42	5	7.14	1.47	0.88	1	0	4	1	1.42
Situation 13[a]	-	-	23	32.85	1.67	0.80	1	1	4	-	-
Situation 14[b]	1	1.42	13	18.57	1.18	0.44	1	1	3	16	22.85
Situation 15[b]	4	5.71	13	18.57	1.22	0.45	1	1	3	4	5.71
Situation 16[a]	-	-	18	25.71	1.65	0.78	1	1	4	4	5.71
Situation 17[b]	2	2.85	11	15.71	1.07	0.63	1	0	3	3	4.28
Situation 18[a]	-	-	2	2.58	1.75	1.02	1	0	5	2	2.85
Situation 19[b]	3	4.28	9	12.85	1.36	0.75	1	1	4	19	27.14
Situation 20[a]	-	-	14	20	1.37	0.61	1	1	3	3	4.28
Situation 21[a]	-	-	2	2.58	2.07	1.09	1	0	5	-	-
Situation 22[a]	-	-	14	20	1.59	0.75	1	1	4	4	5.71
Situation 23[b]	2	2.58	1	1.42	1.30	0.67	1	1	4	6	8.57
Situation 24[b]	11	15.71	9	12.85	1.08	0.60	1	0	2	2	2.85
Situation 25[b]	6	8.57	19	27.14	1.40	0.60	1	1	3	7	10
Situation 26[b]	3	4.28	19	27.14	1.35	1.02	1	0	5	2	2.85

[a]Positive situation. [b]Problem situation. *Practice that does not promote healthy development. **Unidentified meaning unit

Table 2 provides some meaning units not classified as parenting systems or even parenting practices. These units mention no parental behaviors directed to the child (e.g., "I'm happy") or are too generic (e.g., "I interact with him/her). We observe these units in all situations, especially in Situation 7 (The child does not want to eat. What do you do?) (n=19; 27.14%).

The raw scores of the six parenting systems differ (F(3;197)=58.949;p<0.001), with NE being the most frequent (M=10.54; SD=0.62; p<0.001). BS (M=7.37; SD=0.41; p<0.001) is the second most recurrent one. Then, come OS (M=4.87; SD=0.31) and FF (M=3.99;

SD=0.25), which are not significantly different (p=0.506), the latter nor being more frequent than BC (M=3.50; SD=0.27; p=0.612) and PC (M=3.33; SD=0.28; p=1.000). BC and PC also do not show significant difference (p =1.000).

Based on the raw scores in Table 3, Positive Situations lead to more allusions to parenting practices than Problem Situations, whereas BC, BS, and NE happen more often in Positive Situations. On the other hand, caregivers adopt FF and PC more often in Problem Situations and OS, in both Positive and Problem Situations.

Table 3
Comparative statistics based on positive and problem situation for each parenting system.

System	Positive Situation		Problem Situation		$t(69)$
	M	SD	M	SD	
Body contact	2.46	2.03	1.04	1.13	4.996[a]
Body stimulation	6.46	2.91	0.91	1.06	16.743[a]
Face-to-face	1.63	1.26	2.36	1.26	3.479[a]
Narrative envelope	6.36	2.98	4.16	2.98	6.171[a]
Object stimulation	2.37	1.68	2.50	1.90	0.439[b]
Primary care	0.71	0.78	2.61	1.99	8.380[a]
Positive and Problem Situations overall	19.99	5.84	13.61	4.24	9.896[a]

[a]$p<0.001$. [b]$p=0.662$

Table 4 describes and compares the percentages of the six CMP systems in the 26 situations in ISEP. We found a significant difference in all comparisons. Friedman's multiple comparison tests show that the NE system prevails in seven situations (26.92%). Besides, it tends to be the most frequent of all four (15.38%). BS predominates in four cases (15.38%) and tends to be the most frequent in the other two (7.69%). OS and FF are the most reported systems in two (7.69%) situations and are likely to be the most used in another situation (3.84%). PC is prevalent in one case (3.84%) and prone to be the most frequent in two (7.69%) of the 26 proposed circumstances. BC is more frequent in only one situation (3.84%), whereas in Situations 9 and 20, none is necessarily the most frequent one despite the significant difference among the scores of the six systems.

Table 5 shows the scores for the percentages of parenting systems proposed by Keller (2007). Multivariate ANOVA provides a significant difference [F(3.207)=61.152;p<0.001] among the means of the primary caregivers' six parenting systems. The Bonferroni's post hoc test shows that NE is the most adopted system (p<0.001), followed by BS (p<0.001), OS, and FF, which are statistically insignificant (p= 0.650), but the first system differs from BC (p<0.005) and PC (p= 0.015). However, the latter fails to differ from BC (p=0.796) and PC (p=0.580). BC and PC are also statistically insignificant (p=1.000).

The comparison of percentages of the four parenting systems (Table 5) shows significant diffe-rences among each other (F(3; 184) = 32.401; p<0.001) The Bonferroni's post hoc test shows that BS (p<0.001) is the most frequent one, followed by OS, which fails to happen more often than FF (p =0.592) but does so than BC (p<0.001). FF and BC scores are statistically insignificant (p=0.121).

Given the absent theoretical reference to group the six systems into clusters, we computed a hierarchical cluster analysis. It indicates an optimal solution for two clusters. K-means analysis set with two clusters (Table 5) shows that the NE, PC, BS, BC, and OS systems contribute significantly to only one of two clusters (p<0.05), with NE being the most relevant variable to distinguish each caregivers group (Z= 155.708). FF fails to statistically differ (p=0.240) between the two clusters. Thus, Cluster 1 contains 36 participants (51.43%) and describes a caregiving pattern consisting of Predominantly Verbal interactions. Cluster 2 has 34 primary caregivers (48.57%) and provides a caregiving pattern composed of Predominantly Nonverbal interactions

As in Table 5, cluster analysis with four parenting systems provides two different clusters. In one of them, with 43 participants (61.43%), we can see the prevalence of BS and BC systems, i.e., a proximal style. The other cluster, with 27 primary caregivers (38.57%), predominantly adopts the OS and FF systems, i.e., a distal style. The four variables contribute significantly to the formation of both clusters (p<0.05) (p<0.05), and the BS system is the one that most contributed to the differentiation of each group (Z= 49.135) (Z= 49.135).

Table 4
Comparison of the scores of the six systems in the component model of parenting.

Situation	Body contact		Body Stimulation		Face-to-face		Narrative Envelope		Object Stimulation		Primary Care		χ^2
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
Situation 1	0.97	8.03	33.82	41.22	4.95	16.56	19.08	35.96	41.18[a]	42.44	0	0	90.551
Situation 2	3.06	15.84	1.02	7.14	62.24*	47.36	12.24	28.01	19.39	37.94	2.04	14.29	80.000
Situation 3	4.28	12.64	3.72	15.17	5.00	19.96	87.00*	28.71	0	0	0	0	220.807
Situation 4	7.98	23.23	43.12[a]	39.39	1.94	9.20	6.77	21.25	28.49	38.46	11.69	25.76	73.302
Situation 5	13.49	24.12	7.58	19.28	4.84	17.70	38.55[a]	40.89	1.08	5.94	34.46[a]	42.43	65.635
Situation 6	4.62	13.61	5.43	17.32	0.81	6.35	89.14*	28.10	0	0	0	0	231.568
Situation 7	0	0	3.06	15.84	1.02	7.14	15.31	32.78	3.06	15.84	77.55*	38.42	142.575
Situation 8	0.53	4.20	62.43*	43.89	1.59	8.84	5.82	20.12	29.63	41.74	0	0	141.248
Situation 9[b]	17.84	32.25	17.97	34.54	0	0	15.62	31.79	16.02	32.68	32.55	42.56	27.747
Situation 10	4.92	19.22	8.33	23.71	13.64	31.19	3.41	16.70	54.55*	46.36	15.15	34.82	53.971
Situation 11	19.05	30.23	20.60	28.37	53.93[a]	42.20	6.43	19.10	0	0	0	0	117.547
Situation 12	4.36	16.48	66.15*	43.27	8.46	24.32	6.03	19.85	14.23	31.24	0.77	6.20	123.293
Situation 13	11.11	22.35	7.46	18.48	1.75	9.28	76.17*	35.55	2.63	14.70	0.88	6.62	162.235
Situation 14	8.89	26.73	2.96	15.61	12.96	32.35	8.52	26.26	55.56*	49.11	11.11	31.78	48.824
Situation 15	10.83	29.24	4.17	19.07	9.72	26.98	60.28*	46.75	7.50	24.05	7.50	24.05	83.890
Situation 16	5.61	17.83	60.10*	42.47	12.50	27.98	6.41	21.68	11.54	29.25	3.85	19.42	86.999
Situation 17	8.33	26.35	5.17	17.99	51.44*	46.86	11.21	29.68	22.99	38.72	0.86	6.57	67.049
Situation 18	13.53	23.17	32.74[a]	35.77	17.16	32.53	36.57[a]	43.93	0	0	0	0	79.894
Situation 19	2.46	9.61	2.84	15.45	0	0	42.42[a]	44.09	31.44	43.31	20.83[a]	39.07	55.844
Situation 20[b]	0	0	6.43	18.83	17.54	33.54	11.11	29.60	35.67	44.15	29.24	45.02	36.372
Situation 21	20.99*	25.09	41.59*	34.40	6.21	21.69	31.21*	34.80	0	0	0	0	150.714
Situation 22	6.75	18.03	11.06	25.33	0	0	77.30*	36.50	4.02	18.81	0.86	6.57	172.500
Situation 23	4.64	19.28	7.65	23.68	69.13	43.55	10.79	28.03	6.42	20.55	1.37	7.63	122.166
Situation 24	0	0	0.83	6.45	0	0	87.50*	27.04	0	0	11.67	26.63	236.468
Situation 25	9.67	26.32	3.67	12.73	2.00	9.90	46.33[a]	47.30	20.67	37.73	17.67	37.25	40.064
Situation 26[b]	19.36	35.60	10.88	21.95	3.51	15.98	32.63	42.64	9.36	27.10	24.27	35.51	27.870

*p<0.05. Most frequent systems according to the adjusted p-value in Friedman's multiple comparison tests. [a]Systems that tend to be the most frequent ones but not in isolation. [b]Various systems tend to stand out, with only the extremes being statistically significant.

Table 5
Means, standard deviations, and final cluster centers for parenting systems.

Systems	Four Systems				Six Systems			
	M	SD	Cluster		M	SD	Cluster	
			1	2			1	2
Body contact	16.87	8.13	19	14	10.18	5.41	9	12
Body stimulation	37.10	12.33	43	27	21.63	7.75	19	24
Face-to-face	21.10	11.35	19	25	12.10	6.07	11	13
Narrative envelope	-	-	-	-	31.28	12.76	42	20
Object stimulation	24.91	12.02	19	34	14.77	7.83	13	17
Primary care	-	-	-	-	10.04	6.97	6	14

Regarding parenting styles, on average, the proximal (M =53.97; SD=13.61) style takes place more often than the distal one (M=26.87; SD=8.85), [t (69)=10.529;p<0.001]. Pearson's correlation (*r*) shows a negative and strong relation between the two styles (r=-0.831; p<0.001). Caregivers use the Predominantly Nonverbal pattern (M=68.72; SD=12.76) more widely [t (69)= 8,430;p<0.001] than the Predominantly Verbal one (M=43.38; SD=13.11), both are statistically (strongly and negatively) significant (r=-0.890; p<0.001).

Discussion

Since judges provided satisfactory agreement in their content analysis of primary caregivers' responses, CGPP shows valid evidence via the response process. We obtained this psychometric property when judges' evaluation follows the intended interpretation of scores (American Educational Research Association et al., 2014). Furthermore, calibrating the interpretation parameters is a fundamental process, especially in instruments such as ISEP, whose responses require qualitative explanation. Although results are generally satisfactory, research must improve this guide, especially concerning the coding of general and/or ambiguous practices (meaning units) that cannot be coded as belonging to only one parenting system or not related to the caregiver-child relationship.

As for ISEP instructions, the mode equal to one shows that participants understand them as they request to report the caregivers' most frequently adopted conduct. The presentation of hypothetical situations and responses also seems to have contributed to this result. The clarity and non-complexity in the language adopted in the instructions minimize irrelevant variances to the construct, enabling a comparable and valid interpretation of the scores (American Educational Research Association et al., 2014).

Regarding the situations, three (11.53%) of the 26 stand out due to the number of people (30% ≥ 23%) who never experienced those circumstances. Although scarce, we are aware that this may indicate a weakness in the measure and/or the application process. In total, two situations (10 and 14) mention digital media use (television and internet) by caregivers instead of performing parenting functions. They relate to parental behaviors that, if practiced, could denote parenting flaws. Thus, an explanatory hypothesis for this result is social desirability, i.e., a response bias due to research participants' propensity to offer responses they consider acceptable and express socially expected attitudes or behaviors (Almiro, 2017). In addition to its statements, the monitored application of the inventory may contribute to this possible bias, as researchers' presence may have inhibited accurate responses. Furthermore, we must consider the possibility of caregivers having had no such experiences.

Future studies may need to revise and reformulate these instructions to ensure the absence of adequate answer to each situation. To test the hypothesis of social desirability, research must also review whether self-administered forms or interview differ between each other.

Situation 19 refers to the child's resistance to taking a shower. Perhaps not all caregivers have to deal with this problem daily as refusal tends to be something more characteristic of 'older' young children (between 24 and 42 months in this study), rather than 'younger ones' (between six and 23 months) and babies. Although they failed to predominate in the studied sample, primary caregivers of children from this age group participated in the study.

Besides, in 50% of the situations, caregivers offered answers which did not characterize parenting practices and does not promote children's healthy development (e.g., "I scream," "I lose patience," "I let him/her demand attention," and "I threaten"). Note that this only occurred in the 13 Problem Situations. On the one hand, this self-report fails to support the aforementioned social desirability hypothesis since they constitute socially undesirable parenting behaviors. On the other hand, they can denote primary caregivers facing parenting difficulties at providing, according to Keller (2018), a responsive, sensitive, and reliable interaction. It can help a child identifying a safe foundation in caregivers and, thus, ensure that they have positive results in several development domains.

The self-administered version of the ISEP generates some generic and evasive responses which evaded categorization as parenting systems. This problem shows a limitation of this application procedure and can be managed by applying ISEP in interview mode. Another way to avoid this generic and evasive response is, if possible, to read the instructions out loud and answer questions even if it is a self-administered questionnaire. Furthermore, future research may need to add more examples to the instructions before applying the inventory itself, Thus reinforcing the importance of providing simple, clear, intuitive,

and detailed instruction and ensuring that participants have the expected understanding (American Educational Research Association et al., 2014).

Our 26 situations proved to be capable of evoking all six parenting systems in the Component Model of Parenting. However, some of them stand out, especially NE and BS. Their prevalence may relate to the average age of the children in our sample, with a higher concentration between two and three years. However, we highlight the need for further studies. Research still has room for assessing a broader and more diversified sample. Combining children's characteristics (such as age) with families' economic status may provide insightful outcomes. We should also mention that the adoption of the systems relates to these two variables. Analysis of parental ethnotheories needs to be sensitive to development stages since interpersonal interaction and adults' actions toward their children differ in each development phase (Keller et al., 2006).

This study shows that Positive and Problem Situations tend to evoke different parenting systems. This may be due to the interactional mechanisms, which, according to Keller and Kärtner (2013), modulate the six systems and can manifest themselves in several ways. The evolutionary perspective explains this via each caregiver's individual guidance and infant's positive or negative signals (Keller, 2007).

NE is a parenting system constituted by the frequency, structure, and content of language use in caregiver-infant interaction (Keller & Kärtner, 2013). This system stands out on the occasions as follows: first, when considering the raw scores and percentages of the ISEP. Second, when subdividing the situations into Positive and Problem Situations. It implies that parental vocalization is present in infants' positive and negative signals. In participants' reports, NE takes place in conversations between caregivers and children in search for information about the problem (e.g., asking why he/she is crying) and, in other circumstances, to explain why a pattern of behavior is inappropriate and even to warn the child. The high prevalence of this system may relate to infants' increasing communicative competence with age (Keller et al., 2008), which increases verbal exchange. Besides, according to Ulitsa et al. (2017), this verbal behavior, in general, plays a key role in mother-infant interaction practices.

Note that the NE pattern can also be a cultural characteristic of our sample. However, despite the existence of Brazilian research on CMP (Macarini et al., 2010; Macarini et al., 2016; Martins et al., 2011; Mendes & Seidl-de-Moura, 2013; Pessôa et al., 2016; Seidl-de-Moura et al., 2008, 2013, 2014), this fails to constitute the focus of cross-cultural research. Therefore, further studies should compare verbal patterns of caregiver-infant interaction in Brazil with other cultures.

Like NE, BS is relevant in raw and percentage scores in different situations. It takes place more often in those that refer to affectionate behaviors (such as pleasing, amusing, making the infant happy), in line with the characteristics of this system. As examples, we can mention affectionate touch, closeness, and motor skills (Lavelli et al., 2019). This system comprises more common parenting practices in traditional rural societies, focusing on promoting child mobility (Carra et al., 2014). These examples and the expressive frequency of Positive Situations corroborate Keller's proposition (Carra et al., 2014) that motor stimulation in affection situations is an important positive interaction activity, with an emphasis on the pleasant exchange between caregivers and children.

The OE system is mainly adopted in situations that suggest caregiver-child activities, with toys being the most used simulation object. In circumstances that address the use of media by caregivers, this type of resource (object) is predominantly used in stimulation with or by the child. This parenting system is related to the child's increasing competence at the appropriate age to stay and play alone more independently (Lamm et al., 2015). Thus, while 'younger' children receive stimuli via objects which produce noise (such as rattles) and illustrated books (which demand the interaction of another person), 'older' children use more elaborate artifacts, which may dispense with the presence of a caregiver (such as clay, toy cars, dolls, tablets).

The FF system stands out in Problem Situations that refer to caregivers' attention to their children. This attention often focuses on observing the child's behavior in somewhat challenging circumstances, such as "being alone with the child and needing to do my chores." Many reported keeping the child close to them to observe him/her while performing tasks,

which is a characteristic of simultaneous activity and involves shared attention. Parental practice based on FF seems to be due to the developmental capacity of 'older' children, such as those in the sample, for whom exclusive dyadic attention no longer needs to be so frequent (e.g., during breastfeeding). Therefore, socially shared activities are prevalent (Keller & Kärtner, 2013).

BC stands out in Positive Situations, being more frequent in those that refer to different ways of expressing affection to the child. Hugging is the most adopted parental behavior as a way of showing emotional involvement. According to Lavelli et al. (2019), this parenting practice provides the child with the experience of interactional warmth and is also a source of affective exchange (Keller, et al., 2005b).

PC is more adopted in Problem Situations that allude to meeting the child's basic needs. Responses such as "I keep him her away from danger," "I breastfeed," and "I monitor their temperature" represent activities that concern the child's survival, aiming at their health and safety (Keller et al., 2007). This type of practice results from a contingent parental response to negative signals the child manifests, such as restlessness, pain, and discomfort (Keller, 2007). This protective attitude is more accentuated in parenting practices with 'younger' children (Lamm, Keller, Yovsi, & Chaudhary, 2008). This probably stems from the fact that it is a less frequent parenting system in our sample because, as already mentioned, it consists of few 'younger' children.

Research has no joint cluster and factor analysis of the six parenting systems proposed by CMP so far. Even in Keller's work or related research, we fail to find a joint analysis framework. As described, our approach allows forming two clusters with the following systems: a Predominantly Nonverbal (BC, BS, OE, and FF) and a Predominantly Verbal (NE and FF) one. The first one is the most frequent in the sample. Keller (Keller, 2007; Keller et al., 2007; Keller et al., 2008) also identifies the importance of verbal aspects in parenting. According to the author, the first verbal exchanges between caregivers and children are important factors for culture acquisition. Therefore, she considers verbal interaction to be a universal parenting system. Thus, she analyzes parental vocal and verbal discourse separately as an additional source of understanding ethnotheories.

Cluster analysis with the four systems, as expected, significantly group the BS and BC systems into one cluster and OS and FF in another. This result corroborates those obtained by Keller (Keller, 2007; Keller et al., 2004a). Thus, each group characterizes a CMP style, i.e., proximal and distal, respectively, representing validity evidence based on the internal structure of ISEP, a psychometric property that denotes how much the situations are under the constructs which bases the analysis of scores (American Educational Research Association et al., 2014).

The strong negative correlation between the scores of distal and proximal clusters highlights the distinction between them. Besides, it provides valid evidence based on internal structure of the ISEP as it converges with the theoretical model of styles that represent cultural models of independence and interdependence. If the format, the conditions of administration, and the language used qualify the interpretation of the scores for diverse groups, we find an important element to validate this instrument (American Educational Research Association et al., 2014).

The fact that caregivers adopt the proximal style most often and that the NE system prevails seems contradictory. However, the triad formed by BC, BS, and vocalization is responsible for the fusion and symbiosis between children and caregivers thus favoring the development of belonging and integration to a social group (Lamm et al., 2015). We should mention that this style is oriented toward a cultural model of interdependence characteristic of less-educated societies with lower economic status (Keller, 2007). Additionally, we should describe the result that showed that, although caregivers show a more proximal parenting style, they adopt significantly less BC. According to Keller et al. (2005b), we can explain this as a modification in the parental style, characterized as a mixed style. In other words, it is a combination of the two prototypical cultural models of independence and interdependence, which could be oriented toward relatedness or autonomy.

We must consider results like those of the proximal and distal styles obtained for the Predominantly Verbal and Predominantly Nonverbal clusters — which suggest a strong and negative correlation between scores — sparingly. Future research must evaluate whether they continue and configure clearly defined in two sets of typical parenting behaviors, i.e., interaction patterns.

We also find that, according to Lamm et al. (2008), the absence of NE in the constitution of parental styles

stems from the fact that this system itself is capable of capturing cultural ethnotheories. Therefore, it is adopted by some researches as an additional way to understand them, usually via interviews. Besides, NE would pervade both styles. For example, in the proximal style, BC and BS may follow synchronous vocalizations and, in the distal style, FF and OS can occur concurrently with extensive and elaborate verbal conversations and caregiver-child exchanges (Lamm et al., 2015). Our results negate these hypotheses and seem to suggest that NE may play a decisive role in a predominantly Verbal parental interaction pattern.

As noted earlier, studies on CMP generally adopt the observational method as a data collection strategy. However, this procedure restricts the identification of all six systems, especially PC and NE, and, as per Keller et al. (2004a), can generate systematic biases concerning PC prevalence since most research evaluates babies (with 3 to 6 months of age) who still depend on breastfeeding. ISEP seems to overcome these limitations by proposing a series of situations — Problem and Positive Situations. Following this approach, we can measure all systems and group some of them into two styles.

Finally, our research provides favorable results reinforced by shreds of evidence of different natures (based on their internal structure, the response process, and the adequacy of our score correction and interpretation system). However, this investigation has limitations, notably in external validity. Therefore, we recommend broader and more diverse samples to research ISEP. For instance, researchers may work with a wider children's age range. Another possibility would be to contemplate different economic and social strata in the Brazilian population in the analysis. A comparison between self-administered and interview application can also provide insightful thoughts. All these suggestions may increase the scientific production on young children's parenting in Brazil, as, undoubtedly, early childhood is crucial for other development stages.

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Appendix

Coding Guide to Parenting Behaviors and Practices

Parenting Systems	Operational Definition	Behaviors and Practices
Body contact	It encompasses behaviors in which the caregiver and the child's body touch each other totally or partially, including carrying, as long as touching occurs.	Holding the child, holding their hands, sitting them on their lap, holding, hugging, touching them, sleeping together.
Body stimulation	It consists of active stimulation; the use of kinesthetic, tactile, and motor manipulation as well as motor skills.	Caressing or tickling; massaging; "grabbing," rocking the child on their lap; lulling; making the child lie down, sit down or stand up; making the child practice exercise; kissing the child; throwing the child up and catching it; walking; dancing; playing.
Face-to-face contact	It refers to caregiver-child eye-contact, i.e., a nonverbal dialogic relationship. It also relates to observing the child's behavior or looking at an infant's body part; mutual gaze is not mandatory.	Mutual gazing and smiling; facial expressions; giving infants attention; observing the child; "keeping the child close," "staying close to the child," "staying together".
Narrative envelope (vocal attitudes)	It concerns caregivers' vocal stimulation or vocal and verbal caregiver-child interactions. Present in social discourse; vocalizations expressing positive affection.	Talking; singing; naming objects and people; talking to the child; reading a book; telling stories; and vocal and sound stimuli like clapping, congratulating, and whistling.
Object stimulation	Caregivers aim to attract the child's attention with any object, creating exciting and/or exploratory activities. May include a toy or other device, varying according to the personal preference of each caregiver.	Getting the child's attention with an object (e.g., books, rattles); creating conditions to explore objectives (e.g., puzzles); playing with a ball, clay; offering toys; using electronic devices. Including the use of food as an object, i.e., without primary care purposes.
Primary care	It covers behaviors and practices to guarantee infants' health, meet their basic needs, and protect them.	Provision of food and water; adoption of hygiene, such as bathing, cleaning, washing infants' hands and other body parts; use of lotion to moisturize and protect children's skin; combing their hair; providing medical care (e.g., giving medicine); preparing the environment (e.g., making it more welcoming); ensuring security. Does not include food provision for non-nutritional purposes (e.g., used to please the child).