

Translation and Cross-Cultural Adaptation into French of the Mother-to-Infant Bonding Scale

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Purpose: Patient-reported outcome measures (PROMs) are relevant for assessing the bond between a mother and her child, both before and after childbirth. Several questionnaires have been developed with the Mother-to-Infant Bonding Scale (MIBS) prominent among them, as it is a valid and easy-to-administer questionnaire owing to its length. Even though, this PROM has been adapted in Japanese, Indonesian and Swedish, it remains to be translated into French. The objective of this study was to translate and cross-culturally adapt the MIBS into French (MIBS-Fr).

Patients and Methods: The translation and cultural-adaptation of the questionnaire were performed following a 10-step process as recommended by the International Society for Pharmacoeconomics and Outcomes Research (ISPOR). During the cognitive debriefing, each item of the questionnaire was rated between 1 to 10 according to the comprehension level by 11 mothers.

Results: The French version was very well understood with a mean level of comprehension of 9.7 ± 1.4 out of 10. The one-word descriptor used to express feelings in the original version was replaced by phrases in the French version for a better language adaptation. Slight modifications were made by the original developer, and back translations were found to be very consistent.

Conclusion: This study reports the development of a French version of the MIBS (MIBS-Fr) following the ISPOR's recommendations for the translation and intercultural adaptation of a questionnaire. The MIBS-Fr provides French-speaking healthcare professionals with a practical and standardized tool to assess mother-to-infant bonding, facilitating early identification of bonding difficulties and supporting appropriate interventions in postpartum care.

Plain Language Summary: Understanding the emotional bond between a mother and her newborn is important because it can impact the child's development and well-being. Healthcare professionals use different questionnaires to measure this bond, but one commonly used tool, the Mother-to-Infant Bonding Scale (MIBS), was not yet available in French. Our study aimed to create a French version of the MIBS (MIBS-Fr) so it can be used by French-speaking mothers. To do this, we followed an internationally recognized process for translation and cultural adaptation. This included translating the questionnaire, reviewing it with experts, and testing it with 11 mothers in a maternity unit to ensure clarity and accuracy. The final French version was well understood, with an average comprehension score of 9.7 out of 10. Some words were adjusted to better reflect emotions in French while keeping the meaning of the original scale. This new version of the MIBS allows French-speaking mothers to accurately express their feelings about their bond with their baby. It will help healthcare professionals assess and support mother-infant relationships in French-speaking communities.

Keywords: MIBS, childbirth, pregnancy, translation, cross-cultural adaptation

Introduction

The perinatal period is emotionally challenging due to the development of the first bonds between the mother and her child. Bonding is defined as the "emotional tie from parent to infant"¹ and reflects the mother's feeling towards her child.² Although bonding and attachment are often used interchangeably, we differentiate those two notions because

attachment conveys a reciprocity that cannot be found in the pre-natal period.^{2–4} Bonding begins during pregnancy and is of utmost importance since it impacts post-partum relationship.^{5,6} Early bonding impairments affect the child's development,⁷ with insecure or abusive parenting behaviour^{7–9} such as child abuse,^{10,11} associated with greater behavioral inhibition and anxiety in the adolescent period.¹²

Bonding disorders are also associated with parents' issues and mental health problems such as child maltreatment, depression, anxiety and distress.^{6,8,13,14} Given the prevalence of these issues and the above-mentioned short and long-term consequences, assessing the mother-infant bond is therefore critical.⁶ To evaluate various aspects of patient health status and the efficacy of interventions, patient-reported outcome measures (PROMs) have proven to be useful and are increasingly employed.¹⁵ Various authors have recommended assessing these measures before the mother leaves the hospital to ensure the appropriateness of mother-child bonding,^{2,16–20} which is of great importance considering the general shortening of the postpartum length of stay.²¹ One of the most commonly used PROM is the Mother-to-Infant Bonding Scale (MIBS),² recently proposed by the International Consortium of Health Outcomes Measurement (ICHOM) to standardize outcomes in the prenatal care and childbirth area.²²

The MIBS is adapted from the Mother-to-Infant Bonding Questionnaire (MIBQ) proposed by Kumar & al.¹⁹ It is an 8-item questionnaire that evaluates the mother-to-infant bonding through one-word descriptors and a 4-point Likert scale. The instrument showed acceptable internal reliability² and a good correlation with longer questionnaires such as the Maternal Postpartum Attachment Scale (MPAS) and the Postpartum Bonding Questionnaire (PBQ). These findings suggest the MIBS is a practical and valid tool to be used as a screening tool for postpartum mental health issues, such as maternal depression and bonding disorders, allowing early intervention in vulnerable mother-infant dyads.^{23–27} As a result, the MIBS has been adapted in other languages such as Japanese,²⁸ Indonesian²⁹ or Swedish.³⁰ However, translating PROMs involves challenges beyond direct linguistic equivalence, especially in emotionally sensitive constructs like maternal bonding. To date, no translation has yet been proposed with the developer's involvement for French-speaking mothers. The objective of our study was therefore to develop a translation and cross-cultural adaptation into French of the MIBS (MIBS-Fr) to enable consistent assessment of mother-to-infant bonding in French-speaking populations and to support early screening and intervention in postpartum care.

Materials and Methods

MIBS Score

The MIBS is a self-administered questionnaire in which the mother expresses her agreement through a 4-point Likert scale (Not at all, A little, A lot, Very much) for the following 8 feelings: Loving, Resentful, Neutral or felt nothing, Joyful, Dislike, Protective, Disappointed, Aggressive. Scoring is reversed for items 1 (Loving), 4 (Joyful) and 6 (Protective). Total score ranges from 0 to 24 with a higher score indicating worse bonding. The questionnaire has demonstrated good reliability (Cronbach's alpha = 0.71) and validity.²

Cultural Adaptation and Translation Process

The cross-cultural adaptation and translation process was carried out according to the recommendations of the International Society for Pharmacoeconomics and Outcomes Research (ISPOR), also known as the Professional Society for Health Economics and Outcomes Research,³¹ comprising 10 steps (Figure 1): preparation, forward translation, reconciliation, back translation, back translation review, harmonization, cognitive debriefing, cognitive debriefing review, proofreading and final report. The research team followed the appropriate ethical procedures for this type of study. All patients who participated in this study provided a written informed consent for the use of their answers in research projects. Since this research was qualitative and only relied on non-medical data, an a priori approval from the local ethics (Cantonal Commission on Ethics in Human Research of Geneva) committee was not required. This study was conducted in accordance with the Declaration of Helsinki, and followed the Consolidated criteria for REporting Qualitative research (COREQ) checklist.

Preparation

Four professional translators and the source developer were contacted. Two translators (T1 and T2) who performed

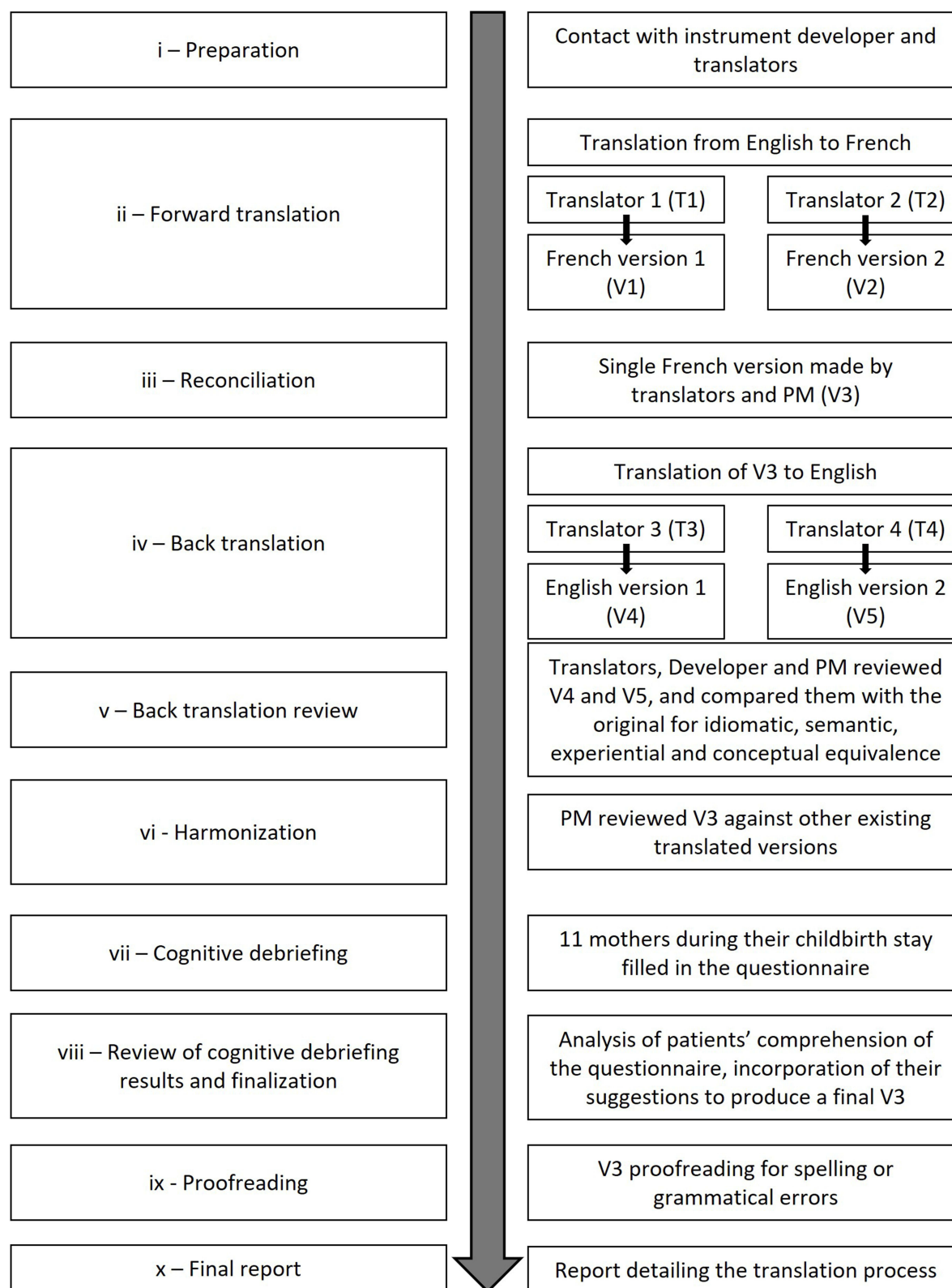


Figure 1 Process for the cross-cultural adaptation and translation into French of the MIBS.

forward translations were native French speakers and fluent in English, living in Switzerland and having experience in PROMs translation. The two other translators (T3 and T4) who performed back translations were native English speakers and fluent in French.

Forward Translation

Two independent translations from English to French were developed (V1 and V2) by two translators (T1 and T2) who were contacted in *step i*.

Reconciliation

A selection of the most appropriate translations of V1 and V2 was made between T1, T2 and the project manager (PM) to preserve semantic, idiomatic, experiential and conceptual equivalence. The PM is a Clinical Project Manager experienced in PROMs use for both research and clinical purposes. This step resulted in the development of a third version (V3).

Back Translation

Two independent translators (T3 and T4) performed a back translation of V3, producing two versions (V4 and V5). They had no prior knowledge of the MIBS and had not seen the source language or any other versions before or during the back translation.

Back Translation Review

The translators, the original developer and the PM reviewed the two back translations (V4 and V5) against the original to avoid mistranslation or omission, and to make sure semantic, idiomatic, experiential, and conceptual equivalence were preserved. Any discrepancies identified between the back translations and the original questionnaire would lead to a review of the reconciled version (V3) and potential revisions.

Harmonization

The PM compared V3 with other existing translations to ensure inter-translation validity.

Cognitive Debriefing

Cognitive debriefing is designed to test the instrument on a small group of relevant patients in order to test alternative wording and to check understandability, interpretation, and cultural relevance of the translation.³¹ During this stage, a small, relevant sample of patients was included to test the French version. Inclusion criteria were a consecutive series of mothers with a current maternity stay at La Tour Hospital who could read and understand French. Mothers whose first language was not French or who withdrew their consent to participate in the study were excluded. The purpose was to assess the comprehensibility, interpretation and cultural relevance of V3, as well as to explore potential alternative wordings. Participants were given a paper-based version of the questionnaire during their stay and used a 10-point Likert scale to assess the level of comprehension for each item, ranging from 1 (not understood at all) to 10 (fully understood). Before completing the form, the PM (AP, male gender, MSc) met with each mother individually to explain the aim of the study and how to fill out the scale. The PM had no established relationship prior to study commencement. Mothers were encouraged to ask questions if anything was unclear, ensuring accurate interpretation of the items. Respondents who rated their comprehension level as ≤ 6 for a specific item were asked for a suggestion to improve comprehension. A translation was validated if the mean score of the item was ≥ 7 . Suggestions were reviewed by clinicians, researcher expert in the use of PROMs and the PM. Analyses were performed using R version 4.3.2 (R Foundation for Statistical Computing, Vienna, Austria).

Review of Cognitive Debriefing Results and Finalization

Suggestions were reviewed by clinicians, researcher expert in the use of PROMs, translators and the PM to address problematic items and eventually modify V3. This resulted in a final version (VF).

Proofreading

The PM proofread the final version to check for grammatical and spelling errors.

Final Report

A report on the development of the MIBS-Fr was written to detail the concept and wording choices to harmonize subsequent translations.

Results

Forward Translation

The two forward translations were different as one respected the original format, using a one-word descriptor, while the other one used sentences to convey the feeling. The version with sentences was retained.

Backward Translation

As the reconciled version was composed of sentences, the two back-translations also used phrases. However, both back-translations were extremely similar, and both accurately conveyed the meaning of the original instrument. Examination of these two back-translations led to the modification of two items in V3. The developer considered that the 1st item (Loving) sounded more like “affection” and therefore did not reflect a sufficiently strong feeling. The developer also pointed out that the back-translation of the 5th item (Dislike) expressed the absence of love rather than the active negative emotion.

Cognitive Debriefing and Final Version

The MIBS-Fr was given to 11 mothers who were during their maternity stay at the Maternity Unit of La Tour hospital from April to May 2023. The eleven mothers included in the cognitive debriefing had a mean age of 35.5 ± 5.4 years (range, 30–44), and none were excluded. The questionnaire’s average comprehension level was 9.7 ± 1.4 , with a median understanding of 10 out of 10. The level of understanding for each item can be found in [Table 1](#). Of the 88 scores collected (8 items for 11 participants), 3 had a level of comprehension lower than 7 (3.4%) and were distributed among items 3, 4 and 8 ([Table 1](#)).

Final Version

The PM reviewed the final version (VF) and checked for spelling or grammar errors. The final version of the original MIBS (MIBS-Fr) can be found in [Table 2](#).

Table 1 Level of Comprehension of the 8 Items

Item	Mean \pm SD	(Min-Max)	Median (IQR)
1	10.0 \pm 0.0	(10–10)	10 (10–10)
2	9.8 \pm 0.6	(8–10)	10 (10–10)
3	9.1 \pm 2.8	(1–10)	10 (10–10)
4	9.2 \pm 2.5	(2–10)	10 (10–10)
5	9.8 \pm 0.6	(8–10)	10 (10–10)
6	10.0 \pm 0.0	(10–10)	10 (10–10)
7	10.0 \pm 0.0	(9–10)	10 (10–10)
8	9.5 \pm 1.6	(5–10)	10 (10–10)

Abbreviations: IQR, Interquartile Range; Max, Maximum; Min, Minimum; SD, Standard Deviation.

Table 2 French Version of the Mother-to-Infant Bonding Scale (MIBS-Fr). The Italicised Text in Brackets Corresponds to the English Translation

	Enormément (Very much)	Beaucoup (A lot)	Un peu (A little)	Pas du tout (Not at all)
Je ressens de l'amour (<i>Love</i>)	0	1	2	3
J'ai le sentiment de lui en vouloir (<i>Resentful</i>)	3	2	1	0
Je suis neutre, je ne ressens rien (<i>Neutral or felt nothing</i>)	3	2	1	0
Je ressens de la joie (<i>Joyful</i>)	0	1	2	3
J'ai un sentiment de rejet (<i>Dislike</i>)	3	2	1	0
Je me sens protectrice (<i>Protective</i>)	0	1	2	3
Je me sens déçue (<i>Disappointed</i>)	3	2	1	0
Je me sens agressive (<i>Agressive</i>)	3	2	1	0

Notes: Reproduced from Taylor A, Atkins R, Kumar R et al. A new Mother-to-Infant Bonding Scale: links with early maternal mood. Arch Womens Ment Health 8, 45–51 (2005). Copyright © 2005, Springer-Verlag/Wien.²

Discussion

The bond between mother and child begins before birth and continues afterwards. It is an essential element, as it determines the future outcomes and behaviors of both child and parents, as well as the quality of the relationship.^{6,7} PROMs are increasingly used as they are useful tools for assessing a patient's health status, without any intermediaries likely to bias the assessment. The MIBS is a relevant instrument to assess the bond and has recently been recommended by an international consortium,²² however, no French version has been proposed to date with the involvement of the developer. This study is the first translation and cross-cultural adaptation of the MIBS into French conducted with direct involvement from the original developer, according to ISPOR recommendations, enhancing the relevance and usability of the MIBS-Fr in clinical and research settings involving French-speaking mothers.

Rigorous adherence to ISPOR recommendations not only guaranteed a high-quality translation, but more importantly allowed cultural adaptation. It is important to follow a strict methodology to preserve the characteristics of the original questionnaire (structure, psychometric properties, etc.) and to ensure uniformity across the different language versions of the MIBS for international data analysis.^{31–33}

The methodology facilitated the process and consequently, the MIBS-Fr was developed without major issues and resulted in a questionnaire that was highly comprehensible to the 11 mothers, with a mean level of understanding of 9.7 ± 1.4 out of 10. A few discrepancies emerged during the forward translation as one version respected the original format and described the feelings with one word, and the second version expressed feelings through sentences. To better match the French language, the second version was preferred. A wide range of stakeholders was involved in the process, including patients, the original developer, clinicians, professional translators and researchers, to create the best possible adaptation and make the most appropriate decisions. The back translations were of high quality and deemed equivalent with very good consistency by the original developer, who requested two modifications: a strengthening of the emotion of the item 1 ("I feel affection" was then changed for "I feel love") and a rewording of the item 5 ("I feel no affection" was changed for "I have a feeling of rejection") to better express the active negative emotion. This step underlines the importance of involving the original developer in the questionnaire translation. None of the items had a mean score below 7. Three out of the 88 scores registered were below 7 (2 participants) and their comments were considered by the panel for an improvement of the French version. This detailed process aimed to ensure that future versions of MIBS would be consistent with existing versions.

A limitation to this study is that the panel involved in the cultural adaptation process (translators, clinicians, researchers and patients) are living in Switzerland or France. Therefore, this version may not be appropriate for French-speaking countries with different culture (eg Canada). Additionally, all mothers were recruited from a single healthcare setting, and the majority may not reflect the broader diversity of French-speaking populations in terms of ethnicity, educational background, or socioeconomic status. Moreover, although we thoroughly adapted the MIBS into French, we did not assess the psychometric aspects. Reevaluating psychometric properties of an already validated questionnaire is

controversial, and the rigorous process should not have altered these properties.^{28–30} Cognitive debriefing relies on self-reported comprehension, which may not always reflect true understanding or predictive validity. Further psychometric testing, including reliability and factor structure analysis, is warranted to fully validate the MIBS-Fr.

Conclusion

A French-version of the MIBS was developed according to international recommendations for translation and cultural adaptation. This version can now be used to assess mother-to-infant bonding among French-speaking mothers. Future psychometric validation will be essential to confirm its reliability and construct validity in this population, further supporting its clinical and research applications.

Abbreviations

ICHOM, International Consortium of Health Outcomes Measurement; ISPOR, International Society for Pharmacoeconomics and Outcomes Research; MIBS, Mother-to-Infant Bonding Scale; MIBS-Fr, French version of the Mother-to-Infant Bonding Scale; MIBQ, Mother-to-Infant Bonding Questionnaire; MPAS, Maternal Postpartum Attachment Scale; PBQ, Postpartum Bonding Questionnaire; PM, Project Manager; PROMs, Patient-reported outcome measures; T1 and T2, Translators performing V1 and V2; T3 and T4, Translators performing V4 and V5; VF, Final French version; V1 and V2, Adaptation from English to French; V3, French resulting version; V3 and V4, Adaptation from French resulting to English.

Data Sharing Statement

The dataset used and analyzed during the current study is available from the corresponding author on reasonable request.

Ethics Approval and Informed Consent

This study does not rely on patient health data. However, interviewed patients provided their written informed consent for the use of their answers for research purposes.

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Disclosure

The authors report no conflicts of interest in this work.

References

1. Kennell J, McGrath S. Starting the process of mother-infant bonding. *Acta Paediatr*. 2005;94(6):775–777. doi:10.1111/j.1651-2227.2005.tb01982.x
2. Taylor A, Atkins R, Kumar R, Adams D, Glover V. A new mother-to-infant bonding scale: links with early maternal mood. *Arch Womens Ment Health*. 2005;8(1):45–51. doi:10.1007/s00737-005-0074-z
3. Ainsworth MDS, Blehar M, Waters E, Wall S. *Patterns of Attachment: A Psychological Study of the Strange Situation*. Psychology Press; 1978.
4. Bowlby J. The nature of the child's tie to his mother. *Int J Psychoanal*. 1958;39(5):350–373.
5. Edhborg M, Nasreen HE, Kabir ZN. Impact of postpartum depressive and anxiety symptoms on mothers' emotional tie to their infants 2–3 months postpartum: a population-based study from rural Bangladesh. *Arch Womens Ment Health*. 2011;14(4):307–316. doi:10.1007/s00737-011-0221-7
6. Tokuda N, Kobayashi Y, Tanaka H, et al. Feelings about pregnancy and mother-infant bonding as predictors of persistent psychological distress in the perinatal period: the Japan environment and children's study. *J Psychiatr Res*. 2021;140:132–140. doi:10.1016/j.jpsychires.2021.05.056
7. Alhusen JL, Hayat MJ, Gross D. A longitudinal study of maternal attachment and infant developmental outcomes. *Arch Womens Ment Health*. 2013;16(6):521–529. doi:10.1007/s00737-013-0357-8
8. Muzik M, Bocknek EL, Broderick A, et al. Mother-infant bonding impairment across the first 6 months postpartum: the primacy of psychopathology in women with childhood abuse and neglect histories. *Arch Womens Ment Health*. 2013;16(1):29–38. doi:10.1007/s00737-012-0312-0
9. Kitamura T, Takegata M, Haruna M, et al. The mother-infant bonding scale: factor structure and psychosocial correlates of parental bonding disorders in Japan. *J Child Family Stud*. 2015;24:393–401. doi:10.1007/s10826-013-9849-4
10. Scott D. Early identification of maternal depression as a strategy in the prevention of child abuse. *Child Abuse Negl*. 1992;16(3):345–358. doi:10.1016/0145-2134(92)90044-r
11. Nishigori T, Obara T, Metoki H, et al. Validation of the mother-to-infant bonding scale for infant maltreatment by mothers at one month postpartum: an adjunct study of the Japan environment and children's study. *JMA J*. 2022;5(3):366–369. doi:10.31662/jmaj.2022-0041

12. Lewis-Morrarty E, Degnan KA, Chronis-Tuscano A, Pine DS, Henderson HA, Fox NA. Infant attachment security and early childhood behavioral inhibition interact to predict adolescent social anxiety symptoms. *Child Dev.* 2015;86(2):598–613. doi:10.1111/cdev.12336
13. Dubber S, Reck C, Muller M, Gawlik S. Postpartum bonding: the role of perinatal depression, anxiety and maternal-fetal bonding during pregnancy. *Arch Womens Ment Health.* 2015;18(2):187–195. doi:10.1007/s00737-014-0445-4
14. Lefkovic E, Baji I, Rigo J. Impact of maternal depression on pregnancies and on early attachment. *Infant Ment Health J.* 2014;35(4):354–365. doi:10.1002/imhj.21450
15. Kluzek S, Dean B, Wartolowska KA. Patient-reported outcome measures (PROMs) as proof of treatment efficacy. *BMJ Evid Based Med.* 2022;27(3):153–155. doi:10.1136/bmjebm-2020-111573
16. Condon JT, Corkindale CJ. The assessment of parent-to-infant attachment: development of a self-report questionnaire instrument. *J Reproduct Infant Psychol.* 1998;16(1):57–76. doi:10.1080/02646839808404558
17. Brockington IF, George JOS, Turner D, et al. A screening questionnaire for mother-infant bonding disorders. *Arch Women's Mental Health.* 2001;3:133–140. doi:10.1007/s007370170010
18. Muller ME. A questionnaire to measure mother-to-infant attachment. *J Nurs Meas.* 1994;2(2):129–141. doi:10.1891/1061-3749.2.2.129
19. Kumar RC. "Anybody's child": severe disorders of mother-to-infant bonding. *Br J Psychiatry.* 1997;171:175–181. doi:10.1192/bjp.171.2.175
20. Nagata M, Nagai Y, Sobajima H, Ando T, Nishide Y, Honjo S. Maternity blues and attachment to children in mothers of full-term normal infants. *Acta Psychiatr Scand.* 2000;101(3):209–217. doi:10.1034/j.1600-0447.2000.101003209.x
21. Gupta P, Malhotra S, Singh DK, Dua T. Length of postnatal stay in healthy newborns and re-hospitalization following their early discharge. *Indian J Pediatr.* 2006;73(10):897–900. doi:10.1007/BF02859282
22. Nijagal MA, Wissig S, Stowell C, et al. Standardized outcome measures for pregnancy and childbirth, an ICHOM proposal. *BMC Health Serv Res.* 2018;18(1):953. doi:10.1186/s12913-018-3732-3
23. van Bussel JC, Spitz B, Demyttenaere K. Three self-report questionnaires of the early mother-to-infant bond: reliability and validity of the Dutch version of the MPAS, PBQ and MIBS. *Arch Womens Ment Health.* 2010;13(5):373–384. doi:10.1007/s00737-009-0140-z
24. Bienfait M, Maury M, Haquet A, et al. Pertinence of the self-report mother-to-infant bonding scale in the neonatal unit of a maternity ward. *Early Hum Dev.* 2011;87(4):281–287. doi:10.1016/j.earlhumdev.2011.01.031
25. Ohara M, Okada T, Kubota C, et al. Validation and factor analysis of mother-infant bonding questionnaire in pregnant and postpartum women in Japan. *BMC Psychiatry.* 2016;16:212. doi:10.1186/s12888-016-0933-3
26. Matsunaga A, Takauma F, Tada K, Kitamura T. Discrete category of mother-to-infant bonding disorder and its identification by the Mother-to-Infant Bonding Scale: a study in Japanese mothers of a 1-month-old. *Early Hum Dev.* 2017;111:1–5. doi:10.1016/j.earlhumdev.2017.04.008
27. Demir E, Oz S, Aral N, Gursoy F. A reliability generalization meta-analysis of the mother-to-infant bonding scale. *Psychol Rep.* 2022;332941221114413. doi:10.1177/00332941221114413
28. Yoshida K, Yamashita H, Conroy S, Marks M, Kumar C. A Japanese version of mother-to-infant bonding scale: factor structure, longitudinal changes and links with maternal mood during the early postnatal period in Japanese mothers. *Arch Womens Ment Health.* 2012;15(5):343–352. doi:10.1007/s00737-012-0291-1
29. Wiguna T, Ismail RI. Validation study of Indonesian mother-infant bonding scale. *Asian J Psychiatr.* 2019;43:60–64. doi:10.1016/j.ajp.2019.05.003
30. Morelius E, Elander A, Saghamre E. A Swedish translation and validation of the mother-to-infant bonding scale. *Scand J Public Health.* 2021;49(4):465–470. doi:10.1177/1403494820910336
31. Wild D, Grove A, Martin M, et al. Principles of good practice for the translation and cultural adaptation process for patient-reported outcomes (PRO) measures: report of the ISPOR Task Force for translation and cultural adaptation. *Value Health.* 2005;8(2):94–104. doi:10.1111/j.1524-4733.2005.04054.x
32. Guillemin F, Bombardier C, Beaton D. Cross-cultural adaptation of health-related quality of life measures: literature review and proposed guidelines. *J Clin Epidemiol.* 1993;46(12):1417–1432. doi:10.1016/0895-4356(93)90142-n
33. Beaton DE, Bombardier C, Guillemin F, Ferraz MB. Guidelines for the process of cross-cultural adaptation of self-report measures. *Spine.* 2000;25(24):3186–3191. doi:10.1097/00007632-200012150-00014

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