

Development and Factor Validation of the Motives towards Parenthood Scale¹

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Abstract: To have a child is considered to be a decision influenced by several factors. This paper describes the process of development and validation of an instrument in Portuguese language to analyze the motives underlying this decision. The Motives toward Parenthood Scale was developed using a revision of previous studies and instruments. Exploratory and confirmatory factor analyses were performed using different samples. The final scale is composed of 30 items and 4 factors: Emotional Enrichment, Social Recognition, Lifestyle Interference and Anticipation of Problems in the development of the child. All subscales showed good internal consistency and good factorial stability. This instrument is expected to allow for a more comprehensive analysis of the decision to have a child.

Keywords: scaling (testing), motivation, fertility, decision making, children

Desenvolvimento e Validação Factorial da Escala de Motivos face à Parentalidade

Resumo: Ter filhos é uma decisão influenciada por vários fatores. O objetivo deste estudo foi descrever a construção e validação de um instrumento em língua portuguesa para análise dos motivos subjacentes à decisão de ter ou não ter filhos. A Escala de Motivos face à Parentalidade, construída com base numa revisão de estudos e escalas pré-existentes, foi administrada a duas amostras e alvo de análise fatorial exploratória e confirmatória. A escala final é composta por 30 itens divididos em quatro fatores: Enriquecimento Emocional, Reconhecimento Social, Interferência no Estilo de Vida e Antecipação de Problemas de desenvolvimento na criança. Todas as subescalas apresentaram bons índices de consistência interna e boa estabilidade fatorial. Considera-se que a escala aqui apresentada poderá contribuir para uma melhor compreensão da temática da decisão de ter ou não filhos.

Palavras-chave: escalas, motivação, fertilidade, tomada de decisão, crianças

Desarrollo y Validación Factorial de la Escala de Motivos ante la Parentalidad

Resumen: Tener hijos es una decisión influenciada por varios factores. La finalidad en este estudio fue describir la construcción y validación de un instrumento en lengua portuguesa para el análisis de una categoría de factores, los motivos subyacentes de la decisión de tener hijos o no. La Escala de Motivos ante la Parentalidad, construída con base en una revisión de estudios y escalas pre-existentes, fue administrada a dos muestras y sometida al análisis factorial exploratoria y confirmatoria. La escala final está compuesta por 30 ítem, divididos en cuatro factores: Enriquecimiento Emocional, Reconocimiento Social, Interferencia en el Estilo de Vida y Antelación de Problemas en el desarrollo del niño. Todas las sub-escalas alcanzaron buenos índices de consistencia interna y buena estabilidad factorial. Se considera que la escala presentada podrá contribuir a una mejor comprensión sobre la temática de la decisión de tener hijos o no.

Palabras clave: escalas, motivación, fertilidad, toma de decision, ninios

Fertility rates have gradually dropped in recent years in most Western countries, including Portugal and Brazil. In Portugal, between 1980 and 2009, fecundity rates dropped from 2.3 to 1.3 children per woman, while the age of women at their first child increased from 23.6 to 28.6 (Instituto Nacional de Estatística [INE], 2010). In Brazil, the number of children per woman dropped from 4.5 in 1980 to 2.5 in 1996 and to 1.8 in 2006 (Miranda-Ribeiro & Potter, 2010; Scavone, 2001). Social and technological factors, including the use of contraception, the influence

of feminist and democratic movements on women's access to education and job market and lifestyle changes can be appointed as reasons for this decline. Today, individuals can decide on whether they want children, how many and when with a greater degree of control. Thus, the decision to be a parent is seen as a rational decision in which pros and cons are considered (Liefbroer, 2005). This theme has not been further elaborated on from a psychological perspective, as there are few studies focused on the reasons underlying the intention to have a child. In fact, most studies focus on the intention to have a child, neglecting the motives that lie behind this decision. However, inducing motives based on observed behavior does not permit appropriate explanations (Klein & Eckhard, 2007). To have a more comprehensive analysis of this phenomenon, the motives underlying the intent to have a child, the intention itself and the effective behavior should be distinguished. Hence, this

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study was aimed at contributing to further knowledge on the decision to have children by developing an instrument in Portuguese language that addresses the motives to have or not to have a child. In this paper, the construction and factor validation process of the motives towards parenthood scale (*escala de motivos face à parentalidade* in the original version) is presented.

Motivations towards Parenthood

Empirical research on this theme goes back to studies about parenthood values for parents “Value of Children Studies” (Fawcett, 1988; Hoffman & Hoffman, 1973). These studies depart from the premise that having a child can permit complying with or achieving certain values or, on the other hand, limit or hamper this compliance. Based on this classical conceptualization, various studies have attempted to analyze the factors underlying the decision to have children. While some focus their analysis on the costs and benefits a child can offer (Seaver, Kirchner, Straw, & Vegega, 1990), others attempt to analyze the role of demographic (education level, gender, socioeconomic condition) and psychological variables (gender attitudes, family work division, work-family conflict, relational characteristics) in the intent to have a child or in fertile behavior (Cavalli & Rosina, 2011; Jansen & Liefbroer, 2006; Jokela, Kivimäki, Elovainio, & Keltikangas-Järvinen, 2009; Kaufman, 2000; Schneewind, 2000; Shreffler, Pirretti, & Drago, 2010; Vitali, Billari, Prskawetz, & Testa, 2009; Wilson & Koo, 2006). Another trend is to analyze the role of demographic and psychological variables in motivations and in perceived costs and benefits (Gerson, 1986; Gerson, Posner, & Morris, 1991). Few studies, however, have focused on the identification of the costs and rewards that specifically influence the decision to have children (Liefbroer, 2005; O’Laughlin & Anderson, 2001; Stöbel-Richter, Beutel, Finck, & Brähler, 2005). Next, some of the most relevant studies and conceptualizations about the motives underlying the decision to have children are systemized.

In a chronological perspective, one of the first studies is the intercultural study by Hoffman and Hoffman (1973) about the value of children. The authors developed a framework with nine objectives the children could help to achieve. The main ones were: primary affective bonds; stimulation and enjoyment; expansion of the self; obtainment of the adult status and identity; and feelings of competence and creativity. These values are based on an instrumental idea of the child and can be grouped in three categories: social (obtainment of the adult status and compliance with social standards); emotional/psychological (feelings of competency, personal development, better quality of the partner relationship) and economic rewards (children may later turn into their own parents’ caregivers)

(Liefbroer, 2005; O’Laughlin & Anderson, 2001). In the same direction, Fawcett (1988) summarizes the results of this approach, indicating that the most important rewards for having a child are psychological, while the highest costs are financial and relate to a loss of career opportunity. The author distinguishes among five cost categories: direct economic (food, clothing, education); wage-related (particularly for women); opportunity costs (loss of free time and leisure activities); psychological costs (restrained freedom, flexibility loss, more concerns) and physical costs (childcare-associated tasks).

These two classical approaches evidenced, on the one hand, the rewards or motivations to have a child, namely in Hoffman and Hoffman’s approach (1973) and, on the other, according to Fawcett (1988), the costs or motives not to have a child. Both concepts, however, were reached in a social context that is very different from today. More specifically, the justification to elaborate these conceptualizations was based on concerns about overpopulation. The intent was, thus, to clarify the value of children, in order to find alternative sources of satisfaction that could reduce the intention to have a child.

In a distinct cultural context, Scavone (2001) attempt to theoretically systemize the reasons associated with the option to have children, highlighting biological causes such as the desire to reproduce the species or to continue one’s own existence; subjective causes like the search for a meaning in life, the need for recognition and social acknowledgement, love for children and reproduction of the traditional family model, and social causes like families’ economic and cultural conditions and professional projects. This model, however, lacked empirical data for support.

More recently, based on fertility theories, Liefbroer (2005) derived a list of five possible costs and rewards considered to be most relevant. The author identified career opportunities, economic power, feeling of safety, relationship with the partner and individual autonomy as possible impacts of having a child. Although the study departs from established theoretical orientations and uses a significant (1204 participants) and heterogeneous sample in gender terms, the author limited the cost-benefit analysis to the five appointed reasons.

The studies addressed so far are basically deductive, that is, they depart from a theoretical conceptualization, with some also seeking further empirical validation. Another possibility, however, is an empirical analysis that departs from a large number of items describing potential costs and benefits and is followed by a search for latent dimensions through factor analysis or other data reduction techniques. This approach was adopted by Seaver et al. (1990) who, to avoid the *a priori* judgments present in previous theoretically derived concepts, empirically developed the Parenthood Motivation Questionnaire

through a factor analysis procedure. These analyses, however, were established in the 1970's, so that the motives encompassed within that scale may not be appropriate in the current context.

More recently, O'Laughlin and Anderson (2001), also empirically, and based on items used in earlier studies, analyzed intrinsic and extrinsic motivations and costs and rewards associated with the birth of a child. They studied a sample of college students, mostly women (73%) and without children (85%). Intrinsic motivations relate to internal beliefs referent to the moral values and aspects of having a child, as well as emotional aspects; while extrinsic motivations relate to the economic utility and social status of having a child. Costs refer to the loss of opportunities, freedom and time, while benefits relate to emotional and personal growth aspects. Although that study considered various costs and benefits, it encompassed a sample of female and childless college students, limiting the understanding about the motives towards parenthood in other groups or contexts.

In Portuguese, the study by Cunha (2007) can be highlighted, involving 1776 women between 25 and 49 years of age, who lived with a fixed partner and had at least one co-resident child between six and 16 years of age. That study evidenced six groups of reasons why families with a single child do not have a second one: material constraints (economic, housing or unemployment difficulties); constraints with the child (related to the child's growth); numerical balance (number considered ideal to guarantee family wellbeing); personal and relational constraints (advanced age, lack of health, disturbance in couple's relationship); subjective preference (prefer a single child); and family or parental dynamics (desire to fully dedicate oneself to one child). In the same study, the author evidenced four possible functions of children: instrumental, expressive, status and affective. Although reporting on a considerable sample, the study by Cunha centered on the analysis of couples with children and the functions of children for women, neglecting the perspective of childless individuals and men's role in this process.

The reviewed studies about the motives underlying the decision to have children disclose distinct approaches: a deductive approach, in the case of theoretically developed conceptualizations with (Hoffman & Hoffman, 1973; Fawcett, 1988; Liefbroer, 2005) or without further empirical validation (Scavone, 2001), or deductive approaches that were more (Seaver et al., 1990) or less broad (O'Laughlin & Anderson, 2001). In addition, this review indicates a set of weaknesses concerning sampling, as most studies have been focused on exclusively or mostly female samples (Cunha, 2007; O'Laughlin & Anderson, 2001) or on samples of college students (O'Laughlin & Anderson, 2001; Seaver et al., 1990). One exception is the

study by Liefbroer (2005), which presented a longitudinal follow-up of young adults, but addressed a very limited number of motives.

Therefore, developing a short instrument adapted to the current context and allowing for the analyses of both costs and benefits of having a child, with heterogeneous male and female groups in terms of educational level, parental and marital status, will allow for a further understanding of the intention to have children theme. In fact, the reasons appointed for not having a child or for having a first, a second or even a third child are distinct. In accordance with Stöbel-Richter et al. (2005), couples that already have children, manifest a stronger intent to have another child than childless couples and, in the latter, women manifest a stronger intent to have their first child than men. As for the motives underlying this intent, being already a parent does not seem to affect the perceived benefits but affects the perceived costs: parents perceive more costs than childless individuals (O'Laughlin & Anderson, 2001). Nevertheless, studies in which parental status is considered in the motivation to have or not to have children are still scarce.

In addition, the decision to have a child is essentially made by the couple, in which both elements weight the motives in favor and against (Jansen & Liefbroer, 2006). Hence, an instrument that permits verifying both views will provide a more complete picture of the decision process. To assess only women's reasons and motivations does not allow us to understand the influence processes and, in this sense, men's reproductive intentions have been quite neglected (Cavalli & Rosina, 2011; Rios & Gomes, 2009).

Therefore, it seems necessary to develop a brief instrument to analyze the motivations towards parenthood which, departing from the advantages of earlier studies, addresses costs and benefits, may be used with men and women from various social backgrounds with and without children. The aim in this study was to describe the construction and validation of an instrument, in Portuguese language, to analyze the motives underlying the decision to have or not to have children.

Method

Participants

To participate in this study, individuals should be over 18 years of age and could be living with a partner or not. In total, 403 individuals participated (45% male), with a mean age of 36 years. Most participants (61%) are married or live with a fixed partner and do not have children (60%). As regards future intentions, 50% would like to have a child (first or others). Sixty percent of the individuals have less than 12 years of education and the majority (56%) works

40 hours or more per week, while 35% works between 21 and 39 hours. Concerning socioeconomic levels, 34% are classified as low, 40% as medium and 26% as high level.

The participants were randomly divided between the two studies: reduction of items ($n = 201$) (study 1) and confirmation of scale structure ($n = 202$) (study 2).

Instruments

The following instruments were used:

Sociodemographic questionnaire: information was collected with regard to gender, age, marital status, existence and number of children, intention to have a (another) child, literacy, professional activity and work journey.

Preliminary version of motives towards parenthood scale: a preliminary version of the motives towards parenthood scale was applied, consisting of 52 items. A short text was used to introduce the scale, indicating that participants should define their level of agreement with a set of motives to have or not to have a child, independently of their current desire. Items should be answered on a six-point Likert scale, ranging from “I completely disagree” to “I completely agree”.

The first step to construct this new instrument involved the identification of cost and benefit dimensions and reasons to have or not to have a child, based on a literature review. In accordance with the perspectives of Liefbroer (2005) and O’Laughlin and Anderson (2001), the following categories of benefits or rewards for the fact of having a child were systemized: social (obtainment of adult status and compliance with social standards); emotional/psychological (feelings of competency, personal development, better relationship quality) and economic rewards (children can be their parents’ future caregivers), and the following costs: economic (less economic power) and loss of professional and personal opportunities.

Next, items were collected from different scales, previously used in already published studies, totaling 254 items: Child Study Inventory (CSI) (Rabin & Greene, 1968); Value of Children Scale (VCS) (Hoffman & Hoffman, 1973); Childbearing Questionnaire (CBQ) (Miller, 1994); Parenthood Motivation Questionnaire (PMQ) (Seaver et al., 1990); Perceptions of Parenting Inventory (POPI) (Lawson, 2004); Parenting Questionnaire (O’Laughlin & Anderson, 2001); Motivation for Parenthood (Gormly, Gormly, & Weiss, 1987). Three psychology researchers (two seniors and one junior) analyzed this set of items to assess their possible inclusion in the abovementioned cost and benefit dimensions, as well as to evaluate their semantic redundancy. To decide to maintain the item, at least two experts had to agree. Items not included in the Liefbroer (2005) and O’Laughlin and Anderson (2001) dimensions were also selected, provided that they

permitted evidencing new dimensions. As this was the first step in the construction of the scale in Portuguese, a less restrictive procedure to include items was considered to be beneficial, in order to better understand the research phenomenon. As a result, categories related to physical discomfort, child development difficulties, emotional costs and altruistic or humanitarian reasons were added in the dimension of motives not to have children, and the category pregnancy and birth experience, benefits for sibling relationship and opportunity to solve personal issues through parenthood were added in the dimension of motives to have children. After excluding redundant items, 52 items were retained, 31 related to motives to have children and 21 to motives not to have children. Two researchers who mastered both languages translated and back-translated all 52 items from English to Portuguese. A 52-item version was distributed among eight individuals (without any research background) for the analysis of clarity and understandability, resulting in minor formulation changes.

Procedure

Data collection. After the participants consented to participate in the study, the sociodemographic questionnaire and the motives towards parenthood scale were individually administered to the participants.

Data analysis. The preliminary version of the motives towards parenthood scale was subject to a principal components factor analysis (Study 1) and to a validation of the factor structure through maximum-likelihood estimation procedures (Study 2).

Ethical Considerations

Participants were informed about the research objectives and the voluntary nature of their participation. The confidentiality and anonymity of the collected data were guaranteed. Those who agreed to participate complete the questionnaire in the researcher’s presence, so that any needed clarifications could be provided.

Results

Item Reduction: Study 1

Considering the sample size and the fact that the scale covers two distinct positions, one focused on the motives to have a child and the other on motives not to have a child, two exploratory factor analyses were developed, one related to the motives to have and the other to the motives not to have children.

The appropriateness of the sample for exploratory (principal components) factor analysis was verified through the Kaiser-Meyer-Olkin index ($KMO = 0.914$) and the

analysis of the anti-image correlation matrix diagonal (> 0.83), suggesting that the variables were correlated and that factor analysis was strongly recommended (Field, 2005). Thus, the 31 items related to motives to have children were subject to principal components factor analysis using varimax rotation, considering an eigenvalue higher than 1.5.

This analysis resulted in three factors, with a total explained variance of 52.89% (20.86% in the first factor, 16.52% in the second and 15.51% in the third).

The analysis of the inflection point in the scree plot revealed that both a three and two-factor solution could be considered. Therefore, another factor analysis was performed for two factors, which explained 47.80% of variance (24.29% in the first factor and 23.51% in the second). An analysis of the items' content showed that the two-factor solution aggregated the notion of generational and biological continuity with issues related to social pressure or compliance with social expectations that in the three-factor solution emerged as independent dimensions. As these two aspects encompass the notion of external and

social pressure and were correlated ($r = 0.773$; $p < 0.001$), the two-factor solution was chosen. The remaining factor referred to motives related to emotional enrichment and to the love resulting from the birth of a child.

In line with Costello and Osborne's (2005) suggestions, items in this solution were selected in function of the following criteria: communalities higher than 0.400, saturation in the intended factor superior to 0.500 and difference in this item's saturation level to the remaining factors superior to 0.200. Fifteen items did not comply with these criteria and were therefore rejected. A new analysis was processed to determine whether the elimination of those items improved and simplified the factor structure. In fact, total explained variance increased to 55.16%. Therefore, the first factor was called Emotional Enrichment and consists of eight motives, related to manifestations of affection, care and personal development and challenge ($\alpha = 0.89$), while the second factor, designated Social Recognition, includes eight items related to motives for compliance with social expectations and family continuity ($\alpha = 0.87$) (Table 1).

Table 1
Factor Loadings and Communalities of Subscale of Motives to Have Children.

Items	Emotional Enrichment	Social Recognition	h^2
1. To have someone to love unconditionally.	0.79	0.08	0.56
2. Because being a father/mother makes/can make me a better person.	0.78	0.14	0.63
3. To experience the challenges of parenthood.	0.73	0.15	0.64
4. To have someone to take care of.	0.73	0.31	0.63
5. To have the affection and comfort of a family.	0.72	0.29	0.53
6. To have a richer/fulfilled life.	0.72	-0.08	0.60
7. To have someone to transmit my experience of life, my values and ideals to.	0.71	0.31	0.60
8. To be loved.	0.56	0.26	0.38
9. To give me financial support in my old age.	0.11	0.83	0.48
10. Because one is fully accepted in society only when one has children.	-0.02	0.77	0.51
11. Because a girl only turns into a woman after she is a mother and a boy only turns into a man after he is a father.	0.24	0.72	0.44
12. For religious reasons.	-0.02	0.69	0.52
13. To try not to repeat the mistakes my parents made with me.	0.30	0.66	0.59
14. To continue the family name.	0.31	0.64	0.47
15. To have someone to inherit what I am building in life.	0.30	0.62	0.70
16. To have someone to achieve what I have not managed to.	0.25	0.62	0.57
% Explained Variance	28.57	26.59	
Eigenvalues	6.41	2.41	

Note. The factor loading in bold signal the factor that belongs to the item.

Communality values were acceptable, except for item No. 8. However, as the analysis of Cronbach's alpha revealed good internal consistency, the decision was made to maintain this item in the respective factor.

Exploratory factor analysis of the motives against the decision to have a child followed the same procedure. Again, both the anti-image correlation matrix diagonal (> 0.80) and the KMO index ($KMO = 0.899$)

guaranteed the items' appropriateness for exploratory factor analysis. Thus, based on 21 items, two factors were extracted with an eigenvalue superior to 1.5 and an explained variance of 46.02%. After applying the above described item selection criteria, seven items were rejected. A new analysis evidenced that the total explained variance increased to 52.49%. The first factor

encompassed nine items related to personal, family and professional Lifestyle Interference motives ($\alpha = 0.88$), while the second factor consisted of five items, related to the Anticipation of Problems a child could cause for the couple's relationship, for the individual as well as anticipation of difficulties in the child's education and development ($\alpha = 0.79$), as displayed in Table 2.

Table 2
Factor Loadings and Communalities of Subscale of Motives Not to Have Children

Items	Lifestyle Interference	Anticipation of Problems	h^2
1. I would have to change my lifestyle.	0.78	0.11	0.57
2. There are other things I want to do first.	0.76	0.21	0.40
3. It would limit my freedom to do other things I like (travelling, spending time with friends, dating, etc.).	0.71	0.28	0.61
4. It is very costly.	0.69	0.25	0.53
5. I would have less time to spend with my partner.	0.68	0.33	0.53
6. It implies greater financial security than what I have.	0.66	0.10	0.62
7. It would be a lifetime responsibility.	0.64	0.34	0.56
8. I do not have the time needed to raise a child as (s)he deserves.	0.57	0.27	0.40
9. I feel that I am not mature enough yet.	0.56	0.12	0.32
10. (S)he could disappoint me.	0.13	0.78	0.63
11. The child might not be healthy.	0.25	0.74	0.62
12. It could raise tensions in the relationship with my partner.	0.25	0.72	0.54
13. I could transmit a disease to him/her.	0.17	0.71	0.59
14. I do not want to go through the discomfort and physical changes associated with pregnancy, birth and breastfeeding.	0.23	0.50	0.44
% Explained Variance	30.88	21.61	
Eigenvalues	5.84	1.51	

Note. Factor loadings in bold indicate which factor the item loaded onto

Again, one item (No. 9) showed a communality value below acceptable levels but, given the appropriate Cronbach's alpha, the decision was made to maintain this item in the Lifestyle Interference dimension.

Confirmation of Scale Structure: Study 2

To validate the factor structure obtained in study 1, the same structure was tested in the sample used in study 2 through structural equation modeling, with the help of Amos 18.0 software. Thus, the appropriateness of the factor structure found in study 1 was tested in a validation sample through maximum-likelihood estimation procedures (inter-item correlations, means and standard deviations are available from first author upon request). In compliance with Schweizer's recommendations (2010), the following adjustment indexes were used to establish model fit: χ^2/df ratio, the Comparative Fit Index (CFI) (Hu

& Bentler, 1999), the Standardized Root Mean Squared Residual (SRMR) (Jöreskog & Sörbom, 1996) and the Root Mean Square Error of Approximation (RMSEA). Good adjustment is defined when χ^2/df is inferior to 2 and acceptable adjustment when inferior to 3. CFI values are considered acceptable when between 0.90 and 0.95 and good when between 0.95 and 1.00, the SRMR should remain inferior to 0.10 and RMSEA values are acceptable when inferior to 0.08 and good when inferior to 0.05 (Schweizer, 2010).

Similarly to the procedure to define the scale structure, for the confirmation of the scale structure, the subscales for the motives to have children and for the motives not to have children were subject to separate testing. Therefore, first, a model was tested for the motives to have a child, considering two subscales with eight items each.

The analysis of the variables' normality through Mardia's coefficient (44.38) revealed a lack of normality.

Thus, the parameters were estimated using the bootstrap procedure for 20,000 samples, as recommended by Marôco (2010). In the identification of the model, each item was specified as belonging to a sole factor without crossed loadings (according to the exploratory analysis). In addition, it was specified that the measurement errors were

not correlated. The correlation between the two subscales was estimated freely. The model adjusted reasonably to the data: $\chi^2/df=2.17$; $CFI=0.91$; $RMSEA=0.08$; $SRMR=0.08$. All parameters estimated through the bootstrap procedures were statistically significant ($p < 0.001$) and superior to 0.50 (Figure 1).

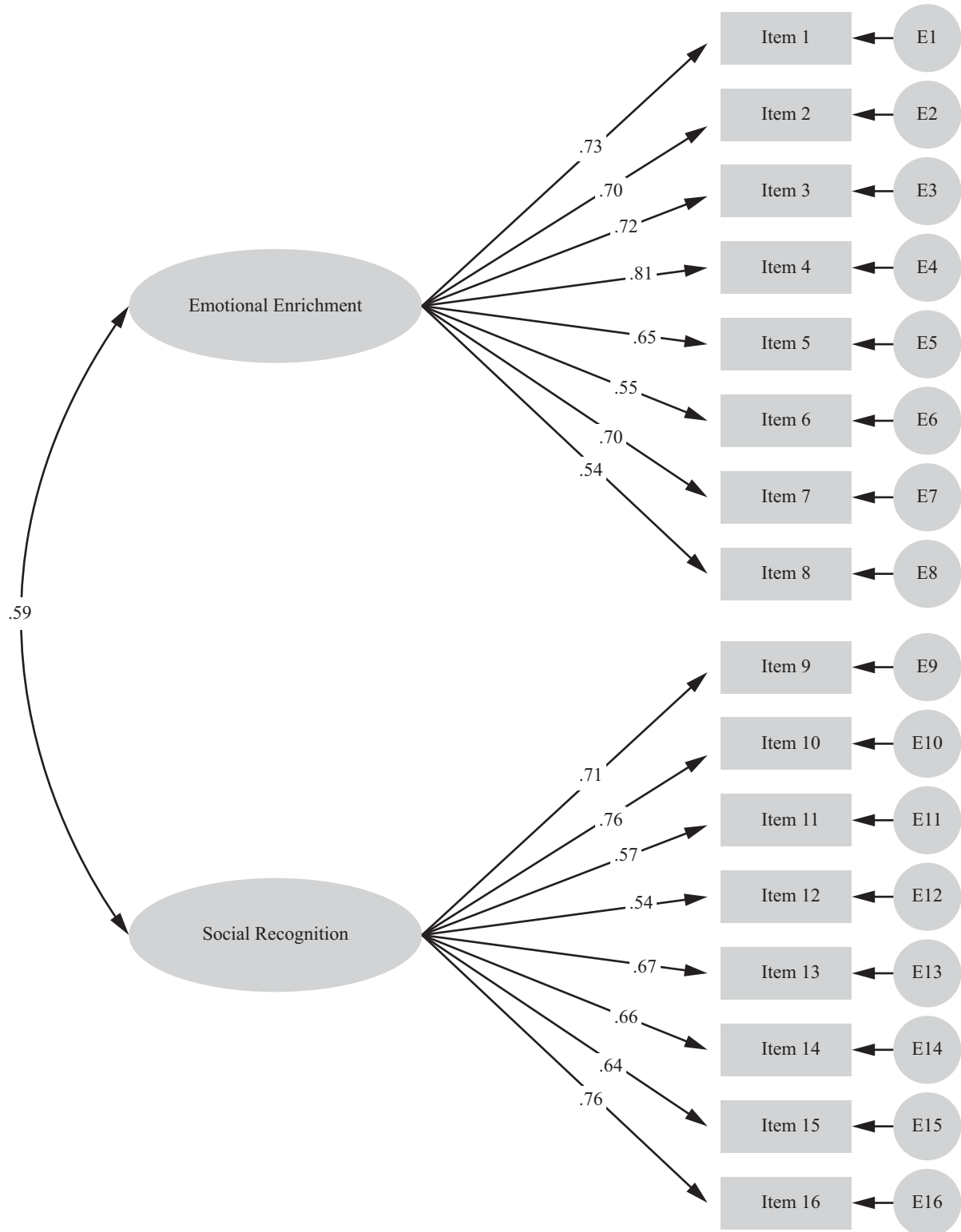


Figure 1. Confirmatory factor analysis of subscale of motives to have children.

To test the two-factor model related to the motives not to have children, the normality of data was assessed, revealing non-normality (Mardia coefficient = 59.44). Therefore, again, the parameters were estimated through the bootstrap procedure.

At first, the following adjustment indicators were obtained: $\chi^2/df = 2.45$; $CFI = 0.88$; $RMSEA = 0.09$; $SRMR = 0.06$. All estimated parameters were statistically significant ($p < 0.001$) and superior to 0.52 (standardized parameters). The CFI and RMSEA values are slightly below

acceptable intervals, which is why a correlation between two measurement errors belonging to the same factor was introduced (errors associated with items 11 and 13), in order to improve the model. The introduction of this correlation between errors seems suitable as both items refer to concerns about child's health issues. After introducing this correlation, the model adjustment improved: $\chi^2/df = 2.06$; $CFI = 0.92$; $RMSEA = 0.07$; $SRMR = 0.05$. All parameters remain statistically significant ($p < 0.001$), as illustrated in Figure 2.

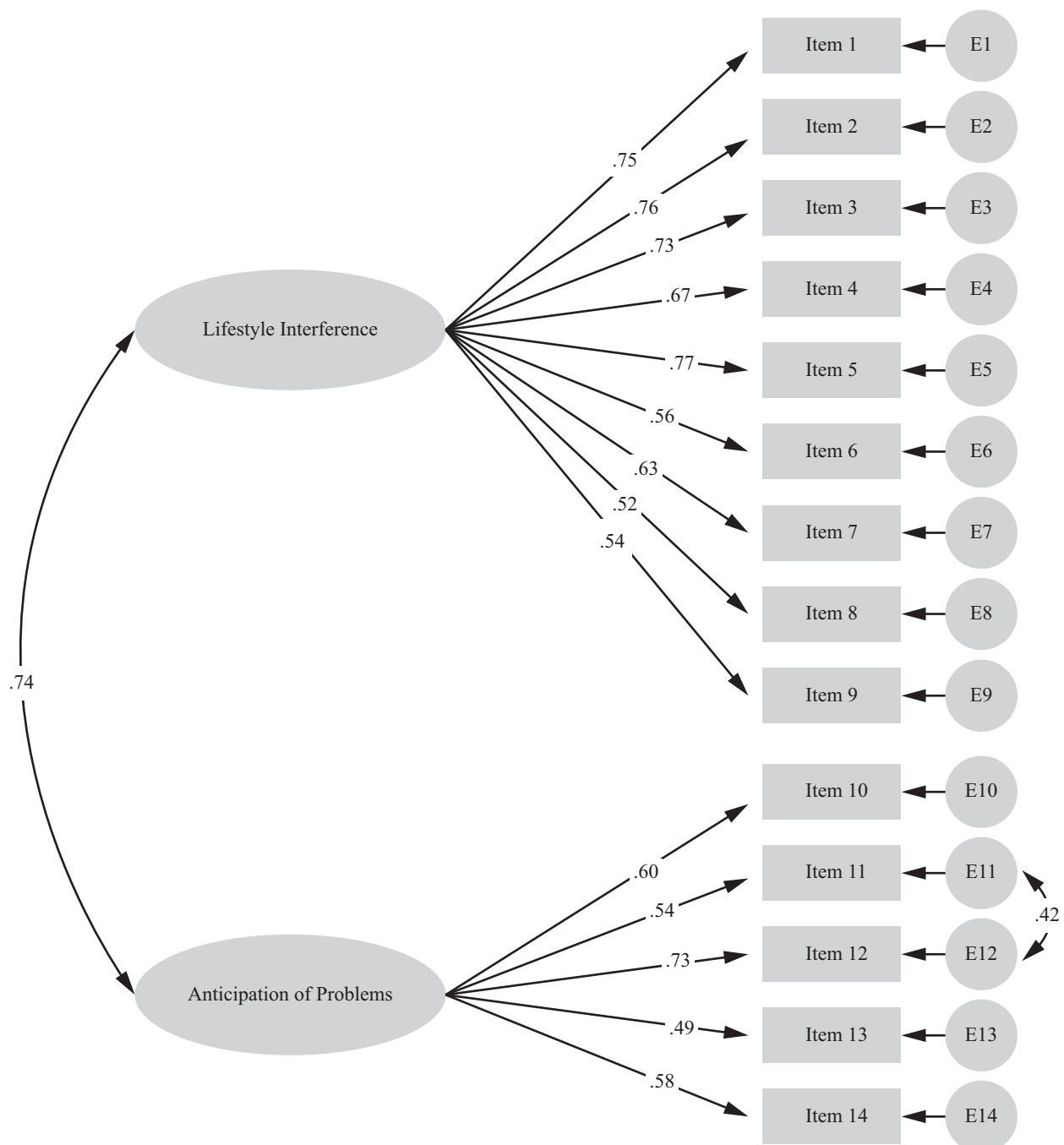


Figure 2. Confirmatory factor analysis of subscale of motives not to have children.

The internal consistency of the scales in this validation sample is good: Emotional Enrichment factor, $\alpha = 0.87$; Social Recognition factor, $\alpha = 0.86$; Lifestyle Interference factor, $\alpha = 0.87$ and Anticipation of Problems factor, $\alpha = 0.74$, thus guaranteeing the reliability of the scale scores. Some authors, however, have questioned the validity of this measure (Cronbach's α), suggesting alternative measures (Marôco, 2010). One of these alternatives is the compound reliability measure (CR), which is relatively simple to calculate in the context of confirmatory factor analysis. To calculate the compound reliability (CR) of each factor, the squared sum of standardized factor weights is divided by this same value, plus the sum of errors or residuals for each item. Values superior to 0.70 indicate good construct reliability. The factors in this sample showed good compound reliability, with all factors superior to 0.72: $CR = 0.86$ for the Emotional Enrichment factor, $CR = 0.87$ for the Social Recognition factor, $CR = 0.88$ for the Lifestyle Interference factor and $CR = 0.73$ for the Anticipation of Problems factor.

The analysis of Table 3 reveals that individuals subscribe mainly motives associated to emotional enrichment, followed by lifestyle interference motives. Social recognition motives rank next and anticipation of problems motives were the least mentioned. These results occur for both study 1 sample [$F_{(2.35; 468.96)} = 153.68$; $p < 0.001$; $\eta_p^2 = .44$] and study 2 [$F_{(2.31; 463.32)} = 176.88$; $p < 0.001$; $\eta_p^2 = .47$]. Mauchly's test revealed that sphericity was violated [study 1: $\chi^2(5) = 91.32$, $p < 0.05$; Study 2: $\chi^2(5) = 87.60$, $p < 0.05$]. Therefore, the degrees of freedom were corrected according to the Greenhouse-Geisser criterion ($\varepsilon = 0.78$ and 0.77 for study 1 and 2, respectively).

Table 3
Mean, Standard Deviation and Internal Consistency of Factors in Both Samples

Factors	Sample study 2 ($n = 201$)			Sample study 3 ($n = 202$)		
	<i>M</i>	<i>SD</i>	α	<i>M</i>	<i>SD</i>	α
Emotional Enrichment	4.02	1.19	0.89	3.98	1.20	0.87
Social Recognition	2.46	1.11	0.87	2.33	1.11	0.86
Lifestyle Interference	3.12	1.24	0.88	2.96	1.24	0.87
Anticipation of Problems	2.19	1.11	0.79	1.97	0.93	0.74

Discussion

This study developed a scale to assess the motives underlying the decision to have or not to have a child, in Portuguese language, suitable for application among men

and women, with or without children. Evidencing the motivations underlying the decision to have a child (or not) can help to better understand parenthood decisions in contexts of enhanced drops in fertility rates, as observed in Portugal and Brazil. Portugal stands out with one of the lowest rates in Europe and the Organization for Economic Co-operation and Development (OECD). Brazil, in turn, has also experienced a considerable decrease in fertility rates. This phenomenon characterizes most western societies, which is why an instrument that permits evidencing a broader range of motives towards parenthood can be extremely useful.

The motives towards parenthood scale presented consists of 30 items, grouped in four subscales. One of its advantages is that motives in favor of and against parenthood are analyzed simultaneously. The two subscales showed good psychometric factor validity and reliability indices, as well as stability in its factor structure. Therefore, it can be considered to be a useful and reliable instrument to apprehend this theme.

A first set of reasons to have children is related to emotional aspects, like giving and receiving affection and desire for personal growth, through the challenges of the parental role. A second set of motives are more social related and encompass the compliance with social roles or the obtainment of status and acknowledgement through children. These two factors are in line with the rewards associated with having a child, systemized by Liefbroer (2005). In fact, in his systemization, three reward categories were evidenced: emotional/psychological; social and economic. The present scale joins the latter two in a single category, associated with status, but clearly distinct from the emotional and psychological category. Thus, it seems that in the analyzed context, economic benefits are not independent, but clearly linked with social acknowledgement. In addition, emotional motives are more frequently mentioned than social recognition motives, similarly to Fawcett's conceptualization (1988), in which the most important rewards of parenthood were psychological. These two sets of motives can also be compared with children's functions as evidenced in Cunha (2007). Namely the affective and expressive functions are close to the idea of emotional enrichment, and the status and instrumental functions are close to the social recognition scale. In line with the study by Cunha, the affective and expressive functions in our study tend to be more frequently mentioned than status and instrumental functions.

Interferences in current lifestyle are motives not to have a child, namely interferences in one's freedom, autonomy, professional career and financial stability. A second set of reasons, although less valued, are linked to anticipated difficulties in the child's education and

development and to the anticipation of partner relationship problems. The first set of motives remits to the opportunity costs different authors highlighted, including Fawcett (1988), Liefbroer (2005) or Scavone (2001). The second set of motives, however, seems to be relatively distinct from earlier concepts of the theme. While, on the one hand, it joins reasons related to interferences in the partner relationship, as referred in Liefbroer, on the other, it systemizes additional motives not present in earlier studies. The motives associated with anticipation of problems are less related to the decision not to have children than the motives linked with lifestyle interference. This interference also includes economic costs which, as opposed to other systemizations, do not constitute an independent group, but are associated with opportunity costs. Thus, it seems that economic factors, whether as motives not to have children or as motives to have children, are not considered independently, but associated with other motives. The advantage of this association is that it clearly shows the functional role of economic aspects in contemporary society, and how they act as a factor of professional and social acknowledgement and as a sign of status. Hence, it seems that the economic costs of having a child are associated with career and lifestyle costs, while the analysis of the economic benefits of having a child links them with prestige and acknowledged status.

Final Considerations

In this study, a scale was developed that simultaneously assesses motives related to the decision to have and not to have a child. This scale is adapted to couples and individuals, men and women, with and without children. Its construction involved individuals occupying different roles, such as family, student or professional roles, a characteristic of most families in contemporary society. Today, having a child is not a full-time activity, as most individuals have other investments besides parenthood. Also, the female gender role, which traditionally prescribed childcare as women's main task in the family, has gone through profound changes, with women accumulating family and professional responsibilities. The male gender role has also gone through changes: beyond the expected involvement in the job market, men are expected to more actively participate in family life (Souza & Benetti, 2009). These new configurations have not been addressed in earlier studies, as individuals who play various adult roles were not the focus. To respond to this challenge, the scale presented in this study was based on diversified samples in terms of gender, parental status (parents and childless individuals) and socioeconomic status, providing a heterogeneous testing base. The development of the instrument also combined an exhaustive collection and analysis of items with exploratory and confirmatory factor analysis

procedures in two independent samples. Nevertheless, scale validity should be tested in other samples in order to distinguish among the role of motivations, intention and actual behavior, as defended in Klein and Eckard (2007). This scale, however, already permits analyzing the combination of motives between the two partners in the couple, in line with arguments by Cavalli and Rosina (2011) and Jansen and Liefbroer (2006). These authors state that an analysis of the decision to have a child is only complete when both partners are considered. In fact, if we are nowadays moving towards a new parenthood model, based on equitable parental responsibilities, in accordance with Scavone (2001), it is fundamental to consider both partners' motives in this decision making. Miller (1994) also considers that the translation from desires to intentions implies taking into account contextual factors, like the partner's intentions.

Despite its potential, the scale presented here should be subject to other validity tests, besides content and internal structural, namely concurrent and construct validity. In that sense, other instruments related to motivations to have or not to have children should be used. One example are generativity studies. Generativity, according to Erikson, manifests the desire to leave a social legacy and guide others. It is related to parental status, as parenthood represents one of the most common forms to express generativity. To relate the generativity concept with parental status and environmental attitudes, Milfont and Sibley (2011) found evidence that generativity predicts pro-environmental attitudes (environmental generativity), while parental status predicts greater environmental concerns (parents are more concerned than non-parents) (Milfont, Harré, Sibley, & Duckitt, 2012). Thus, studies that analyze generativity, parental status and motivation towards having children can contribute to reinforce the validity of the scale.

In summary, the results obtained in this study demonstrate that the motive towards parenthood scale has good psychometric properties. The scale has a stable structure that permits a trustworthy assessment of women and men's motives to have or not to have a child. In addition, its ability to enrich the analysis of these motives was demonstrated, through the emergence of a relatively new factor in comparison with previous scales (anticipation of problems). Also, the scale permits a better understanding of the economic factor's role when associated with recognition and social integration motives. The subscales found for both decisions, on whether to have children or not, also summarize a set of more emotional and social motives. Although, as Hoffman and Hoffman (1973) defended, having a child can have a universal and essentially instrumental value, this particular configuration of the motives towards parenthood will permit a more distinct and closer analysis of parenthood intentions in specific contexts.

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