



Disponible en ligne sur

ScienceDirect
www.sciencedirect.com

Elsevier Masson France

EM|consulte
www.em-consulte.com



Original article

Intensive mothering ideology in France: A pilot study



Idéologie du maternage intensif en France : une étude pilote

D. Loyal*, A.-L. Sutter Dallay, N. Rasclé

Inserm U1219, ISPED, université de Bordeaux, 146, rue Léo-Saignat, 33076 Bordeaux cedex, France

ARTICLE INFO

Article history:

Received 11 May 2017

Accepted 16 August 2017

Available online 20 November 2017

Keywords:

Motherhood

Factor analysis

Validation

Semi-structured interview

Role

ABSTRACT

Objective. – The aim of this pilot study was to adapt the intensive mothering ideology concept in a French sample and to get an assessment tool.

Method. – First, the Intensive Parenting Attitudes Questionnaire (IPAQ), a U.S. scale comprising 25 items, was translated and submitted online to French mothers and mothers-to-be ($n = 250$). Structural validity was tested through confirmatory factor analysis with poor results. Secondly, to increase the cultural validity of a new tool, new items were derived from French women speech. French mothers and mothers-to-be ($n = 22$) were asked about their views regarding motherhood and childcare (semi-structured interviews). A thematic content analysis was performed with good inter-judge agreement (0.53–0.86) and 27 items were created. Finally, the total set of 52 items was submitted online to French mothers and mothers-to-be ($n = 474$). The structure was tested through exploratory factor analysis.

Results. – A new tool called the Measure of Intensive Mothering Ideology (MIMI) was obtained. This 21 items scale with 6 dimensions (Essentialism, Consuming Fulfillment, Child-centrism, Challenge, Sacrifice and Stimulation) explains 59.75% of variance. Internal consistencies were satisfactory (0.61–0.83) and most dimensions were positively and moderately correlated (0.17–0.38).

Conclusion. – The MIMI is the first French-language scale assessing IMI and offers interesting research avenues notably regarding perinatal parental adaptation.

© 2017 L'Encéphale, Paris.

R É S U M É

Objectif. – Le but de cette étude pilote est d'explorer en population française le concept d'idéologie du maternage intensif et d'obtenir une échelle d'évaluation de ce construit.

Méthode. – Les 25 items de l'Intensive Parenting Attitudes Questionnaire (IPAQ), une échelle américaine, ont été traduits et soumis par internet à des mères et de futures mères ($n = 250$). La validité structurelle de cette échelle a été évaluée avec une analyse factorielle confirmatoire. Par la suite, pour créer de nouveaux items et ainsi améliorer la validité de l'échelle, une analyse de contenu a été réalisée sur la base d'entretiens semi-directifs. Des jeunes mères et de futures mères ($n = 22$) ont été questionnées sur leurs opinions concernant la maternité et les soins à l'enfant. Une analyse de contenu a été effectuée avec des accords inter-juges satisfaisants (0,53–0,86), et 27 items ont ainsi été créés. Pour finir, l'ensemble des 52 items a été soumis par internet à de jeunes mères et de futures mères ($n = 474$). La structure de l'échelle a été testée via une analyse factorielle exploratoire.

Résultats. – Une nouvelle échelle, la mesure de l'idéologie du maternage intensif (MIMI) a été obtenue. Cette échelle comprend 21 items et 6 dimensions (essentialisme, épanouissement, puero-centrisme, défi, sacrifice et stimulation) expliquant 59,75 % de la variance. La consistance interne des différentes dimensions est satisfaisante (0,61–0,83). La plupart des dimensions sont faiblement à modérément corrélées (0,17–0,38).

Mots clés :

Maternité

Analyse factorielle

Validation

Entretien semi-directif

Rôle

* Corresponding author.

E-mail address: deborah.loyal@u-bordeaux.fr (D. Loyal).

Conclusions. – La MIMI est le premier outil français permettant d'évaluer l'idéologie du maternage intensif. Elle offre d'intéressantes perspectives de recherche en termes de santé psychologique périnatale notamment.

© 2017 L'Encéphale, Paris.

1. Introduction

Mothering has been widely described as a role [1] subjected to normative expectations rooted in social contexts [2]. Thus, ideas about motherhood and childhood are socially determined [1,3]. According to Hays [3] the U.S. contemporary dominant discourse about motherhood should be seen as an ideology, i.e. a system of interrelated beliefs, that she named “Intensive Mothering Ideology” (IMI). According to Hays, most parents assume that mothers are inherently the best caregivers for children. Child-rearing is described as a consuming expert-guided activity that must be child-centered. Authoritarian education is scorned whereas benevolent methods are preferred. Parenting is seen as the hardest job in the world but also as the most important and rewarding one. Finally, children are revered owing to their innocence and genuineness.

Few studies have been conducted regarding the consequences of IMI. According to the attachment theory [4], women involvement in mothering seems benefic for the child development and mothers satisfaction and efficacy. However normative aspects of motherhood are also recognized as important contributors to distress in mothers [5]. Difficulties to meet IMI requirements might be a source of emotional disturbance for mothers [6], particularly for working ones confronted to contradictory demands [7,8]. Moreover, IMI might be a threat to gender equality [1,9], notably through essentialism (believing that the mother is the natural and best caregiver) which places an undue burden on mothers [10]. Thus, IMI might be of interest regarding research on maternal mental health [6,11], gender equality [1,9,12] and work-family life balance [7,12].

According to Liss et al. [12] the biggest barrier to truly understand IMI consequences for women's mental health is the lack of quantitative measure of the IMI construct. Thus they have developed the Intensive Parenting Attitudes Questionnaire (IPAQ) in United States. Items were derived from previous interviews with mothers and non-mothers about motherhood [3,13]. Data were then collected online with 595 mothers and, in a second time, 209 childless women. Exploratory and confirmatory factor analyses were carried out. The first factor Essentialism (8 items) expresses the idea that mothers are better at parenting than fathers. The second factor Fulfillment (4 items) expresses the idea that being a parent is rewarding. The third factor Challenge (6 items) conveys the idea that child-rearing is difficult. The fourth factor Stimulation (4 items) expresses the idea that children must be intellectually stimulated. The last factor Child-Centrism (3 items) conveys the idea that child-rearing should be focused on the child's needs and rhythm. As predicted by Hays [2], factors were moderately but significantly correlated with each other, constituting a set of beliefs, i.e. an ideology. The IPAQ showed good construct validity, i.e. factors were positively linked to either the mothers' anxiety about leaving their child, their perception of maternal work as being detrimental to children, or to their participation in household duties and childcare. Of note, IMI was found to be endorsed more by mothers and stay-at-home mothers than by childless women and working mothers. Finally, Rizzo et al. [11] found that in mothers of preschoolers, controlling for social support, essentialism was linked to less life satisfaction and challenge was linked to greater depressive symptoms and stress.

Whereas pioneering IMI work was drawn in U.S. context [3] it might be suitable in others developed countries such as France.

Indeed, Bornstein [14] have found that French and U.S. women shared similar views about responsiveness, sensitivity, warmth and stimulation in childcare and hold higher expectations for themselves than for their partners. Moreover, numerous scholars have raised concerns regarding motherhood requirement intensification in France through popular books [15–18], as in United States [3,19,20]. Nevertheless, according to numerous scholars, ideas about parenting and childhood depends on social factors [1,3]. For instance, United States and France have very different child and family policies. French parent benefit from childcare provision, parental leave and family allowance [21] whereas United States “has no explicit family policy, nor does it have a coherent package of social policies that are targeted on children and their families” [22]. Moreover, French women have been found to place less value on bonding, breastfeeding, sacrificing their own needs and responding quickly to baby's ones, and more value on equal task-sharing between parents and child autonomy than American mothers [23]. Thus, it remains unclear if IMI might be a relevant concept in France.

Thus, this pilot study was designed to test the validity of the IMI concept in France and to get a valid assessment tool.

2. General method

Samples regarding Steps 1 and 3 (Table 1) were obtained online. The questionnaire was administrated with LimeSurvey [24] on French forums and Facebook groups (generalist, pregnancy, motherhood, childcare...) using snowball sampling method. This pilot study was approved by a national informatics right committee (<https://www.cnil.fr/>) and a regional ethic committee (<http://www.ccp-soom3.u-bordeaux2.fr/>). Statistical analyses were carried out with SPSS 20 and SPSS Amos 20. Step 2 method and sample are described apart hereafter.

2.1. Step 1: IPAQ confirmatory factor analysis

2.1.1. Aim

As recommended by the International Test Commission [25] the aim of Step 1 was to translate the IPAQ and to test its equivalence in a French-speaking sample.

2.1.2. Method

As recommended [26–28], a translation of the IPAQ items was done by the author and a back-translation was done by a bilingual person. The translation was judged appropriate regarding linguistic and meaning conservation. The set of 25 items was administered online to mothers/mothers-to-be ($n = 250$, Table 1). A confirmatory factor analysis (unweighted least squares) was performed in order to evaluate the fit of the model [29].

2.1.3. Results

In view of the current recommendations [30,31], the fit of the model was considered unsatisfactory ($\chi^2/df = 4.20$, GFI = 0.942, AGFI = 0.929, RMR = 0.117, NFI = 0.878). The NFI, GFI and AGFI must be larger than 0.95 and the RMR must be low. The smaller the χ^2/df , the better the fit of the model, with good values smaller than 5.0, if not 2.0. Most factor loadings were satisfactory (0.36 to 0.82) but three of them were problematic with factor loadings under 0.20. As expected, factors were correlated ($r = 0.12–0.63$, $P < 0.01$). Lastly,

Table 1
Characteristics of online samples for Step 1 ($n=250$) and Step 3 ($n=474$).

	Step 1	Step 3
Age (years)		
Range	18–51	18–51
Mean (SD)	29.67 (5.05)	29.82 (4.92)
Marital status (%)		
Married or PACS	48%	50%
Cohabiting couple	47%	45%
Single	3%	4%
Educational level (%)		
≥ 2 years post-secondary	61%	58%
High school diploma	22%	23%
Work status (%)		
Full-time	33%	34%
Part-time	22%	24%
Stay-at-home	28%	26%
Student	2%	2%
Pregnant (%)	21%	19%
Among non-pregnant women		
Number of child (%)		
1	44%	40%
2	32%	33%
3 and more	24%	27%
Youngest child's age (months)		
Range	1–55	0–60
Mean (SD)	15.10 (12.29)	16.12 (13.74)
Among pregnant women		
Number of children (%)		
0	34%	29%
1	32%	39%
2	21%	21%
3 and more	13%	11%
Youngest child's age (months)		
Range	4–104	4–122
Mean (SD)	31.69 (23.04)	32.48 (23.95)

PACS: civil solidarity pact in France.

internal consistency (Cronbach alpha) was high for Essentialism (0.83) and Child-Centrism (0.64), but was weaker for Fulfillment (0.49), Challenge (0.55) and Stimulation (0.50).

2.1.4. Discussion

As a result, the IPAQ might be regarded as not suited for use in French mothers/mothers-to-be. Lack of measurement equivalence might be due to different biases [26,28]. Construct biases occur when “there is only partial overlap in the definitions of the construct across cultures” [28]. Indeed, as motherhood is socially determined [1,32–34], IMI might be different in French and American contexts [23]. Method biases affect sample, administration and instrument. Regarding samples, Liss et al. [12] population was composed of mothers aged from 20 to 73 years ($M=34.78$; $SD=8.07$) and no information were provided regarding their children's age and their pregnancy status, whereas our population was composed of 18 to 51 years old women ($M=29.67$; $SD=5.05$) who had at least one child under 3 years and were pregnant (14%) or not (79%). Some were expecting their first baby (7%) (Table 1). Regarding administration, both studies were conducted online with snowball sampling but American and French women might display different behaviors online (e.g. willingness to self-disclose. . .). Finally items biases are due to item ambiguities and connotations that might invoke nuisance traits or abilities.

According to Byrne [26], 3 kind of procedure should be used when developing an instrument for a transcultural use. One can translate the instrument (adoption), or translate it and check its psychometric properties (adaptation) or build “a new linguistically and culturally appropriate scale” (assembly). This last option should be chosen when an adaptation process fails. Thus, owing to poor results obtained in this first adaptation step, the next parts of this pilot study were designed to build a new scale.

2.2. Step 2: item development

2.2.1. Aim

Owing to poor results obtained in Step 1, Step 2 was designed to enhance the ecological and content validity of a new tool with items derived from French participants' speech.

2.2.2. Method

A semi-structured interview guide was constructed to explore IMI according to themes previously delineated [3,12]: essentialism, fulfillment, challenge, stimulation and child-centrism (Appendix A). Participants ($n=22$) were mothers/mothers-to-be. Pregnant participants were recruited during childbirth information in a local university hospital. Non-pregnant participants, who had a baby in the last year, were contacted by phone thanks to the hospital listing. The average age of participants was 29.54 years ($SD=4.56$), ranging from 21 to 36. They were all married or living as couples. Among the 22 participants, 11 were primiparous pregnant women and 11 were mothers (6 non-pregnant and 5 pregnant). Non-pregnant mothers ($n=6$) had one or two children and at least one child aged less than 2 years. Pregnant mothers ($n=5$) had one child aged less than 5 years, except one mother who had a 10-year-old child. All interviews were conducted in a quiet office. Participants were informed about the duration and anonymity of their participation and signed an informed consent form. Interviews were recorded using an audio device. A thematic content analysis was performed with Nvivo10 [35].

2.2.3. Results

The coding order was randomly selected. Inter-rater agreement was obtained for 30% of the interviews selected at random and coded by the author and one trained student. Kappa coefficients were satisfactory [36] (>0.40) ranging from 0.54 to 0.86. Agreement was excellent for essentialism (0.86) and challenge (0.76) and good for stimulation (0.69), fulfillment (0.61) and child-centrism (0.54).

These categories seem to be adapted to our participants' speech. Examples of participant's speech can be found in Appendix A. Each statement that does not already appear in the IPAQ led to the creation of an item formulated as closely as possible to the participant speech. Twenty-seven new items were thus generated regarding Essentialism (5 items), Challenge (5 items), Fulfillment (4 items), Child-centrism (5 items) and Stimulation and child needs (8 items).

2.3. Step 3: factor structure of a new tool

2.3.1. Aim

Step 3 was designed so as to create a new tool, build on the IPAQ items, translated in Step 1, and the new items created in Step 2.

2.3.2. Method

The 52 items (25 IPAQ items and 27 items created in Step 2) were administered online to mothers/mothers-to-be ($n=474$, Table 1). An exploratory factor analysis (principal factor analysis, oblimin rotation) was performed [29,37].

2.3.3. Results

We removed every item with insufficient loadings (<0.30) [31,38] or cross loadings (difference between loadings <0.20) [31] and re-ran the analysis until we obtained a satisfactory factorial structure. After considering the eigenvalues and the screeplot diagram, a six-factor structure explaining 59.75% of the variance was retained. The Bartlett Test ($\chi^2(210)=2267.22$; $P<0.01$) and the Kaiser-Meyer-Olkin value (0.84) [39] suggested that the data was suitable for analysis. The final structure consisted of 21 items (Table 2). Since some data were missing, the sample was reduced to

Table 2Exploratory factor analysis (Principal factor analysis, Oblimin rotation) for the MIMI in mothers/mothers-to-be ($n=411$, Step 3).

Item no.	Abbreviated content ^a	1 ^b	2 ^b	3 ^b	4 ^b	5 ^b	6 ^b
02 ^c	Natural link	0.71	0.01	0.04	0.01	0.01	0.06
04	Do not recognize	0.43	0.13	0.01	0.11	0.23	0.12
08	Do not naturally knows	0.63	0.03	0.01	0.11	0.12	0.12
09 ^c	Take time to seize	0.61	0.11	0.02	0.18	0.08	0.06
12 ^c	Don't have the same relationship	0.73	0.03	0.02	0.06	0.05	0.15
16 ^c	More comfortable	0.58	0.16	0.02	0.09	0.01	0.01
20	Children need mothers more	0.55	0.04	0.03	0.05	0.14	0.02
01	Never get a mental break	0.06	0.66	0.02	0.01	0.02	0.00
13	Deepest level of satisfaction	0.06	0.49	0.06	0.08	0.06	0.08
15	Feel complete	0.12	0.57	0.18	0.01	0.05	0.07
18 ^c	Always fears	0.06	0.51	0.02	0.02	0.12	0.05
21	Greatest joy	0.08	0.55	0.07	0.02	0.05	0.15
11	Child's schedule	0.04	0.02	0.85	0.04	0.06	0.01
14	Children's needs	0.01	0.08	0.64	0.04	0.04	0.02
07	Demanding job	0.02	0.15	0.11	0.67	0.11	0.02
19	Corporate executive	0.05	0.05	0.14	0.62	0.02	0.06
03	Time for oneself	0.01	0.09	0.03	0.10	0.63	0.02
06 ^c	Personal life	0.08	0.01	0.08	0.20	0.53	0.01
10 ^c	Not allowed to be tired	0.05	0.05	0.04	0.12	0.51	0.02
05 ^c	Must stimulate	0.04	0.12	0.08	0.03	0.03	0.65
17	On their level	0.01	0.02	0.09	0.01	0.02	0.65
Eigenvalues		4.91	2.59	1.48	1.31	1.17	1.08
% of variance		23.40	12.32	7.04	6.23	5.59	5.18
Cronbach alpha		0.83	0.74	0.75	0.61	0.61	0.64

Factor loadings over 0.30 appear in bold.

^a All items are available in [Appendix B](#).^b 1 = essentialism, 2 = consuming fulfillment, 3 = child-centrism, 4 = challenge, 5 = sacrifice, 6 = stimulation.^c Items generated from thematic content analysis in French sample.

411 participants. The new tool was called the Measure of Intensive Mothering Ideology (MIMI) ([Appendix B](#)).

The first factor, Essentialism (7 items) expresses the idea that mothers are the natural and best caregiver. It contains 3 items from the IPAQ and 4 items derived from the French women's speech. Interestingly, items from the IPAQ that were directed at fathers' incompetence (e.g. Men are unable to care for children unless they are given specific instructions about what to do) were dropped. New items derived from French participant speech stressed the fathers discomfort (e.g. Fathers sometimes take time to seize their father's role) or the singularity of the mother-baby relation (e.g. There is a more natural, strong and direct link between mother and child than between father and child). The second factor, originally named Fulfillment was renamed Consuming Fulfillment (5 items). It contains 4 items from the IPAQ (one of which was designed to evaluate Challenge) and 1 item derived from the French women's speech (designed to evaluate Challenge). This factor is composed of items about how child-rearing is fulfilling (e.g. Holding his or her baby should provide a parent with the deepest level of satisfaction) and consuming (e.g. Parents never get a mental break from their children, even when they are physically apart). The third factor, Child-Centrism (2 items), remains unchanged, i.e. children's rhythm and needs must be a priority. It contains 2 items from the IPAQ. One can guess that the dropped IPAQ item (Children should be the center of attention) was not suited for French women because it might be evocative of a spoiled or badly reared child (not *bien élevé*) [23]. Regarding the fourth factor, Challenge (2 items), the primary idea remained the same, i.e. parenting is the hardest job in the world. It contains 2 items from the IPAQ. The fifth factor was new and was labeled "Sacrifice" (3 items). It may seem similar to the Challenge factor, but places emphasis on the sacrifices that being a parent implies (e.g. When becoming a parent, one must be prepared to put on hold one's personal life) more than on the difficulty of the task per se. It contains 2 items from the French women's speech and 1 item from the IPAQ. All items were originally designed to assess Challenge. The sixth factor labeled Stimulation (2 items) encompasses the idea that children need to be stimulated. It

Table 3Means and standard deviations for MIMI dimensions ($n=434$, Step 3).

	M (SD)
Essentialism	3.71 (1.13)
Consuming fulfillment	5.25 (0.72)
Child-centrism	4.91 (1.10)
Challenge	5.07 (1.03)
Sacrifice	3.39 (1.18)
Stimulation	5.68 (0.54)

contains 1 item from the IPAQ and 1 from the French women's speech. Interestingly IPAQ items that were dropped were directed at heavy and early intellectual stimulation (e.g. Finding the best educational opportunities for children is important as early as preschool). The Stimulation factor is now directed at one-to-one interactions (e.g. One must stimulate children, play with them, talk to them, sing songs to them, read stories to them). Items derived from French women's speech and directed at other child needs were not kept (e.g. It is important for children to be praised and to develop self-confidence and autonomy. . .).

Overall, the MIMI is composed of 38% of items derived from the French participants' speech (8/21 items). Moreover, 52% of the IPAQ items (13/25 items) and 29% of the items derived from the French women's speech (8/27 items) were kept. Means and standard deviations were obtained for each dimension ([Table 3](#)). Internal consistency (Cronbach alpha) was satisfactory for Essentialism (0.83), Consuming Fulfillment (0.74), Child-Centrism (0.75) and lower for Challenge (0.61), Sacrifice (0.61) and Stimulation (0.64). However, the usually recommended cut-off (0.70) has been regarded as arbitrary by some authors [40–43] mainly because it is very sensitive to the number of items (more items give higher alpha). Since Challenge, Sacrifice and Stimulation have few items (2 or 3), getting values above 0.60 might be seen as satisfactory. Nevertheless, two-item factors are usually considered less reliable [31] but some authors raise questions about this misgiving [41,43]. Finally, as expected [3,12] most factors were moderately correlated ([Table 4](#)).

Table 4
Spearman correlations between dimensions of the MIMI ($n = 434$, Step 3).

	1	2	3	4	5	6
1. Essentialism	–					
2. Consuming fulfillment	0.26*	–				
3. Child-centrism	0.18*	0.38*	–			
4. Challenge	0.23*	0.29*	0.25*	–		
5. Sacrifice	0.37*	0.18*	0.26*	0.24*	–	
6. Stimulation	0.08	0.29*	0.17*	0.22*	0.05	–

* $P < 0.01$.

3. General discussion

The IPAQ seems to be unsuited for direct use in French context whereas the adapted version, the MIMI presents an additional value. Thus IMI in France might present some special features which might be related to history or child and family policies [21].

First, Essentialism dimension was no longer about fathers' inabilities per se but about their discomfort with children matters and the idea that they do not have the same kind of relation with children as mothers. Presumably, French women might exhibit a more nuanced form of essentialism more compatible with gender equality ideals, as French mothers have been found to attach greater importance to equal task-sharing [23]. Whereas the IPAQ Fulfillment dimension was about how gratifying being a parent is, the MIMI Consuming Fulfillment dimension was also about how parents' minds are always occupied by children. This continuous preoccupation might be linked to increased mental load and interferences [44]. The Challenge dimension remains rather unchanged but, unexpectedly, a new dimension named Sacrifice was found. Interestingly, the notion of sacrifice has been described previously [3,45]. As stated by Hays [4] "the very definition of good mothering includes the willingness to give up things so that your children can have things". The MIMI Stimulation dimension was more about one-to-one interactions rather than about providing intensive cognitive stimulation. Presumably, French women might be concerned about overstimulation, as noted previously about American mothers [3,12]. Mothers are caught in the crossfire of "not enough" and "too much" and "the only way to determine precisely the correct amount of stimulation is to watch the baby at every moment, interpret his behavior and analyze its requirements at that particular time" [3]. Finally, as expected, most MIMI factors were correlated confirming the idea that IMI is an ideology or a set of interrelated beliefs [3,12].

This pilot study has some limitations. First, like the work of Liss et al. [20], our study was mainly conducted through Internet (Step 1 and 3), a method which is cost-effective but does not allow the sampled population to be controlled (i.e. participants could take the questionnaire in group). However, this remains a marginal consideration [46]. Furthermore, our participants were rather privileged women, mainly well-educated, young and married or living as a couple. In addition, including primiparous pregnant women might have added heterogeneity to our samples. However, they represented 7% of Sample 1 and 5% of Sample 2, so this recruitment bias might be considered as marginal. Like the IPAQ, the MIMI does not contain items regarding child sacredness and the need for expert guidance in child-rearing. Therefore, these aspects of IMI described by Hays [4] remain unevaluated. Presumably, they might be less essential to IMI, less consensual or less verbalized. For instance, women might fear to be deemed as needy and incompetent if they rely on expert advice. Of note, child sacredness and the need for expert guidance were not assessed per se by semi-structured interview (Appendix A) but questions about one component could have elicited another one (e.g. "What must guide a parent when making decisions concerning the child?" could have elicited ideas about expert guidance such as "I rely on my family doctor or I

read books about child development"). Finally, it would have been interesting to explore quantitative differences between French and American sample samples [12] regarding endorsement of IMI. Nevertheless, as the IPAQ was found to be unsuitable for use in French mothers/mothers-to-be (Step 1), such comparisons were not computed.

Further research is needed to test the construct validity of the MIMI in French population as it was done for the IPAQ in the American population [11,12]. In subsequent studies, for instance, the MIMI could be linked to professional status, being a mother or being childless [12,47], level of education [48] and to concepts such as beliefs about the consequences of maternal employment on children [12,49], work centrality, shared household and parental duties [9,12]. Attitude toward highly normative childcare practices such as breastfeeding [50] might be of particular interest.

Overall, the MIMI is a promising tool which can be used in France and possibly in other European countries. Postpartum mental health might be better understood if normative aspects were considered: high expectations about motherhood may be difficult to meet and to reconcile with other life requirements, particularly in mothers with low resources.

In conclusion, IMI, which was drawn in the American context, seems to be suitable in France with some special features. IMI can be evaluated in France with the MIMI in mothers/mothers-to-be. Further research is needed to establish the validity of this measure and to explore how IMI might be related to mental health, gender equality and family issues.

Disclosure of interest

The authors declare that they have no competing interest.

Appendix A. Semi-structured interviews main guidelines (Step 2)

ESS	Q: Who should take care of the child? Who does the child need the most? <i>"I think the baby knows his mother's smell and I think that he is naturally attracted more to his mother than to his dad"</i>
FULF	Q: Is being a parent an important matter? Is parenting a pleasant or rewarding activity? <i>"Having a child is one of the most beautiful things one can experience"</i>
CHALL	Q: Is parenting an easy-going task? How does becoming a parent change one's life? <i>"It's exhausting and even when you're sick you have to go on, you just can't stop"</i>
STI/CHI	Q: What needs to be done in order to ensure that the child develops properly? What must guide a parent when making decisions concerning the child? <i>"You must offer him activities to develop his motor skills", "There are activities to do, taking him to the library, reading stories, singing songs, going out. . .", "Nutrition is important, you have to supervise his growth. . ."</i>
GEN	Q: In your opinion, what does it mean to be a "good mother"? Do you wish to be a certain kind of mother?

ESS: essentialism; FUL: fulfillment; CHAL: challenge; STI/CHI: stimulation and child-centrism; GEN: general; Q: questions; participant's speech examples in italic.

Appendix B. The Measure of Intensive Mothering Ideology (MIMI)

Here are some statements about parents and children. Please indicate your amount of agreement or disagreement.

No.	Items
01	Parents never get a mental break from their children, even when they are physically apart.
02*	There is a more natural, strong and direct link between mother and child than between father and child.
03	Being a parent means never having time for oneself.
04	Men do not recognize that raising children is difficult and requires skills and training.
05*	One must stimulate children, play with them, talk to them, sing songs to them, read stories to them.
06*	When becoming a parent, one must be prepared to put on hold one's personal life.
07	Child-rearing is the most demanding job in the world.
08	Men do not naturally know what to do with children.
09*	Fathers sometimes take time to seize their father's role.
10*	When becoming a parent, one is not allowed to be tired.
11	The child's schedule should take priority over the needs of the parent's.
12*	Even if they take care of children a great deal, fathers don't have the same relationship with babies as mothers.
13	Holding his or her baby should provide a parent with the deepest level of satisfaction.
14	Children's needs should come before their parents.
15	A parent should feel complete when he or she looks in the eyes of his or her infant.
16*	Mothers are often more comfortable with babies than fathers.
17	It is important to interact regularly with children on their level (e.g. getting down on the floor and playing with them).
18*	A parent always fears that something might happen to his children.
19	It is harder to be a good parent than to be a corporate executive.
20	Although fathers are important, ultimately children need mothers more.
21	Being a parent brings a person the greatest joy he or she can possibly experience.

Essentialism = (02 + 04 + 08 + 09 + 12 + 16 + 20)/7; Consuming Fulfillment = (01 + 13 + 15 + 18 + 21)/5; Child-centrism = (11 + 14)/2; Challenge = (07 + 19)/2; Sacrifice = (03 + 06 + 10)/3; Stimulation = (05 + 17)/2.
 1 = Strongly disagree; 2 = Disagree; 3 = Somewhat disagree; 4 = Somewhat agree; 5 = Agree; 6 = Strongly agree.

* Items generated from French participants speech

References

- Arendell T. Conceiving and investigating motherhood: the decade's scholarship. *J Marriage Fam* 2000;62:192–207.
- Biddle BJ. Role theory: expectations, identities, and behaviors. New York: Academic Press; 1979.
- Hays S. The cultural contradictions of motherhood. London: Yale University Press; 1996.
- Bowlby J. Maternal care and mental health. Geneva: World Health Organization; 1951.
- Tummala-Narra P. Contemporary impingements on mothering. *Am J Psychoanal* 2009;69:4–21.
- Flykt M, Lindblom J, Vänskä M, et al. What explains violated expectations of parent-child relationship in transition to parenthood? *J Fam Psychol* 2014;28:148–59.
- Johnston DD, Swanson DH. Cognitive acrobatics in the construction of worker-mother identity. *Sex Roles* 2007;57:447–59.
- Kroska A. Exploring the consequences of gender ideology – work discrepancies. *Sex Roles* 2009;60:313–28.
- Macdonald C. What's culture got to do with it? Mothering ideologies as barriers to gender equity. In: Gornick JC, Meyers MK, editors. *Gen. Equal. Transform. Fam. Div. Labor*. London: Verso; 2009. p. 411–34.
- Brugilles C, Sebille P. Partage des activités parentales : les inégalités perdurent. *Polit Soc Fam* 2011;17–32.
- Rizzo K, Schiffrin H, Liss M. Insight into the parenthood paradox: mental health outcomes of intensive mothering. *J Child Fam Stud* 2013;22:614–20.
- Liss M, Schiffrin HH, Mackintosh VM, et al. Development and validation of a quantitative measure of intensive parenting attitudes. *J Child Fam Stud* 2013;22:621–36.
- Wall G. Mothers' experiences with intensive parenting and brain development discourse. *Womens Stud Int Forum* 2010;33:253–63.
- Bornstein MH, Tamis-LeMonda CS, Pascual L, et al. Ideas about parenting in Argentina, France, and the United States. *Int J Behav Dev* 1996;19:347–67.
- Badinter E. *Le conflit : la femme et la mère*. Paris: Flammarion; 2010.
- García S. *Mères sous influence : de la cause des femmes à la cause des enfants*. La Découverte; 2011.
- Missir MC, Tourret L. *Mères, libérez-vous !*. Paris: Plon; 2014.
- Vaillant M. *Être mère : mission impossible ?* Paris: Albin Michel; 2011.
- Douglas S, Michaels M. *The mommy myth: the idealization of motherhood and how it has undermined all women*. New York: Free Press; 2005.
- Warner J. *Perfect madness: motherhood in the age of anxiety*. New York: Riverhead Books; 2006.
- Thevenon O. Family policies: France; 2014 [<http://www.perfar.eu/policy/family-children/france/>].
- Kamerman SB, Kahn AJ. Child and family policies in the United States at the opening of the twenty-first century. *Soc Policy Adm* 2001;35:69–84.
- Suizzo M-A. French and American mothers' childrearing beliefs: stimulating, responding, and long-term goals. *J Cross Cult Psychol* 2004;35:606–26.
- LimeSurvey Project Team. LimeSurvey. Germany: Hamburg; 2012.
- International Test Commission. International test commission guidelines for translating and adapting tests; 2005.
- Byrne BM. Adaptation of assessment scales in cross-national research: issues, guidelines, and caveats. *Int Perspect Psychol Res Pract Consult* 2016;5:51–65.
- Vallerand RJ. Vers une méthodologie de validation trans-culturelle de questionnaires psychologiques : implications pour la recherche en langue française. *Psychol Can* 1989;30:662–80.
- van de Vijver F, Tanzer NK. Bias and equivalence in cross-cultural assessment: an overview. *Rev Eur Psychol Appl Eur Rev Appl Psychol* 2004;54:119–35.
- Henson RK, Roberts JK. Use of exploratory factor analysis in published research common errors and some comment on improved practice. *Educ Psychol Meas* 2006;66:393–416.
- Hooper D, Coughlan J, Mullen M. Structural equation modelling: guidelines for determining model fit. *Electron J Business Res Methods* 2008;6:53–60.
- Worthington RL, Whittaker TA. Scale development research: a content analysis and recommendations for best practices. *Couns Psychol* 2006;34:806–38.
- Glenn EN, Chang G, Forcey LR. Mothering: ideology, experience, and agency. London: Psychology Press; 1994.
- Harkness S, Super CM. Culture and parenting. In: Bornstein MH, editor. *Handb. Parent. Biol. Ecol. Parenting* Volume, 2, 2 ed. Hove: Psychology Press; 2012.
- Phoenix A. *Motherhood: meanings, practices, and ideologies*. Sage; 1991.
- QSR International. NVivo qualitative data analysis software; 2012.
- QSR International. Nvivo 10 for Windows Help n.d. <http://help-nv10.qsrinternational.com/desktop/procedures/run.a.coding.comparison.query.htm?rhsearch=kappa>.
- Costello AB, Osborne JW. Best practices in exploratory factor analysis: four recommendations for getting the most from your analysis. *Pract Assess Res Eval* 2005;10:173–8.
- Hair JF, Tatham RL, Anderson RE, et al. *Multivariate data analysis*. London: Prentice-Hall; 1998.
- Broc G, Carlsberg M, Cazauvieilh C, et al. *Stats faciles avec R*. De Boeck; 2016.
- Lance CE. The sources of four commonly reported cutoff criteria: what did they really say? *Organ Res Methods* 2006;9:202–20.
- Rammstedt B, Beierlein C. Can't we make it any shorter? The limits of personality assessment and ways to overcome them. *J Individ Differ* 2014;35:212–20.
- Streiner DL. Starting at the beginning: an introduction to coefficient alpha and internal consistency. *J Pers Assess* 2003;80:99–103.
- Ziegler M, Kemper CJ, Krueger P. Short scales—five misunderstandings and ways to overcome them. *J Individ Differ* 2014;35:185–9.
- Geurts SAE, Taris TW, Kompier MAJ, et al. Work-home interaction from a work psychological perspective: development and validation of a new questionnaire, the SWING. *Work Stress* 2005;19:319–39.
- Badinter E. *L'amour en plus : histoire de l'amour maternel (XVIIe–XXe siècle)*. Flammarion; 1980.
- Birnbaum MH. *Psychological Experiments on the Internet*. San Diego: Elsevier; 2000.
- Katz-Wise SL, Prieis HA, Hyde JS. Gender-role attitudes and behavior across the transition to parenthood. *Dev Psychol* 2010;46:18–28.
- Davis SN, Greenstein TN. Gender ideology: components, predictors, and consequences. *Annu Rev Sociol* 2009;35:87–105.
- Shibley Hyde J, Mckinley NM. Beliefs about the consequences of maternal employment for children: psychometric analyses. *Psychol Women Q* 1993;17:177–91.
- Lee E. Breastfeeding advocacy, risk society and health moralism: a decade's scholarship. *Sociol Compass* 2011;5:1058–69.