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A NEW FACTORIAL APPROACH FOR THE PORTUGUESE VERSION OF THE MOTHER AND BABY SCALES (MABS)

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ABSTRACT

INTRODUCTION

Early mother-infant relationships are of major importance for several domains of child development. At the first days of life, it is simultaneously important to assess the behavior of both baby and mother. The MABS scales have been proposed in order obtain information about maternal perceptions about the baby behavior and about mother's confidence to take care of the baby.

AIM

To apply the Portuguese version of the MABS and to study their factorial structure and internal consistency.

METHOD

The Portuguese version of the MABS was applied in two samples of newly Portuguese mothers while staying in hospital (N = 289). Results were submitted to principal components and internal consistency analyzes.

RESULTS

Eight factors emerged. Several of these factors are similar to the original ones: UI, LCC, A, E, GC, and ADF. A new factor, CC, opposes to the original LCC. Another factor (IDF/LCF) results of the association of items belonging to two of the original factors (IDF and LCF).

CONCLUSION

It seems that dimensions of the Portuguese version of the MABS may be helpful for clinical use and for research with Portuguese mothers, especially because cultural aspects are playing a role at the new factorial structure.

Key words: MABS, Mother and Baby Scales, early intervention, mother-infant relationships, prevention.

INTRODUCTION

The earliest moments of human life have been considered of the utmost importance for all stages of lifespan. For the success of these beginning stages, the quality of the interaction between mother and baby is regarded as particularly important once that the human newborn is always born prematurely and, for that reason, is constantly requiring support from caregivers. In this realm, the contribution of the baby was underlined by Bowlby's (1958) description of the human newborn as an active carrier of the species' heritage particularly of behaviors that ensure the presence of the caregiver near the baby. Secondly, the

contribution of the mother was seen as having a prominent role by Ainsworth, Blehar, Waters and Wall (1978) when describing the importance of mother's sensitivity and activity for the resulting attachment pattern of the infant. Later, descriptions about disorganized attachment underlined how deeply communication between infant and caregiver may induce dangerous and last lasting effects (Main & Solomon, 1986).

The fact that mother-infant communication plays a key role in both mother and baby quality of life took the scientific community to consider the importance of early intervention. The possible intervention at the earliest moments of extra-uterine life needs to take in account those two factors: the first is about the baby's contribution and the second is about the mother's contribution. On the baby's side, it has long been proposed that the use of Brazelton's (1973; 1984; Brazelton & Nugent, 1995, 2011) Neonatal Behavioral Assessment Scale (NBAS) is the best way to trigger behavior that is crucial for maternal understanding about the newborn's competences and potentials. On the mother's side, Wolke (1995) proposed the assessment of maternal perceptions about the baby's behavior and mother's confidence (Mother And Baby Scales) as a specific guide for the conduction of Brazelton presentations.

Brazelton presentations include the demonstration of the newborn's behavior in several packages (habituation, motor-oral, truncal, vestibular and social-interactive) as well as explaining to the mother the observed behavior combined with attention paid to the mother's most relevant issues, doubts, questions, etc. Brazelton's presentations offered very interesting results over the last decades. Two meta-analysis (Brit & Myers, 1994; Das Eiden & Reifman, 1996) about empirical research with NBAS and mothers showed several positive outcomes like: a) maternal responsiveness enhancement; b) increasing time spent playing with and talking to infant; c) more maternal contingent interaction and embellished involvement; d) enhancing infant's wakefulness and responsiveness; e) stimulating infant's reciprocity; f) increasing the variety of interactive behaviors of mothers with premature babies; g) promoting mothers' adaptation to their babies' communication in terms of sensitivity to cues and response to distress; h) generating more optimal scores at the NBAS interactive process as well as better interaction ratings on feeding and face-to-face situations in one month old preterm babies of adolescent mothers; i) higher motor-adaptive scores at four months and better mental development at twelve months of corrected age among preterm babies of adolescent mothers; j) increasing parents' knowledge about the infant and enhancing fathers involvement in caretaking; k) improving mothers' self-confidence and satisfaction with maternal role; l) enabling a more favorable maternal perception of infants' temperament and stimulating infants' cognitive development; m) facilitating mothers' visits to their preterm babies at the NICU as well as enhancing maternal attitudes about reciprocity and maternal perception of the infant's temperament. A similar pattern of results was found by other researchers: a) enhancing babies' interactive orientation and cuddliness performance and mothers' attitudes, perceptions and interactive skills (Gomes-Pedro, Monteiro, Patrício, Carvalho, Torgal-Garcia & Fiadeiro, 1986); b) stimulating behavior of babies with depressed mothers during NBAS social interaction and state organization (Hart, Field & Nearing, 1998); c) short-term positive outcomes in babies' neurobehavioral development and on mother-infant interaction as well as long term positive outcomes in dyadic interplay after stressful conditions (Gomes-Pedro, Patrício, Carvalho, Goldsmith, Torgal-Garcia, & Monteiro, 1995), d) improvements in scores (orientation and state regulation) of low birth-weight and cerebral injured babies as also improvement of mothers' scores (anxiety and confidence about dealing with the infant) at six months of corrected age (Ohgi, Fukuda, Akiyama & Gima, 2004) and e) increase of maternal perceptions about the baby's alertness-responsiveness and unsettledness-irregularity (Martínez-Gertner, Costas-Moragas, Botet-Mussons & Fornieles-Deu, 2004). More recently, the use of the short form (Newborn Behavioral Observations) of Brazelton's presentations showed: a) to increase perceived confidence levels at providers of early intervention delivered to families of high-risk newborns (McMannus & Nugent, 2011), b) to improve perception of quality of care related to facilitating parent-infant interaction (McManus, & Nugent, 2012) as well as c) to reduce postpartum depression in newly mothers (Nugent, Bartlett & Valim, 2014).

At the same time that the observation of the baby's behavior is valued it also should be strengthened the importance of the mother's availability and competence to get in tune with the newborn's communication. Those that are acquainted with presenting newborns to newly mothers often recognize a wide range of maternal reactions at this critical moment of the life cycle. Not all mothers are motivated to communicate at the best level with their babies. More than that, the kind of risk induced by psychosocial variables does not work alone at the stage of early relationships. Complex situations as we found in families affected by losses, most especially when it is the case of the loss of a previous baby, induce difficulties about mother's sensitivity while trying to decode baby's messages and willing to interpret it as signals of the need for care and interaction. In this sense, health technicians should be able to use instruments allowing quick information about the most important maternal issues namely perceptions about the mother herself as also perceptions about the baby. In this domain Wolke (1995) argued that maternal descriptions of the baby's behavior are in line with maternal expectations and with maternal psychological characteristics. About this it is said that predictions of maternal reports about babies'

irritability or difficultness are more effective if done according to mothers' feelings of lack of confidence in caretaking than by objective observations of the newborn's behavior (Wolke, 1995).

For the integration of maternal perceptions in Brazelton's demonstrations a specific instrument, the Mother And Baby Scales (Wolke & Saint James Roberts, 1987), usually designated by MABS, has been proposed. The application of this instrument is organized in a sequence of five different procedures: a) dialoguing with parents' about feelings, birth, baby's behavior and caregiving; b) parents filling questionnaires about perceptions of their newborn behavior and about their confidence on taking care of the baby; c) application of NBAS providing opportunities to deal with information gathered at the previous moment; d) discussion with parents around offering individual care to the newborn and e) negotiating and organizing the sequence of future consultations.

THE MABS, A SPECIFIC TOOL FOR MOTHERS' PERCEPTIONS ABOUT HER SELVES AND THEIR BABIES

The structure of MABS allows the recollection of information over several areas of maternal perceptions on the neonate behavior (A- Alertness-Responsiveness; UI- Unsettled-Irregular; IDF- Irritable during Feeds; ADF- Alertness during Feeds and E- Easiness) as also over several areas of maternal perceptions about confidence while taking care of the baby (LCC- Lack of Confidence in Caretaking; LCF- Lack of Confidence in Feeding and GC- Global Confidence). These eight areas are represented by 64 items: UI- 15 items; IDF- 8 items; A- 8 items; ADF- 5 items; E- 3 items; LCC- 13 items; LCF- 8 items and GC- 3 items. Although item 39 remains at the form of the questionnaire, it does not seem to integrate any of the dimensions.

Dimension A uses items like "When I talk to my baby s/he seems to take notice". At the domain of UI we have items like "My baby has fussed or cried at times when I know s/he is not hungry". About IDF, items as "My baby's overactivity (kicking, turning head, etc.) has been making it difficult to fix her/him to the breast" are used. At ADF, it is possible to find items like "After feeds my baby's mood has been awake and alert". For E, we have items like "Overall how difficult is your baby?". Dimension LCC uses items like "I've felt unsure whether I've been doing the right thing whilst looking after my baby". At subscale LCF items are of the type "I felt I haven't always had enough milk to satisfy my baby". Finally, at dimension GC, items as "Overall how stressful do you find it looking after your baby?" are used.

Items of subscales A, UI, LCC, ADF, IDF and LCF are answered in Likert scales which range from 0 to 5 points (i.e., from "Not at all" to "Very much/often"). Items belonging to subscales E and GC are answered in Likert scales ranging between adjectives chosen according to items content (e.g., for baby's temperament options range from "Very irritable" to "Very calm"; for maternal confidence, options range from "Very unsure" to "Very confident"). Items of dimensions E and GC are scored -3 at the most negative option and scored +3 at the most positive option (Wolke, 1995). Internal consistency of MABS dimensions is at a very good level: UI- $\alpha = .92$; IDF- $\alpha = .86$; AR- $\alpha = .83$; ADF- $\alpha = .82$; E- $\alpha = .82$; LCC- $\alpha = .93$; LCF- $\alpha = .84$ and GC- $\alpha = .81$ (Wolke, 1995).

THE PORTUGUESE VERSION OF THE MABS

The second author executed a translation of MABS's items from the original English version into a preliminary Portuguese language. The first author retroverted the preliminary version into English language. A senior colleague at the Department of Clinical Psychology of the Faculty of Psychology of Lisbon University compared both versions and reached the conclusion that the few observable differences would not prevent the use of the Portuguese version.

After the authorization of the Ethical Comities of two of the most important hospital maternities in Lisbon area (Maternidade Dr. Alfredo da Costa and Hospital de Dona Estefânia), the Portuguese version was used in order to provide for a sample ($n = 180$) of newly mothers (Marques, 2008). Results of this sample were published and included factorial and internal consistency analyzes (Justo & Marques, 2012). Recently, after a new authorization of the Ethical Committee of Maternidade Dr. Alfredo da Costa, another sample of newly mothers ($n = 109$) was recollected (Chagas, 2014). Taking together these two samples, it is possible to perform factorial and internal consistency analyzes corresponding to a much larger data matrix ($N = 289$). It is also our intention to perform principal component analyzes in a way that is different from the one already used. At the first time, all of the MABS items were submitted to principal component analyzes at the same time. The fact that items 37-43 are coded from -3 to +3 while items 1-36 and items 44-64 are coded from 0 to 5 makes this procedure inconvenient. Even after recoding items 37-43 into a range beginning at 0, we still have a scale with 7 degrees while the other items are functioning in scales with 6 degrees. Another issue about former analyzes is the fact that MABS items are organized in three areas both on graphic and content terms. The first area is designated as "YOUR BABY AND YOUR FEELINGS". The second one is labeled "Overall Impressions and Experiences". The last area is called "FEEDING OF MY BABY (OVER THE LAST FEW DAYS)". Due to differences in the coding system for items 36-43 and also due to differences in designations of the items groups it was decided that the items of each area should be submitted to a specific principal components analysis.

PARTICIPANTS

Taking together the two samples already mentioned (Marques, 2008; Chagas, 2014), participants characteristics were as follows: 97.58% were Portuguese; 96.2% were living with the father of the baby; ages were between 20 and 44 years old ($M = 30.52$); education was between 4 and 20 years of study with success ($M = 13.37$); 78.89% reported healthy pregnancies while 21.11% reported complicated pregnancies; 56.06% were primiparous while 43.94% were multiparous; in 52.25% cases there was a vaginal delivery while in 47.75% there was a caesarean delivery; among vaginal deliveries, 65.56% were performed with epidural anesthesia and 34.44% were performed without it; for caesarean births, 76.81% included regional anesthesia and 23.19% included general anesthesia; the majority of births was at term (99.65%) while 1.73% was pre-term; 51.21% of participants gave birth to a male baby and 48.79% gave birth to a female baby. After birth, 71.28% of mothers were breastfeeding exclusively, 27.34% were combining breastfeeding with bottle-feeding and 1.38% were bottle-feeding exclusively.

FACTORIAL ANALYZES FOR ITEMS OF SECTION "YOUR BABY AND YOUR FEELINGS"

Items 1 to 36 were submitted to a series of factorial analyzes and results indicated that data are suitable to this kind of statistical treatment: $KMO = .851$; Bartlett's Test of Sphericity = 4151.35 ($df = 630$, $p = .000$) and anti-image values ranged from .689 to .914.

In a principal component analysis, the first 8 factors explained 59.20% of total variance while most of the items concentrated on the first two factors, making it impossible to replicate the original structure. With varimax rotation, items spread all over the 8 factors. It was decided to combine varimax rotation with extraction forced to three factors. The resulting solution showed that items of LCC subscales were divided into two groups: the first group phrased in a negative sense and the second group phrased in a positive or anxious way. For this reason, an extraction forced to four factors with varimax rotation was performed allowing a new solution (Table 1) where: F1 captures most part of subscale UI items, F2 relates to subscale LCC items phrased in a positive or anxious sense, F3 captures subscale LCC items phrased in a negative way, F4 captures all except one of A items, only item 20 is not attributed to none of the factors and two items of the original UI scale are relocated to other factors (item 5 for F2 and item 26 to F3). These four factors do explain 46.27% of statistical variance of data related to items 1 to 36.

Table 1. Principal components analysis for items 1-36 (extraction forced to four factors with varimax rotation).

Items	F1	F2	F3	F4
1				.603
2	.565			
3			.563	
4	.613			
5		.754		
6		.885		
7				.729
8	.598			
9			.572	
10			.596	
11	.486			
12				.609
13			.436	
14	.637			
15				.553

16		-.638		
17	.595			
18	.613			
19		.880		
21	.543			
22			.583	
23			.606	
24				.625
25	.576			
26			.439	
27			.684	
28				.565
29	.514			
30			.742	
31	.426			
32				.757
33		.691		
34	.443			
35	.656			
36		.888		

FACTORIAL ANALYZES FOR ITEMS OF SECTION “YOUR BABY AND YOUR FEELINGS”

Items 37 to 43 were submitted to a principal components analysis and results confirm that data are adequate for this analysis: KMO = .808; Bartlett's Test of Sphericity = 635.795 (df = 21, p = .000) and anti-image values ranged from .682 to .841. Two factors explained 62.59% of the variance. At this point the first factor captured all items except the one that originally is not included in any factor (item 39). After a varimax rotation, two factors emerged (Table 2) offering a structure similar to the original one: F1 captures all items of subscale E; F2 captures two items of subscale GC; item 39 (originally not related to any factor) loads on F2 and item 42 (originally from subscale GC) presents very similar values for both factors. For theoretical reasons, it was decided to preserve the original structure; item 42 was attributed to F2 and item 39 was not attributed to any factor.

Table 2: Principal components analysis with varimax rotation for items 37-39.

Items	F1	F2
37	.851	
38	.808	
39*		.662
40	.803	
Items	F1	F2

41		.731
42**	.573	.531
43		.694

* For theoretical reasons, item 39 was not attributed to any factor.

** For theoretical reasons, it was decided that item 42 should remain at F2.

FACTORIAL ANALYZES FOR ITEMS OF SECTION “YOUR BABY AND YOUR FEELINGS”

Items 44 to 64 were submitted to a principal components analysis and results confirm that data are adequate for this analysis: KMO = .852; Bartlett's Test of Sphericity = 2142.302 (df = 210, p = .000) and anti-image values ranged from .504 to .944. The first six factors explained 64.36% of the variance. While the first factor captured almost all items from both LCF and IDF subscales, factors 2 to 4 captured items in a non-consistent way. Varimax rotation per se didn't improve factorial structure because items were spread by the six factors. Combining varimax rotation with extraction forced to three factors it was observable that: a) items of subscales IDF and LCF remain associated at the first factor and b) items of subscale ADF work in two different directions. About ADF items it could be seen that the three items phrased in a positive way do constitute a single factor while the two items phrased in negative sense do associate with one LCF item and with one IDF item. So, a principal components analysis was performed with varimax rotation and extraction forced to two factors. The two factors explained 39.51% of variance. As expected, items of subscales IDF and LCF remained at the first factor while the second factor captured the three ADF items phrased in positive sense together with item 51 (originally from LCF subscale) and with item 57 (originally from subscale IDF).

Table 3. Principal components analysis for items 44-64 (varimax rotation and extraction forced to two factors).

Items	F1	F2
44		.600
45	.686	
46	.671	
47	.820	
48	.737	
49	.612	
51		.424
52	.631	
53	.519	
54		.672
55	.456	
57		.541
58	.462	
59	.580	
60	.580	
Items	F1	F2

61	.701	
62		.651
63	.758	
64	.694	

DIMENSIONS OF THE PORTUGUESE VERSION OF THE MABS

With this new factorial approach for data of MABS Portuguese version, we end with eight dimensions and their corresponding items: Unsettled-Irregular (UI) – 2, 4, 8, 11, 14, 17, 18, 21, 25, 29, 31, 34, 35; Confidence in Caretaking (CC) – 5, 6, 16 (to revert), 19, 33, 36; Lack of Confidence in Caretaking (LCC) – 3, 9, 10, 13, 22, 23, 26, 27, 30; Alertness-Responsiveness (A) – 1, 7, 12, 15, 24, 28, 32; Easiness (E) – 37, 38, 40; Global Confidence (GC) – 41, 42, 43; Irritable during Feeds/Lack of Confidence in Feeding (IDF/LCF) – 45, 46, 47, 48, 49, 52, 53, 55, 58, 59, 60, 61, 63, 64 and Alertness during Feeds (ADF) – 44, 51, 54, 57, 62.

INTERNAL CONSISTENCY ANALYZES

Chronbach's Alfas for each dimension were performed and as follows: UI, $\alpha = .860$; CC, $\alpha = .914$; LCC, $\alpha = .803$; A, $\alpha = .783$; E, $\alpha = .803$; GC, $\alpha = .744$; IDF/LCF, $\alpha = .884$ and ADF, $\alpha = .608$. Ranging from .914 to .608, internal consistencies seem to suggest that the new MABS dimensions of the Portuguese version are adequate for clinical and research purposes.

DESCRIPTIVE STATISTICS OF MABS DIMENSIONS IN THE PRESENT SAMPLE

In Table 4 are displayed the means, the standard deviations, the minimum and the maximum values for the several dimensions of the MABS.

Table 4: Means, standard deviations, minimum and maximum values for MABS subscales.

MABS Subscales	M	SD	Minimum	Maximum
UI	25.62	11.52	0	61
CC	14.39	7.51	0	25
LCC	14.62	9.12	0	44
A	23.22	6.39	5	35
E	17.17	4.14	3	21
GC	16.10	4.23	3	21
IDF/LCF	19.95	12.79	0	61
ADF	13.33	4.76	0	25

Now that the Portuguese version of the MABS seems to reflect aspects related to Portuguese culture, it would be interesting to confirm it's utility at the study of the first days of motherhood with newly mothers namely according to obstetric and pediatric variables.

BIBLIOGRAPHY

- Ainsworth, M., Blehar, M., Waters, E., & Wall, S. (1978). *Patterns of attachment: A psychological study of the strange situation*. Hillsdale NJ: Lawrence Erlbaum Associates.
- Bowlby, J. (1958). The nature of the child's tie to his mother. *International Journal of Psychoanalysis*, 39, 350-373.
- Brazelton, T. B. (1973). *Neonatal Behavioral Assessment Scale, First Edition. Clinics in Developmental Medicine*, nº 50. London: Spastics International Medical Publications.
- Brazelton, T. B. (1984). *Neonatal Behavioral Assessment Scale, Second Edition. Clinics in Developmental Medicine*, nº 88. London: Spastics International Medical Publications.
- Brazelton, T. B., & Nugent, K. (1995). *Neonatal Behavioral Assessment Scale, Third Edition. Clinics in Developmental Medicine*, nº 137. London: Mac Keith Press.
- Brazelton, T. B., & Nugent, K. (2011). *Neonatal Behavioral Assessment Scale, Fourth Edition. Clinics in Developmental Medicine*, nº 190. London: Mac Keith Press.
- Brit, G. C., & Myers, B. J. (1994). The effects of Brazelton intervention: a review. *Infant Mental Health Journal*, 15, 278-292.
- Chagas, C. S. (2014). *Bebé imaginário vs. Bebé real: Qual a influência na percepção materna dos comportamentos do recém-nascido e no nível de confiança nos cuidados a prestar ao bebé?* Master Thesis in Psychology, Faculty of Psychology of Lisbon University.
- Das Eiden, R. D., & Reifman, A. (1996). Effects of Brazelton demonstrations on later parenting: a meta analysis. *Journal of Pediatric Psychology*, 21, 857-868.
- Gomes-Pedro, J. C., Monteiro, M. B., Patrício, M. F., Carvalho, A., Torgal-Garcia, F., & Fiadeiro, I. (1986). Meaning and effects of early intervention on mothers. In Gomes-Pedro, J. C., & Patrício, M. F. (Eds.) *Biopsychology of early parent-infant communication* (pp. 47-61). Lisboa: Fundação Calouste Gulbenkian.
- Gomes-Pedro, J. C., Patrício, M., Carvalho, A., Goldsmith, T., Torgal-Garcia, F. & Monteiro, M. B: (1995). Early intervention with Portuguese mothers: a 2-year follow-up. *Journal of Developmental and Behavioral Pediatrics*, 16(1), 21-28.
- Hart, S., Field, T., & Nearing, G. (1998). Depressed mothers' neonates improve following the MABI and a Brazelton demonstration. *Journal of Pediatric Psychology*, 23(6), 351-356.
- Justo, J. & Marques, A. R. (2012). The Portuguese Version of the Mother and Baby Scales (MABS). *International Journal of Developmental and Educational Psychology*, Nº 1, Vol.1, 267-277.
- Marques, A. R. (2008). *Opção ou punição? Efeitos do tipo de parto na satisfação e na percepção materna do comportamento do bebé?* Master Thesis presented to the Faculty of Psychology of Lisbon University.
- Martínez-Gertner, M., Costas-Moragas, C., Botet-Mussons, F., & Fornieles-Deu, A. (2004). Efectos de una intervención temprana basada en la escala ed Brazelton sobre las percepciones maternas. *Subjectividad y Procesos Cognitivos*, 6, 143-170.
- Main, M. & Solomon, J. (1986). Discovery of an insecure-disorganized/disoriented attachment pattern. In Brazelton, T. B. & Yogman, M. W. (Eds.) *Affective development in infancy* (pp. 95-124). Norwood, NJ: Ablex.
- McMannus, B. & Nugent, K. (2011). Feasibility study of early intervention provider confidence following a neurobehavioral intervention for high-risk newborns. *Journal of Reproductive and Infant Psychology*, 29(4), 395-403.
- McManus, B., & Nugent, K. (2012). A neurobehavioral intervention incorporated into a state early intervention program is associated with higher perceived quality of care among parents of high-risk newborns. *Journal of Behavioral Health Services & Research*, 1-8.
- Nugent, K., Bartlett, J. & Valim, C. (2014). Effects of an Infant-Focused Relationship-Based Hospital and Home Visiting Intervention on Reducing Symptoms of Postpartum Maternal Depression: A Pilot Study. *Infants & Young Children*, 27(4), 292-304.
- Ohgi, S., Fukuda, M., Akiyama, T. & Gima, H. (2004). Effect of an early intervention programme on low birthweight infants with cerebral injuries. *Journal of Paediatrics and Child Health*, 40, 689-695.
- Wolke, D. (1995). Parents' Perceptions as Guides for Conducting NBAS Clinical Sessions. In (Eds.) T. B. Brazelton, & J. K. Nugent *Neonatal Behavioral Assessment Scale, Third Edition* (pp. 117-125). London: Mac Keith Press.
- Wolke, D., & St James-Roberts, L. (1987). Multi-method measurement of the early parent-infant system with easy and difficult newborns. In Rauh, H., & Steinhausen, H. C. (Eds.) *Psychobiology and Early Development* (pp. 49-70). Amsterdam: North-Holland/Elsevier.