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# Multidimensional Scale of Motives for Postponing Parenthood (MSMPP-18): Development, factorial structure and psychometric properties

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**Being a parent can be one of the most fulfilling experiences, but also the most challenging. Its complexity is reflected in the fact that the very thought of becoming a parent often fills people with mixed feelings and leads them to postpone the decision to have their first child. Considering that there is no tool for measuring the motives for deferred parenthood, the aim of the research presented in this article was to create such a questionnaire and test how these motives are related to other psychological variables. Based on the EFA results ($N_1 = 301$), we assumed that the Multidimensional Scale of Motives for Postponing Parenthood could have an 18-item and 6-factor structure (MSMPP-18). Two separate CFAs, performed in Studies 2–3 ($N_2 = 201$; $N_3 = 184$), supported our hypothesis, and provided evidence that motives for postponing parenthood can be empirically defined in six dimensions: (1) feeling of uncertainty and incompetence; (2) self-focus; (3) parenthood as a burden; (4) fear of change; (5) financial security concern; and (6) worry about a child's future. The goodness-of-fit of a six-factor solution of the model is presented in Studies 2–3. Moreover, the analyses in Studies 2–3 showed that six motives fit the general concept of postponed parenthood, thus suggesting one higher-order postponed parenthood factor. Correlational results showed the nomological network of motives for postponed parenthood/overall score that were positively linked to higher procrastination, future anxiety, negativity/instability, and negatively associated with resilience, mentalizing, and life satisfaction. The psychological approach to the motives for deferred parenthood, carried out in a series of 3 studies, is important from the theoretical, empirical, and practical points of view. The MSMPP-18 appears to be a reliable instrument for measuring the six motives for postponed parenthood and the total score of delayed parenthood.**

**Keywords** Motives for postponing parenthood, Delayed parenthood, Procrastination, Anxiety, Resilience, Instability, Life satisfaction

Different theoretical approaches within psychology agree that the entry into parenthood is one of the major transitions during the lifespan[1], a normative task in adulthood[2], a source of meaning[3], and a specific life stage crucial for the development of individual identity[4]. Despite widespread socio-cultural changes, it is still considered a powerful[5] and highly valued life-event in all societies[6].

Previous research on parenthood suggests that being a parent can be one of the most fulfilling and meaningful experiences, but also the most challenging, overwhelming, and difficult[4,7]. Its complexity is reflected in the fact that the very thought of becoming a parent often fills people with mixed feelings of both excitement and fear[8]. This ambivalence can be seen in the clear upward trend in the average age of parents in many industrialized, middle, and high-income countries[9,10], which indicates that young people are tending to postpone the decision to have their first child. Data for 2020 show that the average age of women at the birth of their first child in the European Union was 29.5 and in the United States, the mean age peaked at 27.1 in the same year[11]. A similar increase has been observed with respect to paternal age.

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Postponing parenting is both a scientific phenomenon, fitting into the trend of developmental psychology that speaks of emerging adulthood, and may be of interest to family psychologists, for whom both late parenting and its motivations are a current research problem. Previous scales relating to parenting have addressed domains such as beliefs and values; behavior; parental self-perceptions; and parenting knowledge[12]. A decade ago, in their review of the literature, Hurley et al.[13] identified as many as 164 scales measuring various dimensions of parenting. Among the numerous scales, we find methods that assess attitudes toward parenting itself, including, i.e., the concepts of intensive mothering and intensive parenting (Intensive Parenting Attitudes Questionnaire)[14]; parental self-esteem, understood as a sense of satisfaction and efficacy (The Parenting Sense of Competence Scale-Revised)[15]; attitudes about the benefits and costs of being employed while mothers (Beliefs about the Consequences of Maternal Employment for Children)[16] or maturity to parenthood (Maturity to Parenthood Scale)[17]. Measurement of deferred parenthood itself has tended to take the form of statements in qualitative studies or analyses of sociological data[18].

The process of achieving this goal consisted of two stages. In the first stage, described in the Introduction below, we reviewed the existing research on the phenomenon of deferred parenthood and reproductive decision-making. As a result of this analysis, we identified the most important components of postponed parenthood and created items, initially called the "Multidimensional Scale of Motives for Postponing Parenthood" (MSMPP). The development of the MSMPP, evaluation of a new set of items and extraction of hidden factors, through exploratory factor analysis (EFA), were presented in Study 1. In the second stage (Studies 2–3), we tested the underlying structure of the MSMPP, using a confirmatory factor analysis (CFA). This procedure was based on prior theoretical and empirical grounds[19]. We also assessed the internal consistency of the MSMPP and presented a comprehensive description of its nomological validity (Studies 2–3).

## Introduction

There is no consensus on how to universally define late parenthood[18,20]. In the biomedical literature, it is usually conceptualized as the birth of the first child after the maternal age of 35[18]. In social research, delayed parenthood refers to embarking on being a parent in the mid-twenties or later[21]. In the field of psychology, late parenthood is defined as a mother giving birth to a first child at the age of 30 or older[9,22].

Research on the topic of postponing the decision to have a first child indicates a highly complex pattern of influential reasons and interplay between factors that advance this phenomenon[19]. An in-depth analysis of contemporary trends in childbearing age[23] shows that, nowadays, delayed parenthood basically reflects macro-level (e.g., demographic factors, social norms, cultural values, societal expectations, economic conditions, technological advancements, and medical causes), meso-level (e.g., family environment and socioeconomic position), and micro-level (e.g., personality traits, personal development, individual values, physical or biological factors) changes[23–26].

Among the many factors shaping the postponement of parenthood, we have selected some of those motives that concern the dimensions related to psychological changes at these three levels. This choice was based on the belief that individuals' reproductive decision is most often the sum of many reasons for why they decide whether, when, and how they will have a child[27]. Therefore, from the different motivational forces that constitute preconditions for the timing of parenthood, we have identified the following: (1) feeling of uncertainty and incompetence; (2) self-focus; (3) parenthood as a burden; (4) fear of change; (5) financial security concerns; and (6) worry about a child's future.

### Feeling of uncertainty and incompetence

In the most recent years, several studies have shown that potential mothers and fathers delay the decision about becoming parents because of uncertainty or fear of pregnancy and childbirth, physical pain, loss of control, emotional vulnerability, psychological distress, and doubt about abilities to cope with problems of parenthood[27,28]. According to van Balen[29], women and men around the age of 25 often experience thoughts and feelings that they are not prepared to raise, support, and socialize children, which may have resulted from a prolonged period of adolescence. Although they are biologically ready, they do not feel that they possess a sufficient level of personal maturity[11,26,30,31], responsibility[30,32], and involvement[32]. Potential parents doubt whether they have a firm sense of self and whether they will be good enough to raise their children[11,30,33]. Some of them also fear taking responsibility for themselves and a family[34]. These fears are associated with the concept of "the right time"[11]. Although young people are aware that there may never be a "perfect time" to have children[35], they do believe that some prerequisites help to create good conditions to start a family. It is not about chronological time, but rather about a certain set of circumstances, such as: reaching personal fulfillment, feeling ready and prepared, mentally, emotionally, and practically, to make conscious choices to have children[2,27,36].

### Self-focus

According to Arnett[37], self-focus is one of the most typical characteristics of emerging adulthood, as young people at this stage of life tend to refocus on themselves. Qualitative and quantitative studies on postponed parenthood have shown that some young couples decide to enjoy life, have fun[29], maintain an independent life[31], pursue leisure interests[38], and carry out an active social life[39] before embarking on parenthood. Having accumulated experience, self-knowledge, self-realization, and life experience are considered mandatory before childbearing[40]. These reasons are part of a cultural trend, characteristic especially among Western societies, focused on an individualistic view of family functioning[38] and consumerist approach to life[41]. Moreover, there is some empirical evidence that both young women and men are concerned about being deprived of freedom, giving up their private or social way of living, letting go of routines, and other constraints related to having a family[35,42]. The decision to have a child is also often dependent on completing higher education[43], ensuring flexible career advancement[44], and obtaining permanent housing, a stable job, and financial security[2,27,36]. When

making the decision to postpone parenthood, the ability to combine work with family life seems to be very important to young adults[3].

### Parenthood as a burden

Prior studies have shown that young people perceive having a child not only as a joyful event but also as a burden because children may interfere with parents' aspirations, disturb their freedom, cost too much, and be a source of stress[28,45]. Parenthood is also seen as a time of increased household responsibilities and limited freedom[46]. This perception reflects both the economic theory of fertility, which states that people act rationally and calculate the costs and benefits of having children[47], and the individualization thesis, which focuses on individual autonomy of choice[48]. While life uncertainties were shared within family circles in previous decades, nowadays, they are borne by young people themselves[3].

### Fear of change

According to Sobotka[49], concern over many different possible changes has been found as an important motive for delaying parenthood. As research shows, the fear of negative changes within the relationship between spouses[35] causes reluctance to have a child early. Moreover, women tend to be anxious about undergoing body changes[35], losing or not recovering physical attractiveness after birth[50], and experiencing hormonal changes[51]. Men are often afraid of being marginalized or ignored before and after childbirth[52]. They also fear loss of marital closeness[33,53], decrease of overall marital satisfaction[53], and deterioration in the quality of sexual life[32,45,54]. A Danish study found that men were more worried than women that parenthood would strain their relationship with their partners[55]. This type of anxiety may be related to the fact that the transition to parenthood requires adapting to a new role as a parent, which involves shifting attention from the partner and the self to the child [53]. Billari and Liefbroer[56] have pointed out another aspect of change and the anxiety associated with it. Emerging adults are likely to delay the least-reversible events (and this category of event undoubtedly includes the decision to have a child) that have key consequences for their lives. Since having children is believed to be an important choice and life-changing decision, young people see it as necessary to think about it carefully, over an extended time[11].

### Financial security concerns

Research has shown that the domain of finances and other aspects of economic conditions account for the second most significant amount of variance in life satisfaction ratings, after the domain related to intimate relations[57]. Emerging adulthood is a developmental stage characterized by the transition from parental assistance and financial support to financial self-reliance and self-sufficiency[58,59]. It is therefore not surprising that young people thinking about starting a family make the decision to have children dependent on achieving financial stability. For example, Waldenström[18] has observed that Swedish and Norwegian emerging adults at the age of 28 years indicated a better financial situation as the fifth most important cause for deferring parenthood. Schmidt et al.[60] have found that 85% of childless Canadian women and 87% of men pointed to achieving financial security as a key reason determining the postponement of childbearing. Other researchers have shown that stable finances[35] were prerequisites for parenthood.

### Worry about a child's future

There is little empirical evidence on young people's reproductive choices within the context of climate change and political or global insecurity[61]. According to a survey conducted by Morning Consult for The New York Times[62] among 1,858 American men and women of a nationally representative sample, to the question of why young adults were not sure whether to have children, 18% of them indicated global instability, 14% – population growth, and 11% – climate change. While these motives are not the main reasons why young people choose to have children later or not at all, they appear to have increased in number over the last few years. There also seems to be a direct link between the rise of later parenthood and the decline in population growth[42] Anxiety about a child's future in the abovementioned framework is sometimes referred to as a humanitarian concern about the world around us[46].

The six thematic areas that emerged from our analysis of prior research allow us to assume that we are dealing with a complex phenomenon. This assumption seems to be supported by the hypothesis of Billati and Liefbroer[56], who proposed a new pattern of the transition to adulthood, especially throughout Europe. According to the authors, the shift from adolescence to adulthood "can be characterized as late, protracted, and complex"[56] [p. 59]. It is late because the adoption of adult roles occurs later than a few decades ago. It is protracted because the process of entering adulthood is signaled by a significant extension of the time between leaving home and becoming a parent. It is complex because emerging adulthood involves multifaceted events.

These six themes related to topics presented in the Introduction became the basis for the construction of 42 items, initially called the "Multidimensional Scale of Motives for Postponed Parenthood" (MSMPP). Since no multidimensional questionnaire about motives for postponed parenthood exists, the main purpose of the three studies reported in this article was to develop and validate a brief scale for measuring such motives.

## Aim of the studies

In the first step, the structure of the new tool identified using the EFA method in Study 1 will be supported by CFA in Studies 2–3. In the second step, the relationships of the motives for postponed parenthood with different social and personality variables will be examined (Studies 2–3).

## Study 1

Study 1 consists of an EFA of prospective items for the proposed MSMPP. An EFA will help determine the number of factors that could be presumptively named: (1) feeling of uncertainty and incompetence; (2) self-focus; (3) parenthood as a burden; (4) fear of change; (5) financial security concerns; and (6) worry about a child's future.

## Method

### Participants

The purposeful sample (the study was aimed at people without children) was composed of 301 people (81.4% women, 18.6% men) who completed the paper-and-pencil questionnaire. The age of the participants varied from 18 to 42 years (with average age $M = 20.99$; $SD = 2.23$). With respect to place of residence, the inhabitants of a city from 150,000 to 500,000 in population prevailed (48.2%), followed by those from towns up to 50,000 (15.9%), cities between 50,000 and 150,000 (13.6%), villages (13.6%), and cities over 500,000 (8.6%). Besides the MSMPP, the respondents were invited to answer questions about issues related to selected aspects of parenting. When asked whether they planned to have a child before the age of 30, most of them answered positively ($n = 197$; 65.4%). Exactly 34.2% ($n = 103$) of the participants expressed their desire to have a child after the age of 30, and one person (0.4%) replied – "I do not know." To the question, "According to you, what is the right age to decide to have children?", the respondents gave a variety of answers. Precisely 17.1% of the participants indicated 18 to 25 years of age. Most respondents believed that the best age to have a child is 26 years and older (55.5%). A few of them (6.3%) claimed that: (1) there is no such age; (2) it is an individual matter; (3) it depends on many factors; or (4) when someone is ready for it. Some people did not answer the question (18.1%). To the question, "If you decided to have a child, how many children would you like to have?" the participants declared the following: 41.8% – two children, 23.2% – one child, 31.5% – three or more. The remaining respondents (3.5%) either did not provide any answer or indicated that they did not want to have a child.

The main inclusion criterion for Studies 1–3 entailed a group of adults without children. Moreover, the involvement of participants of different ages (Study 1: 18 to 42 years; Study 2: 18 to 55 years; Study 3: 18 to 29 years) was aimed at checking whether the new tool for measuring the motives for postponing decisions about parenthood would show similar psychometric properties across distinct developmental stages, especially among emerging and middle adults. First of all, the selection of people just entering the period of emerging adulthood was associated with the fact that although the age of 30 is currently considered the age of deferred parenthood in the psychological and sociological literature, it is difficult to talk about the decision to become a parent in terms of a specific date. Statistics show that over the years, the average age of becoming a mother or father for the first time has been shifting toward older parenthood, which may indicate that postponing this decision is a process that involves many factors and begins much earlier than at the age of 30[9,22]. In fact, many students finishing their high schools or starting their education at the universities are already planning to make the decision to have their first child only after meeting several important criteria: graduation, finding the right partner, starting and strengthening their career, obtaining financial stability, and enjoying life. This is in line with the developmental theory proposed by Arnett[37], who argues that young adults struggle with crucial decisions due to uncertainty associated with searching for identity and experiencing instability. Secondly, the inclusion of people in their 40s and 50s in two of three studies was justified by two phenomena mentioned in the psychological literature: "delayed adulthood" and "nestling." Both concepts refer to adults who are in their thirties, forties, and even fifties, and postpone the moment of entering adulthood because of some personal and social factors that hinder such a process (Bartosz et al., 2014)[63]. They differ from emerging adults in the sense that they accomplish some of the developmental tasks attributed to the stage of adulthood, with the exception of the decision about parenthood.

The project approval for Studies 1–3 was gained from the Research Ethics Committee of the Institute of Psychology at the University of Szczecin (No. 24/2023 of 09.11.2023). The project was conducted according to the set of guidelines formulated in the Declaration of Helsinki. The collected data in Studies 1–3 was analyzed using IBM SPSS statistics package version 20, IBM SPSS AMOS 21, and the rawpar program. Informed consent was obtained after reading a screen that explained the purpose and nature of the study. Consent consisted of answering the first of the questions in the questionnaire, which was filled out by the respondents. In the case of Studies 2–3, which were conducted online, if a respondent refused to participate in the study, they were redirected to a page thanking them for their interest in the project. All participants were Polish and joined the project voluntarily. No algorithm was used to select participants.

### Measure

In the first phase of the construction of the MSMPP, the concept of motives for delayed parenthood was defined. Based on existing literature[35,60] and the analysis of young people's statements on social forums devoted to the topic of deferred parenthood, we assumed that postponing parenthood and the birth of the first child consists in an adaptation of couples to social changes based on important motives: (1) feeling of uncertainty and incompetence; (2) self-focus; (3) parenthood as a burden; (4) fear of change; (5) financial security concern; and (6) worry about a child's future. These areas of deferred parenthood allowed us to create a pool of items needed to create a brief MSMPP.

Seven psychologists participated in creating the statements. Initially, 42 items were developed to cover the above-mentioned motives of deferred parenthood described in the Introduction. The number of items for each hypothesized factor was unequal (the 1st factor had 8 items; the 2nd, 3rd, 4th, 5th factors had 7 items each; the 6th factor had 6 items). In the next stage, these items were assessed for comprehension and difficulty by five independent experts, including three with high linguistic competencies in Polish. Since some items were repetitive in content and meaning, we decided to remove them. In the final version of the pool, 34 items were included. The original pool of items was developed in Polish. For the purposes of this article, all items were

translated into English by two psychologists who are fluent in academic English. After back-translation by an expert translator, the final version of the English-language wording was agreed upon with the assistance of native speakers.

## Procedure and data analysis

In the first step, the EFA method was applied as it is considered an effective tool for determining the structure underlying latent variables[64]. The normality of all the items was evaluated by using reference values less than ± 2 for skewness and less than ± 5 for kurtosis[65]. The minimum total sample size was decided based on a participant-to-item ratio of 8:1, which is higher than the 5:1 recommended by some researchers, but lower than 10:1, which, as observed by Osborne and Costello[66], was not supported by empirical studies. Oblique rotation (promax) of the items was used as a filter to test the factor correlation matrix and, consequently, to select an optimal rotation. We followed the rule that factor correlations exceeding 0.32 would suggest the oblique solution[67,68].

The decision concerning the determination of the number of factors to retain was based on several of the most frequently used criteria[69,70]: (1) Kaiser's criterion, which considers eigenvalue-greater-than-one; (2) a graphical scree plot; (3) a parallel analysis which compares the eigenvalues gained from real sample data with eigenvalues derived from random data. A parallel analysis (eigenvalue Monte Carlo simulation with 1,000 replications) was applied using the online rawpar program (https://oconnor-psych.ok.ubc.ca/nfactors/parallel.sps) by O'Connor[71], based on normally distributed random data generation. When selecting factors, we followed the principle that if the eigenvalues of the raw data are higher than the eigenvalues of the average random data, the factors can be assumed to be substantive[72].

With respect to item loadings coefficients, we adopted the cut-off of 0.63 or above, according to indications proposed by Tabachnick and Fidell[73]. Only those items that showed a value of 0.63 or higher were considered psychometrically sound for creating a brief yet strong instrument[74] for measuring motives for delaying parenthood. The choice of this value was justified by the desire to create a multidimensional scale with 3 items per factor and characterized by very good reliability.

## Results

An examination of the descriptive statistics showed approximately normally distributed values for skewness (less than ± 2) and for kurtosis (less than ± 5) in all MSMPP items except four items (MPP7, MPP26, MPP30, MPP34), which presented slightly higher values than ± 2 for skewness. All the values for kurtosis were below ± 5 (Table 1). Table 1 also displays the means, standard deviations, minimum, maximum, and reliability coefficient if an item was deleted.

The Kaiser-Meyer-Olkin measure of sampling adequacy (0.917) and a significant probability level smaller than $p < 0.001$ for the Bartlett's Test of Sphericity showed that the observed data was suitable for factor analysis ($\chi^2 = 6458.533$, $df = 561$). The set of 34 items was submitted to EFA with promax rotation. Kaiser's criterion of eigenvalue-greater-than-one indicated a subset of 7 components of all 6 factors hypothesized in the Introduction. However, only 4 of them were in line with the rule of thumb[75] that factors should account for at least 5% of the variance (factor 1 accounted for 33.236%, factor 2–11.284%, factor 3–7.3662%, and factor 4–6.029%). Together, these 4 explained 57.916% of the total variance, exceeding the 50% level suggested in the literature[76]. The remaining 3 factors accounted for less than 5% each (factor 5–4.214%, factor 6–3.311%, and factor 7–3.154%).

A visual scree plot generated to identify the number of acceptable factors also retained a 7-factor solution, considering eigenvalues greater than 1.0 (Fig. 1). Instead, the results of the Monte Carlo simulation with 34 items, 301 subjects, and 1,000 random data, indicated a 5-factor solution. In fact, from the examination of the eigenvalues of the original dataset and the eigenvalues of the random comparator, it was supported that the total variance explained by 5 factors corresponding to the actual eigenvalues (1.37) was greater than the parallel average random eigenvalues (1.12). Two methods denoted that 7 factors, and one method that 5 factors, should be considered. We finally settled on 6 factors.

In the process of selecting items for the first 2 factors, we retained the 3 items that had the highest loading coefficients. In the case of the other remaining factors, each of them had 3 items with a value higher than 0.63 (Table 2). Seven items with lower loading coefficients were not included in Table 2. We decided to drop the seventh factor in the subsequent confirmatory factor analysis since it only had two items with decent values. A factor with only two items could be expected to cause identification problems in a CFA.

Since the aim of the study was to create a brief scale, the final decision was to keep the 6 factors with the 3 strongest factor loadings each: (1) feeling of uncertainty and incompetence (MPP8, MPP11, MPP14); (2) self-focus (MPP18, MPP19, MPP24); (3) parenthood as a burden (MPP1, MPP12, MPP30); (4) fear of change (MPP3, MPP32, MPP33); (5) financial security concern (MPP7, MPP23, MPP34); and (6) worry about a child's future (MPP2, MPP9, MPP16).

## Discussion

The EFA of the proposed measure resolved into 7 factors. Only 18 items met the criteria of short but strong factors. The last 2 items (7th factor) were removed in subsequent CFA analyses. Thus, after reducing the size of the initial pool of items to 18 and checking whether the remaining items make sense theoretically in 6 factors[64], we moved on to the CFA.

## Study 2

Study 2 focuses on a CFA of the 18-item MSMPP (henceforth: MSMPP-18) and addresses hypotheses H1–H3 (described below). Procrastination, future anxiety, and resilience were selected as correlates of the six motives and overall score of postponed parenthood. The reason why we looked at the relationships between these variables in the first place was because they share the process of deciding whether someone wants to have or

| Items | Mean | SD | Min | Max | Skewness | Kurtosis | α if item deleted |
|---|---|---|---|---|---|---|---|
| MPP1 | 5.51 | 1.48 | 1 | 7 | −1.03 | 0.45 | 0.930 |
| MPP2 | 3.91 | 2.07 | 1 | 7 | 0.04 | −1.30 | 0.933 |
| MPP3 | 3.58 | 1.89 | 1 | 7 | 0.23 | −1.08 | 0.931 |
| MPP4 | 4.67 | 2.13 | 1 | 7 | −0.41 | −1.26 | 0.929 |
| MPP5 | 3.87 | 2.18 | 1 | 7 | 0.10 | −1.39 | 0.930 |
| MPP6 | 4.92 | 1.67 | 1 | 7 | −0.66 | −0.25 | 0.933 |
| MPP7 | 6.23 | 1.48 | 1 | 7 | −2.32 | 4.83 | 0.932 |
| MPP8 | 3.68 | 2.04 | 1 | 7 | 0.26 | −1.24 | 0.929 |
| MPP9 | 4.89 | 1.86 | 1 | 7 | −0.67 | −0.57 | 0.931 |
| MPP10 | 3.34 | 2.02 | 1 | 7 | 0.50 | −1.01 | 0.929 |
| MPP11 | 3.89 | 2.07 | 1 | 7 | 0.16 | −1.31 | 0.928 |
| MPP12 | 4.95 | 1.70 | 1 | 7 | −0.64 | −0.43 | 0.929 |
| MPP13 | 5.83 | 1.45 | 1 | 7 | −1.40 | 1.56 | 0.930 |
| MPP14 | 3.26 | 1.87 | 1 | 7 | 0.56 | −0.81 | 0.929 |
| MPP15 | 4.25 | 1.96 | 1 | 7 | −0.11 | −1.22 | 0.928 |
| MPP16 | 4.57 | 2.15 | 1 | 7 | −0.48 | −1.17 | 0.933 |
| MPP17 | 5.29 | 1.71 | 1 | 7 | −0.96 | 0.13 | 0.929 |
| MPP18 | 6.16 | 1.23 | 1 | 7 | −1.96 | 4.30 | 0.930 |
| MPP19 | 5.77 | 1.39 | 1 | 7 | −1.39 | 1.99 | 0.929 |
| MPP20 | 4.79 | 1.82 | 1 | 7 | −0.56 | −0.66 | 0.928 |
| MPP21 | 5.70 | 1.42 | 1 | 7 | −1.28 | 1.44 | 0.933 |
| MPP22 | 5.81 | 1.48 | 1 | 7 | −1.51 | 1.97 | 0.929 |
| MPP23 | 6.08 | 1.45 | 1 | 7 | −1.86 | 2.91 | 0.931 |
| MPP24 | 5.87 | 1.30 | 1 | 7 | −1.46 | 2.45 | 0.930 |
| MPP25 | 3.24 | 2.19 | 1 | 7 | 0.49 | −1.25 | 0.929 |
| MPP26 | 6.22 | 1.22 | 1 | 7 | −2.11 | 4.99 | 0.932 |
| MPP27 | 4.24 | 1.95 | 1 | 7 | −0.22 | −1.15 | 0.930 |
| MPP28 | 6.03 | 1.46 | 1 | 7 | −1.82 | 2.84 | 0.933 |
| MPP29 | 4.54 | 2.07 | 1 | 7 | −0.39 | −1.18 | 0.930 |
| MPP30 | 6.18 | 1.48 | 1 | 7 | −2.22 | 4.22 | 0.930 |
| MPP31 | 4.32 | 2.06 | 1 | 7 | −0.23 | −1.31 | 0.929 |
| MPP32 | 4.45 | 2.10 | 1 | 7 | −0.32 | −1.19 | 0.931 |
| MPP33 | 3.87 | 2.03 | 1 | 7 | 0.09 | −1.21 | 0.930 |
| MPP34 | 6.21 | 1.23 | 1 | 7 | −2.15 | 4.85 | 0.932 |

**Table 1**. Descriptive statistics, and α if item was deleted ($N$ = 301). Note. MPP–Motives for Postponing Parenthood.

delays having a child. We assumed that people thinking about postponing parenthood may show features of procrastination, fear of the future, and/or reduced levels of resilience.

Although there is no research on procrastination and motives for deferred parenthood, it is plausible to assume that both constructs correlate positively with each other. The basis for adopting this hypothesis is that both procrastination and motives for delayed parenthood share a propensity to postpone a particular task until later. According to Yan and Zhang[77], highly educated adults tend to show lower levels of procrastination in parenting than in other self-oriented domains (e.g., health, leisure time). These results do not indicate a direct correlation between a habit of delaying things that need to be done[78] and deferring parenthood, but the presence of procrastination toward having a child. Other researchers[79,80] speak about the positive relationship between high parental expectation and procrastination.

**Hypothesis H1:** *Motives for postponed parenthood correlate positively with a tendency to procrastinate.*

Future anxiety refers to apprehension and concern about adverse changes in a personal future[79]. Since the decision to have a child is a difficult developmental challenge, it can be assumed that it is associated with fear for one's own future, the future of the spouse or the future of the child. Many emerging adults feel anxiety[81] and may be worried about not becoming good parents[80].

**Hypothesis H2:** *Motives for postponed parenthood are positively linked to future anxiety.*

The rationale for the next hypothesis is based on various theories of resilience, which point to its two important components: the presence of challenge and positive adaptation despite the stressor[82]. Resilience, seen as the process of functional and effective coping with significant sources of stressful events[83], may negatively correlate with motives for deferred parenting, which often reflect fear of personal incompetence in meeting potential parenting responsibilities. In fact, resilience has been found to integrate many of the personal resources

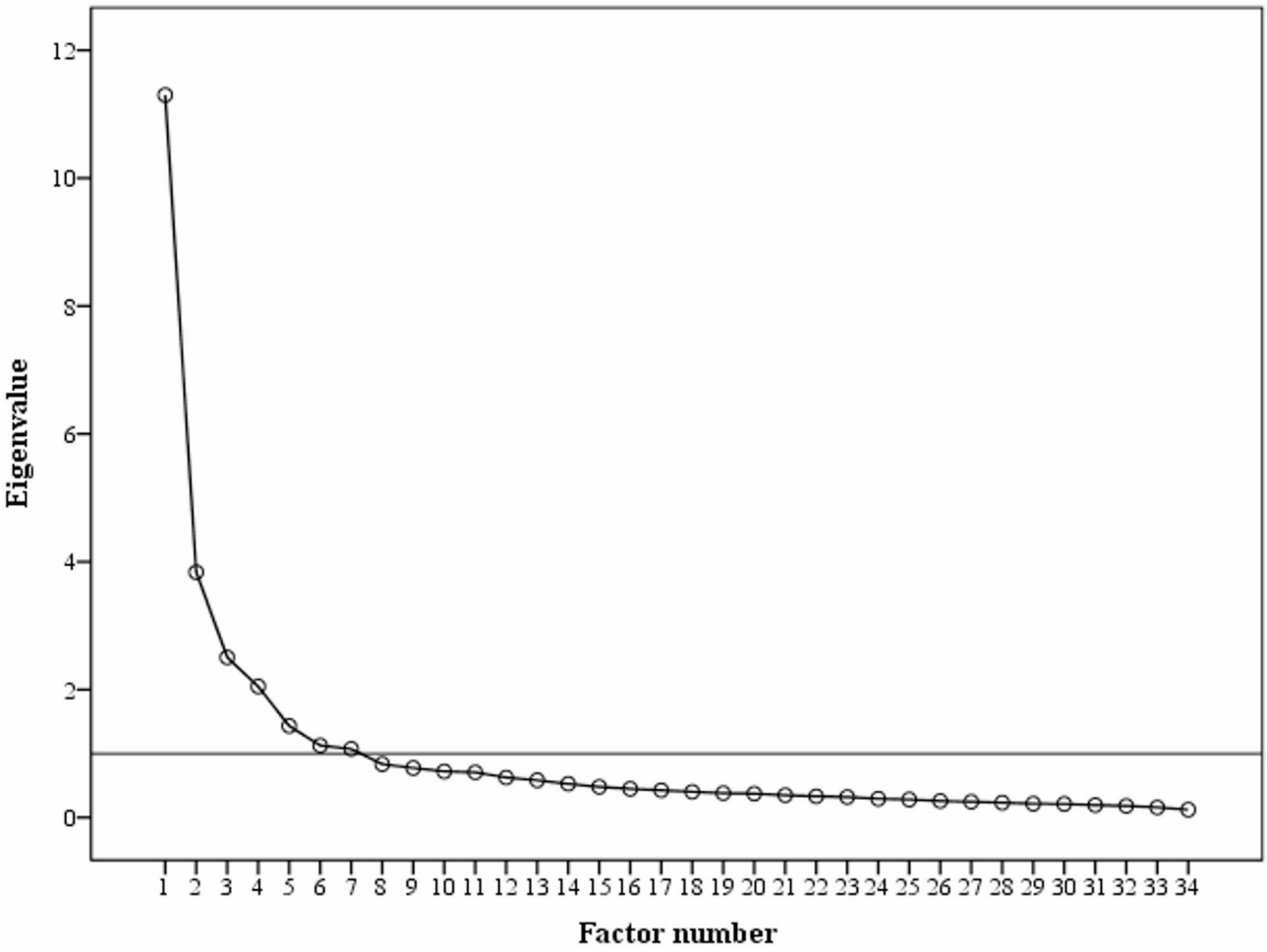


**Fig. 1**. Scree Plot of Original 34 Items.

associated with the transition to parenthood[82], which is the period in family development that reflects taking on the challenge of having a child, even with an awareness of one's own limitations.

**Hypothesis H3:** *Motives for postponed parenthood correlate negatively with resilience.*

## Method

### Participants

The purposeful sample consisted of 201 childless people (84% women, 16% men) who were engaged in the research via the Internet (with the advantage of social media sites such as Facebook and Instagram). The participants were between the ages of 18 and 55 ($M = 25.73$; $SD = 7.36$). With respect to place of residence, most inhabitants represented cities with popuations from 150,000 to 500,000 (32.8%), followed by those from cities between 50,000 and 150,000 (21.4%), cities over 500,000 (16.4%), villages (16.4%), and towns up to 50,000 (12.9%). Besides completing the MSMPP-18, the respondents were also asked about matters concerning parenting. To the question regarding the decision to have a child before the age of 30, slightly half of the participants responded positively (53.2%). To the question, "What do you think is the right age to decide to have children?", most of them (78.1%) indicated age up to 30 years. To the question, "If you decided to have a child, how many children would you like to have?", the respondents declared the following: 43.3% – two children, 20.4% – one child, 23.4% – three or more. The remaining respondents (12.9%) either did not provide an answer or indicated that they did not plan to have a child. Informed consent to take part in the research was obtained from all participants in the form of a response to the first of the questionnaire questions, as in Study 1.

*Measures*

The MSMPP-18 was used in the present study, in line with the results obtained in Study 1. The measure has six subscales (each with 3 statements) and starts with the following expression: "I am postponing the decision to have a child because…". The first subscale implies feelings of uncertainty and incompetence (example item: "… I am convinced that I will not be able to cope with the role of a parent"); the second subscale addresses self-focus (example item: "… now I am focusing on self-development"); the third subscale relates to parenthood as a burden (example item: "… parenthood requires many sacrifices"); the fourth subscale reflects fear of change (example item: "… I am afraid of worsening sexual satisfaction in the relationship"); the fifth subscale is related

| Items | FACTORS 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| MPP8 | 0.89 | | | | | | |
| MPP14 | 0.87 | | | | | | |
| MPP11 | 0.83 | | | | | | |
| MPP31 | 0.83 | | | | | | |
| MPP27 | 0.78 | | | | | | |
| MPP10 | 0.74 | | | | | | |
| MPP25 | 0.73 | | | | | | |
| MPP29 | 0.68 | | | | | | |
| MPP18 | | 0.88 | | | | | |
| MPP24 | | 0.86 | | | | | |
| MPP19 | | 0.83 | | | | | |
| MPP21 | | 0.73 | | | | | |
| MPP6 | | 0.71 | | | | | |
| MPP1 | | | 0.80 | | | | |
| MPP12 | | | 0.75 | | | | |
| MPP30 | | | 0.64 | | | | |
| MPP7 | | | | 0.89 | | | |
| MPP23 | | | | 0.88 | | | |
| MPP34 | | | | 0.87 | | | |
| MPP3 | | | | | 0.81 | | |
| MPP33 | | | | | 0.78 | | |
| MPP32 | | | | | 0.77 | | |
| MPP16 | | | | | | 0.86 | |
| MPP2 | | | | | | 0.85 | |
| MPP9 | | | | | | 0.79 | |
| MPP28 | | | | | | | 0.91 |
| MPP26 | | | | | | | 0.81 |

**Table 2**. Promax rotation ($N = 301$). MPP–Motives for Postponing Parenthood.

to financial security concern (example item: "… my financial situation at the current stage of my life does not allow me to raise a child"); the sixth subscale indicates worry about a child's future (example item: "… I am afraid that my child could experience war"). Since the response scale for each statement is a 7-point Likert scale (1 = *I strongly disagree* and 7 = *I strongly agree*), the respondent can receive from 3 to 21 points for a single subscale. The higher the score, the greater the motive for postponing parenthood. All the subscales in Study 2 had very good reliability. Both Cronbach's alpha and McDonald's Omega values for all six subscales are presented in the Results section. The AVE (average variance extracted) and CR (composite reliability) estimates (Table 3) are higher than the commonly recommended minimum threshold.

To test how motives for postponed parenthood relate to other questionnaires that measure related constructs (procrastination, future anxiety, and resilience), we used the following scales:

***Pure Procrastination Scale*** (PPS)[84], in a Polish adaptation prepared by Stępień and Cieciuch[85], is a self-report questionnaire measuring voluntary delaying of an intended course of action even though a worse situation can be expected because of the delay. Although the scale was intended to be a single-factor scale, in the Polish version, it presents a three-factor solution which addresses: decisional delay, behavioral delay, and non-adaptive delay. The tool consists of 12 items, which are rated by the respondents on a 5-point Likert scale (1 = *strongly disagree*, 5 = *strongly agree*). Scores on the subscales can range from 3 to 15 (decisional and non-adaptive), 6 to 30 (behavioral), and the total score can range from 12 to 60, with higher scores suggesting greater levels of procrastination. The current version of the PPS in the present study had very good internal consistency: decisional delay ($\alpha = 0.89$), behavioral delay ($\alpha = 0.93$), non-adaptive delay ($\alpha = 0.85$), and overall procrastination ($\alpha = 0.94$).

***Dark Future Scale*** **(DFS)**[86] is a 5-item short and reliable tool to measure future anxiety. It consists of statements that describe the subjective feelings of people facing problems, troubles, crisis, difficulties, and threatening changes. Respondents rate the five items on a 7-point Likert scale where 0 = *decidedly false*, 1 = *false*, 2 = *somewhat false*, 3 = *hard to say*, 4 = *somewhat true*, 5 = *true*, and 6 = *decidedly true*. Total scores can range from 0 to 30; higher scores indicate a greater level of anxiety about the future. The DFS has good psychometric properties. In the original study, $\alpha = 0.90$; in the current study, Cronbach's alpha was also satisfactory with $\alpha = 0.86$.

***Brief Resilience Scale*** **(BRS)**[87], validated in Polish by Konaszewski and colleagues[88], is a single-factor instrument that assesses an individual's capacity to bounce back from stress and various challenges (e.g.; "It does not take me long to recover from a stressful event"). The scale consists of 6 items which are marked by

| Items | Mean | SD | Min | Max | Skewness | Kurtosis | Corrected Item – Total correlations AVE/CR |
|---|---|---|---|---|---|---|---|
| MPP1(8) | 3.65 | 2.06 | 1 | 7 | 0.26 | −1.18 | 0.800 |
| MPP2(11) | 3.73 | 2.15 | 1 | 7 | 0.18 | −1.36 | 0.845 |
| MPP3(14) | 3.12 | 2.03 | 1 | 7 | 0.60 | −0.96 | 0.785 |
| MPP4(18) | 5.27 | 1.84 | 1 | 7 | −0.82 | −0.50 | 0.894 |
| MPP5(19) | 5.14 | 1.85 | 1 | 7 | −0.78 | −0.51 | 0.887 |
| MPP6(24) | 5.15 | 1.95 | 1 | 7 | −0.77 | −0.64 | 0.884 |
| MPP7(1) | 5.26 | 1.87 | 1 | 7 | −0.98 | −0.08 | 0.691 |
| MPP8(12) | 4.98 | 2.01 | 1 | 7 | −0.74 | −0.64 | 0.683 |
| MPP9(30) | 6.06 | 1.49 | 1 | 7 | −1.97 | 3.40 | 0.562 |
| MPP10(3) | 3.51 | 2.02 | 1 | 7 | 0.26 | −1.18 | 0.628 |
| MPP11(32) | 4.27 | 2.20 | 1 | 7 | −0.21 | −1.37 | 0.593 |
| MPP12(33) | 3.75 | 2.11 | 1 | 7 | 0.11 | −1.34 | 0.725 |
| MPP13(7) | 5.05 | 2.22 | 1 | 7 | −0.75 | −0.99 | 0.864 |
| MPP14(23) | 4.94 | 2.21 | 1 | 7 | −0.64 | −1.11 | 0.912 |
| MPP15(34) | 4.91 | 2.26 | 1 | 7 | −0.62 | −1.20 | 0.934 |
| MPP16(2) | 3.46 | 2.04 | 1 | 7 | 0.31 | −1.17 | 0.644 |
| MPP17(9) | 4.52 | 2.11 | 1 | 7 | −0.36 | −1.25 | 0.723 |
| MPP18(16) | 3.78 | 2.21 | 1 | 7 | 0.13 | −1.40 | 0.700 |
| UNCERTAINTY | 10.50 | 5.73 | 3 | 21 | 0.35 | −1.09 | 0.88/0.95 |
| SELF_FOCUS | 15.56 | 5.37 | 3 | 21 | −0.74 | −0.60 | 0.93/0.97 |
| BURDEN | 16.29 | 4.55 | 3 | 21 | −1.14 | 0.83 | 0.86/0.94 |
| CHANGE | 11.52 | 5.36 | 3 | 21 | 0.01 | −0.98 | 0.81/0.90 |
| FINANCE | 14.90 | 6.40 | 3 | 21 | −0.69 | −1.03 | 0.94/0.97 |
| WORRY | 11.75 | 5.51 | 3 | 21 | −0.03 | −1.09 | 0.83/0.91 |
| MPP | 80.33 | 22.54 | 18 | 126 | −0.49 | 0.03 | - |
| PR | 30.73 | 12.53 | 12 | 60 | 0.32 | −0.93 | - |
| PR_DECISIONAL | 7.88 | 3.64 | 3 | 15 | 0.29 | −1.02 | - |
| PR_BEHAVIORAL | 17.61 | 7.33 | 6 | 30 | 0.10 | −1.15 | - |
| PR_NON_ADAPTIVE | 5.22 | 2.86 | 3 | 15 | 1.47 | 1.79 | - |
| FA | 15.02 | 8.73 | 0 | 30 | −0.10 | −0.99 | - |
| RES | 19.05 | 6.02 | 6 | 30 | −0.23 | −0.74 | - |

**Table 3**. Descriptive statistics, corrected item–total correlations, average variance extracted and composite reliability ($N = 201$). MPP–Postponed Parenthood Total; PR–Procrastination; PR_Decional–Decisional procrastination; PR_Behavioral–Behavioral procrastination; PR_Non_Adaptive–Non adaptive procrastination; FA–Future Anxiety; RES–Resilience.

the respondents on a 5-point Likert scale (1 = *strongly disagree*, 5 = *strongly agree*). Three items (1, 3, 5) are positively phrased, and the other three (2, 4, 6) are negatively phrased, and thus reverse scored. The total score can range from 6 to 30; the higher the scores, the higher the level of resilience. The BRS in its original studies had satisfactory psychometric properties, with Cronbach's alpha ranging from $\alpha = 0.80$ to $\alpha = 0.91$. In the current study, the reliability of the BRS was very good ($\alpha = 0.90$).

*Procedure and data analysis*

The main goal of Study 2 was to test whether the number of factors identified in the EFA (Study 1) underlie the psychometric structure of the MSMPP-18. A five-step procedure was applied to conduct the CFA: model specification, identification, parameter estimation, model evaluation, and modification[89] Moreover, the variance inflation factor (VIF) and a tolerance value for each independent variable were measured to quantify the severity of collinearity among the factors of the MSMPP-18. A cut-off of 10.0 for the VIF and a tolerance value equal to 0.1 or less were assumed as recommended indicators of multicollinearity[90]. Multivariate outliers were checked through the Mahalanobis distance ($\chi^2$ criterion with respective degrees of freedom at $p < 0.001$) and Cook's distance (0.5 value and larger considered as influential)[91].

We used a stepwise regression analysis to adjust for confounders and test whether sociodemographic variables could affect the motives for postponing parenthood. Four potential variables that are associated with exposure (procrastination, future anxiety, and resilience) and outcome (postponed parenthood) were included in the first step: sex, age, place of residence, and hypothetical decision to have a child before the age of 30. Eleven predictors (six motives for postponed parenthood, three dimensions of procrastination, future anxiety, and resilience) were selected in the second step. Although relevant confounders have not been covered by researchers in the context of motives for postponed parenthood[92], there is some evidence that sex, age, place of residence, and decision to

have a child could act as potential confounders. For example, age[60], urban conditions[93], socioeconomic status and education (indirectly related to place of residence in previous research on delayed childbirth)[36,92] were found to differ among people who postponed the decision about parenthood.

Since model specification refers to hypothesized relationships among the factors based on one's knowledge, we addressed the six motives for postponed parenthood, drawing on the theoretical premises presented in the Introduction: (1) feeling of uncertainty and incompetence (UNCERTAINTY); (2) self-focus (SELF-FOCUS); (3) parenthood as a burden (BURDEN); (4) fear of change (CHANGE); (5) financial security concern (FINANCE); and (6) worry about a child's future (WORRY). The empirical justification for conducting the CFA was the outcomes of the EFA conducted in Study 1. A graphical representation of the six factors is presented in Fig. 2.

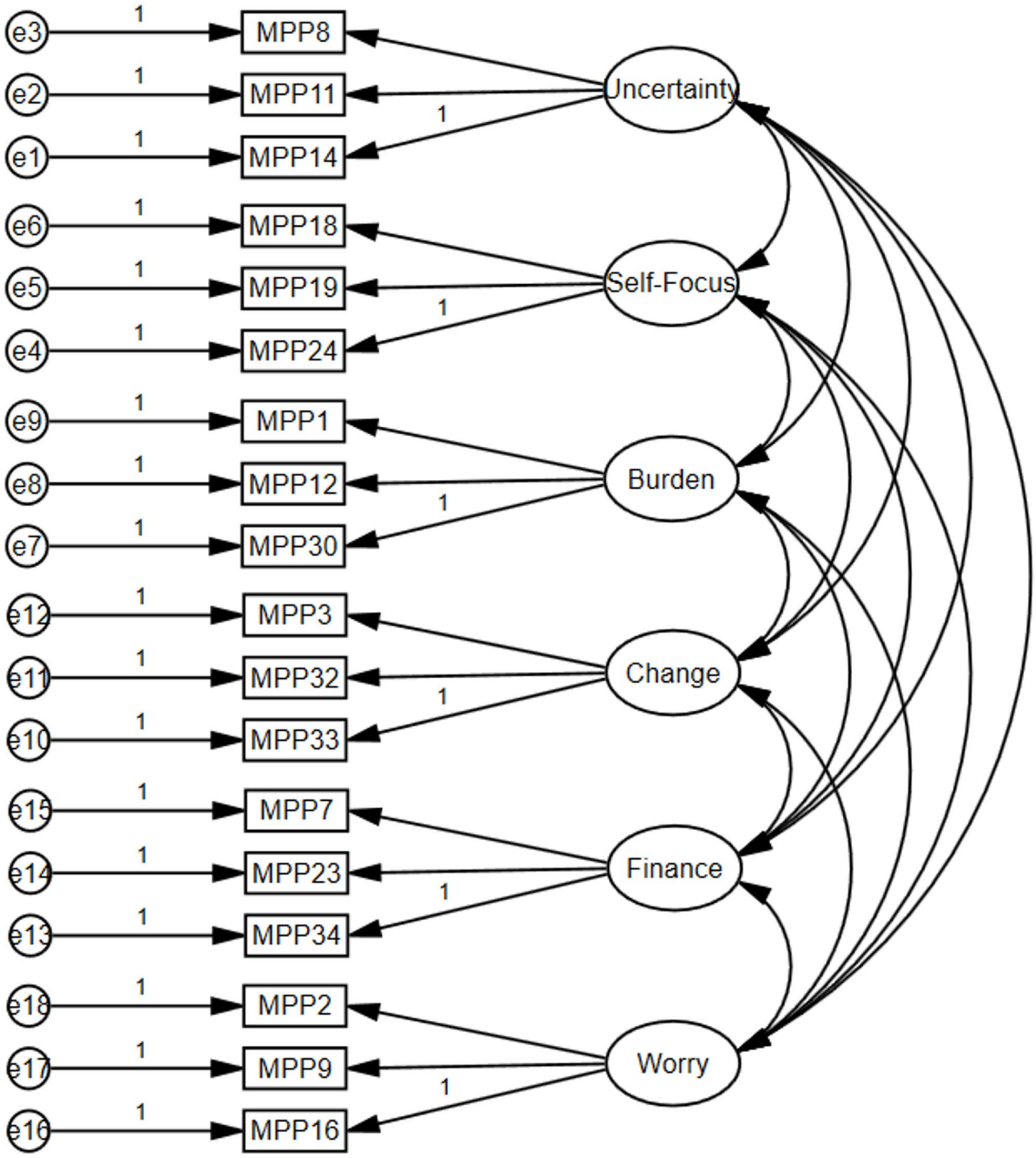


**Fig. 2**. Hypothesized first-order factor model with six motives for postponing parenthood. MPP-Motives for Postponing Parenthood.

In the next step, called model identification, we defined the units of measure for the observable and unobservable variables. We considered the three-indicator rule recommended to guarantee model identification[94]: (1) each latent variable would have three indicators (scale items) with non-zero factor loadings; (2) three indicators would load on only one factor; (3) the error terms would not be correlated.

In the third step, called estimation, the parameters for the CFA measurement models were estimated by applying the maximum likelihood method (ML), which is the most widely used procedure and considered robust to violations of normality[95].

In the fourth step, called evaluation, we examined the results of the analysis and assessed the adequacy of the proposed model. We considered some of the most commonly used fit indices: chi-square ($\chi^2$ with a $p$ insignificant value sensitive to sample size; chi-square–degrees of freedom ratio ($\chi^2/df$) $\leq 3$; Goodness-of-Fit Index (GFI), Comparative Fit Index (CFI), and Tucker-Lewis Index (TLI) $\geq 0.9$; the Root Mean Square Error of Approximation (RMSEA) $\leq 0.8$, its 90% Confidence Interval [LO $\leq 0.05$; HI $\leq 0.08$], Standardized Root Mean Square Residual (SRMR) $\leq 0.08$ (Hu & Bentler, 1998), and PCLOSE $> 0.05$.[96]

In addition to testing the structure of a first-order factor model with six motives for postponing parenthood as shown in Fig. 2, we also checked whether all items formed a higher-order factor of deferred parenthood(Fig. 3).

In the fifth step, we considered the possibility of potential modifications to the model in the case of a poor fit, making such changes only if necessary and in accordance with theory[97].

The internal consistency of the MSMPP-18 was examined with Cronbach's alpha, McDonald's Omega, and composite reliability (CR). For the Omega coefficient, we included a 95% confidence interval. All measures were considered acceptable for research purposes, with values above 0.7[98]. Convergent validity was measured with the AVE with the recommended value no less than 0.50.

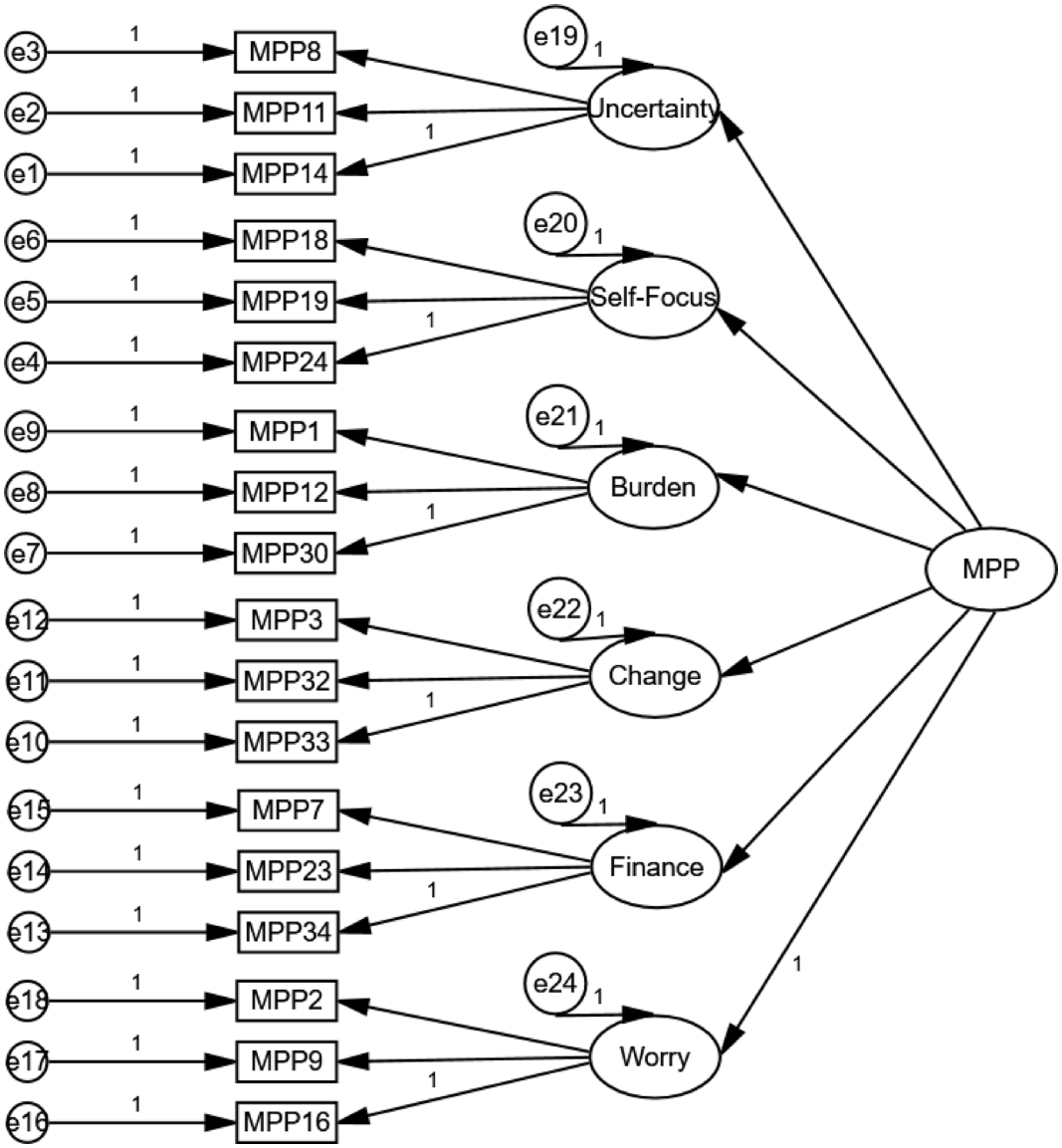


**Fig. 3**. Hypothesized higher-order factor model of the MSMPP-18.

To assess the construct validity, nomological validity was performed in Studies 2–3. The strength of the linear relationship was checked using Pearson's correlation. Interpretation of the coefficients was based on the method of interpreting values reported by Evans[99] [p. 146]: negligible to very weak (between ±0.00 and ±0.19), weak (between ±0.20 and ±0.39), moderate (between ±0.40 and ±0.59), strong (between ±0.60 and ±0.79), and very strong (between ±0.80 and ±1.00). Since we did not have other tools to measure the motives for deferred parenthood, we selected questionnaires that are conceptually related to it. In Study 2, procrastination, future anxiety, and resilience were included in the nomological network.

## Results

Table 3 shows the descriptive statistics of all items and factors of the MSMPP-18, procrastination (PR) and its subscales, future anxiety (FA), and resilience (RES), supporting that the data are close to a normal distribution.

All VIF values ranged from 1.034 to 3.545, being lower than the threshold of 10.0. The tolerance values were above 0.1 and varied between 0.282 and 0.967. Thus, both results denote the absence of multicollinearity in the sample. There were no suspected observations with large Mahalanobis distances. In fact, the lowest $p$ value was equal to 0.001226. The Cook's distance values were much less than 1 (ranging between 0.000 and 0.109). Therefore, both outcomes suggest that there are no influential points in sample 2.

The linear regression model showed that sex (β = −0.034, $t = -0.645$, $p = 0.519$), age (β = −0.167, $t = -2.791$, $p = 0.006$), place of residence (β = 0.017, $t = 0.341$, $p = 0.734$), and hypothetical decision to have a child before the age of 30 (β = −0.003, $t = -0.039$, $p = 0.969$) explained 8.4% of the variance ($R^2 = 0.084$). Other variables represented a significant amount of the variance (additional 47%) despite controlling for the confounding effects. Based on the results obtained, it can be assumed that age may be a variable whose presence is of great importance in the relationship among the motives for postponed parenthood, procrastination, anxiety about the future, and resilience.

The model CFA was specified based on a six-factor solution selected based on the final EFA analysis (Study 1). The factorial structure of the MSMPP-18 was supported in Study 2. The factor loadings were above 0.55 (between 0.61 and 0.98) for all eighteen items of the MSMPP-18 (Fig. 4).

The goodness-of-fit of a six-factor solution presented a very good fit of the model: $\chi^2 = 188.681$, $p < 0.001$; $\chi^2/df = 1.572$; GFI = 0.90; CFI = 0.97; TLI = 0.96; RMSEA = 0.05, [LO = 0.03, HI = 0.06]; SRMR = 0.04; PCLOSE = 0.334. Only $\chi^2$ was significant, suggesting a bad fit, but this statistic is often sensitive to sample size.

The goodness-of-fit of a higher-order factor model (one factor solution) that was called postponed parenthood also presented a very good fit of the model: $\chi^2 = 210.902$, $p < 0.001$; $\chi^2/df = 1.635$; GFI = 0.89; CFI = 0.97; TLI = 0.96; RMSEA = 0.06, [LO = 0.04, HI = 0.07]; SRMR = 0.06; PCLOSE = 0.217. The value $\chi^2$ was significant. There was no need for potential modifications of the model since the model presented very good fit.

The Cronbach's alpha reliability coefficients were very good for all six factors of the MSMPP-18: (1) feeling of own uncertainty and incompetence (α = 0.90; ω = 0.91; 95% CI: 0.88–0.93); (2) self-focus (α = 0.95; ω = 0.95; 95% CI: 0.93–0.96); (3) parenthood as a burden (α = 0.79; ω = 0.81; 95% CI: 0.75–0.86); (4) fear of change (α = 0.80; ω = 0.81; 95% CI: 0.76–0.86); (5) financial security concern (α = 0.95; ω = 0.95; 95% CI: 0.93–0.97); and (6) worry about a child's future (α = 0.83; ω = 0.83; 95% CI: 0.78–0.87). Estimates of AVE and CR (Table 3) were higher than the minimum cut-off.

Finally, six factors and the overall score of the MSMPP-18, procrastination and its dimensions, future anxiety, and brief resilience were checked for the strength of the linear relationship using Pearson's correlation with confidence intervals (Table 4).

The correlation analysis between the six subscales of the tool for measuring the motives for deferred parenthood/postponed parenthood total showed positive and significant relationships. The factors "change" and "burden" had the strongest correlations, while "worry" and "finance" had the weakest correlations. Except for one MSMPP-18 subscale (self-focus), the remaining factors correlated significantly and positively, although weakly, with procrastination and its dimensions (H1). Financial motive did not correlate with the non-adaptive aspect of procrastination. A similar pattern was observed in the correlations between the motives for postponed parenthood and future anxiety (H2), with the difference that these correlations were slightly stronger than in the case of procrastination. The MSMPP-18 factors correlated significantly, but negatively and weakly, with resilience, except for the self-focus factor and burden (H3). Based on the results obtained, it can be assumed that all three hypotheses were largely supported.

## Discussion

The goal of Study 2 was to implement a CFA to examine whether the six-dimensional structure of the questionnaire obtained in Study 1 for the 18-item model would be supported. The outcomes indicated a very good fit of both the six-factor model (motives for postponed parenthood) and one-factor (postponed parenthood) to the data, which meant that there was no need to use any modification. In Study 2, three hypotheses (H1–H3) were considered and largely supported. In hypothesis H1, we assumed that motives for postponed parenthood would correlate positively with the tendency to procrastinate. The results supported H1, revealing positive, though weak, correlations of motives for postponing parenthood with procrastination in the general sense – as a composite of the decision-making, behavioral and nonadaptive aspects of this trait[85]. These outcomes are consistent with the results of Lauderdale and colleagues[100], who demonstrated a link between aversive indecisiveness and decisional, implemental procrastination. No correlation was shown with the self-focus motive. This may be related to the fact that people focused on self-actualization and presenting high personal standards often manage time and tasks well and thus do not exhibit problems with procrastination[101].

Hypothesis (H2), according to which motives for postponed parenthood are positively linked to future anxiety, was also supported. This is consistent with data from previous studies, which show that the decision to have a first child is weighed down by women's feelings of material insecurity[102,103]. The correlations obtained in

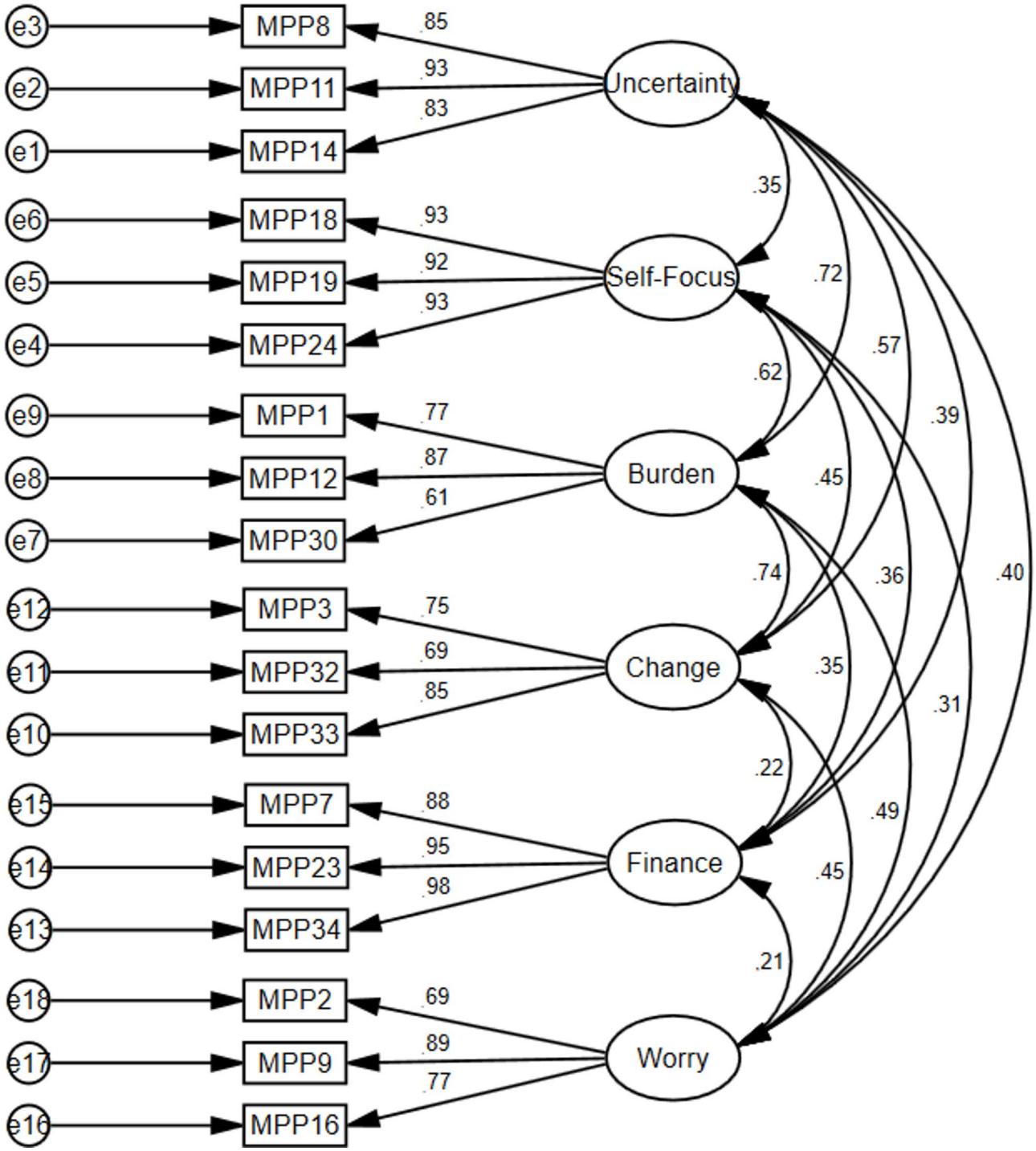


**Fig. 4**. Measurement Model of Final MSMPP-18 ($N = 201$).

our study are also in accordance with the theoretical concept of future negative time perspective[86]. According to this standpoint, people who have fears about the future in the behavioral layer, manifest mainly avoidance of losses and suffering, and display avoidant and dependent decision-making styles[104].

Regarding hypothesis (H3), where we assumed that motives for postponed parenthood would correlate negatively with resilience, it was partially possible to show this relationship. Feelings of uncertainty and incompetence, burden, fear of change, financial security concern, and worry about a child's future revealed a negative relationship with resilience. These factors represent features of people who are somehow worried and question their competence, risk of unwanted change, financial stability in the face of parenthood, and the ability to create a satisfying quality of life for the child in the future. This is congruent with studies in which lower parent resilience beliefs were associated with higher parent stress [105]. It is also a reflection of more general

| | UNC | S-FOC | BURD | CHAN | FIN | WOR | MPP | PP_B | PP_D | PP_NA | PP_T | FA | RES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| UNC | 1 | | | | | | | | | | | | |
| S-FOC | 0.333*** [0.215;0.457] | 1 | | | | | | | | | | | |
| BURD | 0.506*** [0.398;0.596] | 0.591*** [0.479;0.699] | 1 | | | | | | | | | | |
| CHAN | 0.467*** [0.332;0.590] | 0.420*** [0.295;0.548] | 0.658*** [0.575;0.732] | 1 | | | | | | | | | |
| FIN | 0.357*** [0.228;0.477] | 0.349*** [0.203;0.489] | 0.279*** [0.143;0.417] | 0.188** [0.043;0.322] | 1 | | | | | | | | |
| WOR | 0.327*** [0.201;0.444] | 0.253*** [0.104;0.388] | 0.375*** [0.257;0.492] | 0.375*** [0.251;0.502] | 0.149* [0.006;0.291] | 1 | | | | | | | |
| MPP | 0.727*** [0.652;0.788] | 0.702*** [0.622;0.773] | 0.797*** [0.735;0.844] | 0.733*** [0.666;0.790] | 0.595*** [0.496;0.683] | 0.594*** [0.506;0.671] | 1 | | | | | | |
| PR_B | 0.174* [0.024;0.318] | 0.095 [− 0.047;0.220] | 0.180* [0.045;0.304] | 0.190** [0.042;0.337] | 0.149* [0.005;0.290] | 0.176* [0.037;0.319] | 0.233** [0.089;0.370] | 1 | | | | | |
| PR_D | 0.275*** [0.138;0.421] | 0.079 [− 0.063;0.220] | 0.234** [0.090;0.347] | 0.238** [0.085;0.387] | 0.172* [0.039;0.314] | 0.220** [0.081;0.352] | 0.295*** [0.151;0.424] | 0.816*** [0.764;0.864] | 1 | | | | |
| PR_NA | 0.250*** [0.109;0.382] | 0.048 [− 0.084;0.176] | 0.134 [0.001;0.247] | 0.244*** [0.115;0.367] | 0.104 [− 0.028;0.230] | 0.159* [0.011;0.299] | 0.228** [0.101;0.346] | 0.622*** [0.548;0.689] | 0.569*** [0.474;0.652] | 1 | | | |
| PR_T | 0.239*** [0.088;0.383] | 0.090 [− 0.047;0.221] | 0.204** [0.068;0.324] | 0.237** [0.092;0.382] | 0.161* [0.020;0.298] | 0.203** [0.063;0.343] | 0.275*** [0.126;0.400] | 0.965*** [0.957;0.972] | 0.899*** [0.869;0.923] | 0.759*** [0.695;0.810] | 1 | | |
| FA | 0.392*** [0.258;0.514] | 0.113 [− 0.034;0.251] | 0.286*** [0.150;0.419] | 0.303*** [0.167;0.450] | 0.296*** [0.153;0.429] | 0.347*** [0.216;0.474] | 0.425*** [0.299;0.536] | 0.460*** [0.342;0.586] | 0.509*** [0.381;0.633] | 0.364*** [0.246;0.473] | 0.501*** [0.388;0.610] | 1 | |
| RES | −0.253*** [− 0.394;−0.118] | −0.025 [− 0.169;0.120] | −0.125 [− 0.268;0.026] | −0.154* [− 0.292;−0.016] | −0.232*** [− 0.363;−0.104] | −0.298*** [− 0.427;−0.169] | −0.271*** [0.406;−0.143] | −0.367*** [− 0.492;−0.234] | −0.398*** [− 0.526;−0.263] | −0.315*** [− 0.426;−0.201] | −0.403*** [− 0.524;−0.276] | −0.616*** [− 0.706;−0.509] | 1 |

**Table 4**. Correlations between subscales of MSMPP-18 and dimensions of Procrastination, future Anxiety, and resilience ($N = 201$). * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; UNC–Uncertainty; S-FOC–Self-Focus; BURD–Burden; CHAN–Change; FIN–Financial Concerns; WOR–Worry; MPP–Postponed Parenthood Total; PR_B–Behavioral Procrastination; PR_D–Decisional Procrastination; PR_NA–Non Adaptive Procrastination; PR_T-Procrastination Total; FA–Future Anxiety; RES–Resilience.

patterns, according to which personality resilience is positively linked to a higher locus of control, self-efficacy, optimism, sense of coherence and more favorable self-esteem[106]. If we look at parenting in terms of embracing the challenge, the fact that those individuals who present lower resilience multiply the reasons for not having a child is consistent with results showing that resilient individuals are also more likely to undertake risky investment behavior[107].

At the same time, the lack of correlation with the motives of self-focus may relate to the fact that resilient people are not necessarily those who take on all possible commitments and challenges, but those who selectively create their task scopes. In research by Shin and Kelly[108], resilient individuals were quicker to make decisions in their career decision-making and experienced fewer difficulties in undertaking decisions on their career, procrastinated less, relied less on others to make decisions, had fewer aspirations for an ideal occupation, and put more effort into career decisions. Given that career decisions and having children are made during a similar developmental period, one can surmise similar issues of resilience with both categories of decisions.

## Study 3

Study 3 focused on a second CFA of the MSMPP-18 and concerned hypotheses H4–H6. In Study 3, we considered life satisfaction, mentalization, and dimensions of emerging adulthood as correlates of motives for postponed parenthood. It is well known that the individual's ability to pursue goals is associated with their assessment of their life condition, awareness of their own mental states, and sense of accomplishment. When people subjectively rate their lives as fulfilling, engage in recognizing their own thoughts and are identity-grounded, they may not postpone the decision to become parents because they feel they are prepared for it.

The theoretical basis for the justification of hypothesis H4 is the perspective of Bradley and Corwyn[109] [p. 385], who point out that "life satisfaction reflects both the extent to which basic needs are met and the extent to which a variety of other goals are viewed as attainable." Previous research confirms that people who face a blocked parenthood goal are more likely to experience poorer well-being[110]. If the various motives for deferred parenthood include both basic needs (e.g., financial and work stability) and other goals (e.g., personal maturity, higher education), it can be hypothesized that the motives leading to delayed parenthood reflect a lower level of life satisfaction.

**H4:** *Motives for postponed parenthood are negatively associated with life satisfaction.*

Mentalizing is an engagement in the imaginative capacity that consists of recognizing, understanding, and interpreting one's own and other people's thoughts, feelings, and behaviors as resulting from intentional mental states[111]. An important aspect of mentalizing, apart from the interpersonal one, is its intrapsychic dimension, which is related to self-regulatory processes. Since mentalizing is a health-promoting resource and relates to the ability to maintain a consistent self-image and to regulate emotions[112], we can assume that when its level is low, then motives for deferred parenthood may prevail.

**H5:** *Motives for postponed parenthood are negatively linked to mentalizing.*

Emerging adults are those young people who have left adolescence but do not feel fully adults [113]. In this distinct developmental period, they explore their identity, experiment with different possibilities (e.g., love, work, worldviews), show negativity/instability[114], and are self- and other-focused. In many dimensions, emerging adults assume an ambiguous position, considering themselves adults "in some respects yes, in some respects no"[81] [p. 64]. Moreover, they still experience identity confusion and disappointment and are insecure and self-centered[114]. Since, in many ways, they feel suspended in a vacuum, it can be assumed that the motives for postponed parenthood will correlate positively with these dimensions.

**H6:** *Motives for postponed parenthood correlate positively with dimensions of emerging adulthood.*

## Method

### Participants

The purposeful sample included 184 emerging adults (79.9% women, 20.1% men). Data was collected via the Internet (similarly to Study 2, Study 3 was advertised on Facebook and Instagram). The participants were aged between 18 and 29 ($M = 24.35$; $SD = 2.95$). Considering the place of residence, 27.7% of the participants were living in cities with populations from 150,000 to 500,000, 23.4% – in cities between 50,000 and 150,000, 19% – in villages, 15.8% – in cities over 500,000, and 14.1% – in towns up to 50,000. More than half of the respondents (54.3%) answered positively to the question of whether they planned to have a child before the age of 30. When asked what they think is the right age to have children, slightly more than a half (52.2%) indicated age up to 30 years. To the question, "If you decided to have a child, how many children would you like to have?" the participants indicated as follows: 39.6% – two children, 22.2% – one child, 26.5% – three or more. The others (11.7%) answered that they did not want to have children. Informed consent to take part in the research was obtained from all participants (in a similar manner to Studies 1 and 2).

### Measures

In the present study, the MSMPP-18 was used again. The Cronbach's alpha and McDonald's Omega reliability coefficients were very good for all six factors of the MSMPP-18. As in Study 2, estimates of AVE and CR (Table 5) were higher than the minimum cut-off, although in the case of "burden" and "worry," both values were slightly lower than in the previous studies. To test hypotheses H5–H7, we measured the associations between the motives for postponed parenthood, satisfaction, mentalization, and dimensions of emerging adulthood, assessed through the following questionnaires.

***Riverside Life Satisfaction Scale* (RLSS)** by Margolis et al.[115], in a Polish validation by Adamczyk et al.[116], is a 6-item measure which contains multiple indirect indicators of life satisfaction (e.g., "If I could live my life over, I would change many things"). Respondents rate their agreement with each statement on a 7-point Likert scale (1 = *strongly disagree*, 7 = *strongly agree*). Three items are regularly scored (1, 3, and 5) and three items are reverse

| Items | Mean | SD | Min | Max | Skewness | Kurtosis | Corrected Item – Total Correlations AVE/CR |
|---|---|---|---|---|---|---|---|
| MPP1(8) | 3.71 | 2.05 | 1 | 7 | 0.19 | −1.26 | 0.747 |
| MPP2(11) | 3.64 | 2.02 | 1 | 7 | 0.39 | −1.17 | 0.753 |
| MPP3(14) | 3.13 | 1.88 | 1 | 7 | 0.68 | −0.62 | 0.726 |
| MPP4(18) | 5.47 | 1.62 | 1 | 7 | −0.96 | 0.00 | 0.886 |
| MPP5(19) | 5.21 | 1.75 | 1 | 7 | −0.83 | −0.26 | 0.909 |
| MPP6(24) | 5.15 | 1.72 | 1 | 7 | −0.79 | −0.30 | 0.869 |
| MPP7(1) | 5.63 | 1.51 | 1 | 7 | −1.14 | 0.68 | 0.565 |
| MPP8(12) | 5.25 | 1.79 | 1 | 7 | −1.02 | 0.13 | 0.592 |
| MPP9(30) | 6.39 | 0.98 | 1 | 7 | −2.65 | 9.80 | 0.447 |
| MPP10(3) | 4.03 | 1.88 | 1 | 7 | −0.03 | −1.25 | 0.578 |
| MPP11(32) | 4.74 | 1.86 | 1 | 7 | −0.46 | −0.91 | 0.504 |
| MPP12(33) | 4.13 | 1.90 | 1 | 7 | −0.16 | −1.11 | 0.725 |
| MPP13(7) | 5.03 | 2.14 | 1 | 7 | −0.68 | −1.01 | 0.869 |
| MPP14(23) | 4.76 | 2.11 | 1 | 7 | −0.47 | −1.19 | 0.934 |
| MPP15(34) | 4.66 | 2.19 | 1 | 7 | −0.43 | −1.30 | 0.914 |
| MPP16(2) | 4.68 | 1.90 | 1 | 7 | −0.34 | −1.01 | 0.473 |
| MPP17(9) | 5.22 | 1.82 | 1 | 7 | −0.95 | −0.11 | 0.561 |
| MPP18(16) | 4.90 | 1.99 | 1 | 7 | −0.66 | −0.76 | 0.594 |
| UNCERTAINTY | 10.47 | 5.28 | 3 | 21 | 0.40 | −0.88 | 0.85/0.93 |
| SELF_FOCUS | 15.83 | 4.85 | 3 | 21 | −0.82 | −0.30 | 0.93/0.97 |
| BURDEN | 17.27 | 3.46 | 3 | 21 | −1.18 | 1.41 | 0.78/0.85 |
| CHANGE | 12.89 | 4.67 | 3 | 21 | −0.09 | −0.95 | 0.81/0.89 |
| FINANCE | 14.45 | 6.18 | 3 | 21 | −0.53 | −1.13 | 0.94/0.97 |
| WORRY | 14.80 | 4.57 | 3 | 21 | −0.59 | −0.32 | 0.77/0.86 |
| MPP | 85.73 | 19.84 | 31 | 126 | −0.52 | −0.17 | - |
| SAT | 28.58 | 7.61 | 6 | 42 | −0.69 | 0.45 | - |
| MENT_S | 27.13 | 6.91 | 8 | 40 | −0.15 | −0.54 | - |
| MENT_O | 35.97 | 5.56 | 19 | 45 | −0.55 | −0.39 | - |
| MENT_M | 40.03 | 6.64 | 19 | 45 | −0.66 | 0.15 | - |
| MENT_T | 103.14 | 15.59 | 65 | 135 | −0.12 | −0.66 | - |
| EA_N | 8.69 | 2.36 | 3 | 12 | −0.28 | −0.78 | 0.83/0.91 |

**Table 5**. Descriptive statistics, corrected item–total correlations, average variance extracted and composite reliability ($N = 184$). MPP–Motives for Postponing Parenthood; MPP–Postponed Parenthood Total; SAT–Satisfaction with Life; MENT_S–Self-Related Mentalization; MENT_O–Other-Related Mentalization; MENT_M–Motivation to Mentalize; MENT_T–Mentalization: Total; EA_N–Negativity/Instability.

scored (2, 4, and 6). Total score can range from 6 to 42; the higher the score, the higher the satisfaction with life. The tool is known for its high reliability[117]. In the present study, the Cronbach's α was 0.86.

***Mentalization Scale*** **(MentS)** by Dimitrijević et al.[118], in a Polish adaptation by Jańczak[119], is a reliable 28-item, self-report instrument that measures the ability to understand behavior based on mental states. It covers three distinct dimensions of mentalization: self-related mentalization, other-related mentalization, and motivation to mentalize. Respondents answer the questions on a 5-point Likert scale, ranging from 1 = *completely disagree* to 5 = *completely agree*. The MentS has good psychometric properties, both for its three subscales and for its overall score[118]. Total score can range from 65 to 135; higher scores indicate a greater ability to mentalize. In the present study, Cronbach's α showed very good reliability: self-related mentalization (α = 0.85), other-related mentalization (α = 0.84), motivation to mentalize (α = 0.81), and total score (α = 0.90).

***Inventory of the Dimensions of Emerging Adulthood*** **(IDEA)** by Reifman et al.[70], translated and adapted into Polish by Zagórska et al.[120], is a 15-item questionnaire that assesses attitudes toward emerging adulthood via five dimensions: identity exploration (e.g., searching for meaning, defining oneself), experimentation/possibilities (e.g., trying new things), negativity/instability (e.g., confusion, unpredictability), other-focused (e.g., concentration on others), and self-focused (e.g., personal freedom). Respondents express their agreement with each statement on a Likert-type scale from 1 = *strongly disagree* to 4 = *strongly agree*. The internal reliability, based on the Omega coefficient, as was done in the original study[110], was in our study as follows: identity exploration (ω = 0.55), experimentation/possibilities (ω = 0.55), negativity/instability (ω = 0.84), other-focused (ω = 0.61), and self-focused (ω = 0.50). Due to the low reliability of four subscales, we only used the negativity/instability subscale in our subsequent analyses; scores on that subscale can range from 3 to 12, and higher scores indicate greater levels of instability and identify confusion.

## Procedure and data analysis

The main goal of Study 3 was to test the psychometric structure of the MSMPP-18. The procedure contained a five-step CFA procedure (model specification, identification, parameter estimation, model evaluation, and modification); the variance inflation factor and a tolerance value; Mahalanobis distance and Cook's distance; Pearson's correlation of the six factors of the MSMPP-18, satisfaction, mentalization, and negativity/instability.

## Results

Table 5 shows the descriptive statistics of all items and factors of the MSMPP-18, satisfaction, mentalization, and dimensions of emerging adulthood.

All VIF values ranged from 1.071 to 1.989, being lower than the threshold of 10.0. The tolerance values were above 0.1 and varied between 0.503 and 0.841. Thus, both results denote the absence of multicollinearity in sample 3. There were no outliers as all cases had $p$ values > 0.001. The Cook's distance values were much less than 1 (ranging between 0.000 and 0.033), confirming the absence of outliers in Study 3.

The linear regression model showed that sex ($\beta = -0.235$, $t = -3.692$, $p = 0.001$), age ($\beta = 0.043$, $t = 0.618$, $p = 0.537$), place of residence ($\beta = 0.081$, $t = 1.280$, $p = 0.202$), and hypothetical decision to have a child before the age of 30 ($\beta = -0.004$, $t = -0.054$, $p = 0.957$) explained 7.4% of the variance ($R^2 = 0.074$). The other variables represented a significant amount of the variance (additional 29%) despite controlling for the confounding effects. Based on the results obtained, it can be assumed that sex may be a variable whose presence is of great importance in the relationship among the motives for postponed parenthood (outcome variable), satisfaction, mentalization, and negativity/instability as a dimension of emerging adulthood (exposure variables).

The model CFA was specified based on a six-factor solution. The factorial structure of the MSMPP-18 was also supported in Study 3. The factor loadings were above 0.55 for almost all items of the MSMPP-18, except MPP30 (0.48) and MPP2 (0.54) (Fig. 5).

Moreover, the goodness-of-fit of a six-factor solution presented an optimal fit of the model: $\chi^2 = 186.986$, $p < 0.001$; $\chi^2/df = 1.558$; GFI = 0.90; CFI = 0.97; TLI = 0.96; RMSEA = 0.05, [LO = 0.04, HI = 0.07]; SRMR = 0.05; PCLOSE = 0.278. Only $\chi^2$ was significant.

The goodness-of-fit of a higher-order factor model (one factor solution) also presented a very good fit of the model: $\chi^2 = 215.281$, $p < 0.001$; $\chi^2/df = 1.669$; GFI = 0.89; CFI = 0.96; TLI = 0.95; RMSEA = 0.06, [LO = 0.05, HI = 0.07]; SRMR = 0.05; PCLOSE = 0.113. Only $\chi^2$ was significant.

The reliabilities (Cronbach's alpha and McDonald's Omega) were: (1) feeling of uncertainty and incompetence ($\alpha = 0.86$; $\omega = 0.86$; 95% CI: 0.82–0.90); (2) self-focus ($\alpha = 0.95$; $\omega = 0.95$; 95% CI: 0.82–0.90); (3) parenthood as a burden ($\alpha = 0.69$; $\omega = 0.74$; 95% CI: 0.65–0.82); (4) fear of change ($\alpha = 0.77$; $\omega = 0.79$; 95% CI: 0.74–0.84); (5) financial security concern ($\alpha = 0.95$; $\omega = 0.96$; 95% CI: 0.65–0.80); and (6) worry about a child's future ($\alpha = 0.72$; $\omega = 0.73$; 95% CI: 0.65–0.81).

The correlation analysis between the six subscales of the MSMPP-18 showed positive, weak, and moderate significant relationships (Table 6). Satisfaction with life was significantly and negatively associated with four of the six motives for postponed parenthood (uncertainty, change, finance, and worry) and the overall score. Uncertainty correlated negatively with all dimensions and the overall score of mentalization. The subscales of change, finance, and worry were negatively associated with mentalization of self. Finance was negatively linked to the overall score of mentalization. Correlations between the remaining dimensions of both scales were insignificant. Finally, negativity/instability correlated positively with all the dimensions of the MSMPP-18.

## Discussion

Four of the six motives for postponing parenthood/overall postponed parenthood correlated negatively with life satisfaction (H5). This outcome is consistent with research by Łada-Maśko and Kaźmierczak[26], in which higher life satisfaction was associated with greater maturity to take on the role of parent. Research also shows that the achievement of parental satisfaction is reflected in the satisfaction of the offspring in adulthood[121]. According to the results of our research, those who feel personally insecure and incompetent to take on the role of a parent, people with concerns about whether they will be able to financially cope with parenthood, individuals who fear the life changes of having a child and feel psychological discomfort thinking about the future of their children are also less satisfied with life. Due to the correlative nature of these relationships, it is impossible to determine causality. It can be speculated that expressed fears may lead to a lack of satisfaction (and this could be mediated by the satisfaction associated with having children), and, according to Beck's model of depression[122], people who are dissatisfied with their lives underestimate their competence and resources to undertake responsible and challenging situations, like entering the role of parent. The lack of association between both self-focus and parenthood as a burden motive with life satisfaction may indicate that individuals focused on seeking self-development prospects and shying away from parenthood because of the potential burden may have independent resources that contribute to their wellbeing.

Not entirely consistent with our predictions, only four motives for postponing parenthood and overall postponed parenthood revealed a negative correlation with the capacity of self-related mentalizing (H6). This may mean that people who are able to carry out mental actions to interpret both their own and others' behavior as having meaning are less likely to feel incompetent to take on the role of parent. They are also less worried about the financial risks of parenthood, less afraid of life changes and more optimistic about their children's future. It is congruent with the results of a study by Dimitrijević and colleagues[118], who found negative associations of mentalization with both anxiety and avoidance in close relationships. Only the motive of self-focus and parenthood as a burden failed to exhibit a relationship with self-related mentalization. Therefore, it cannot be concluded that people who are preoccupied with the development of their own lives and perceive parenthood as a burden are accompanied by a lack of empathy and the ability to mentalize. This may mean that people who

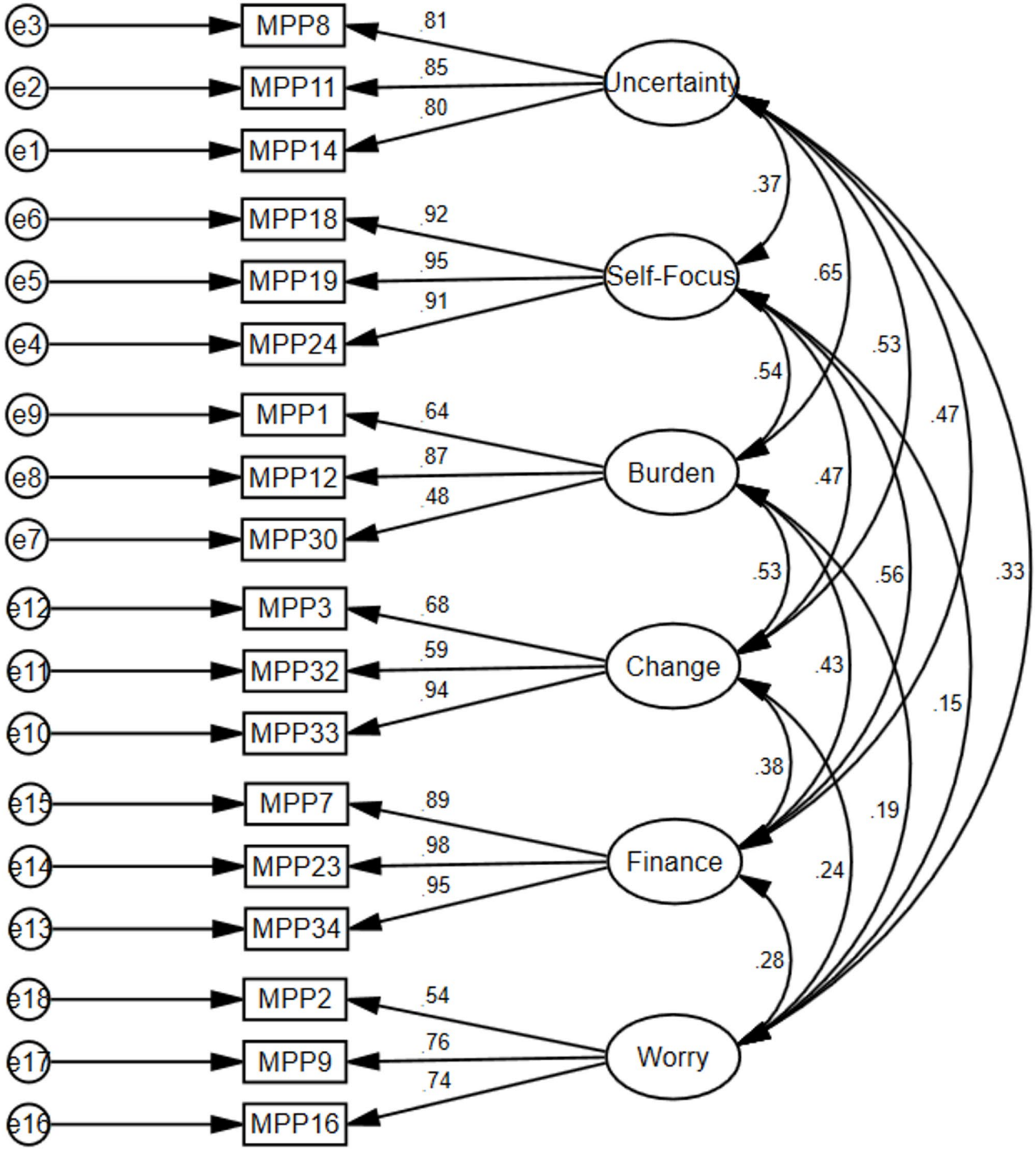


**Fig. 5**. Measurement Model of Final MSMPP-18 ($N$= 184). MPP–Motives for Postponing Parenthood.

manifest the ability to self-mentalize are able to understand themselves in terms of the direction of their life development, including the timing of their entry into parenting roles. Perceptions of parenthood as a sacrifice and a burden also do not necessarily depend on the ability to self-mentalize. Although a study by Weinstein and colleagues[123] has shown a link between egocentrism, psychopathy, and a lack of mentalizing skills, our study did not confirm analogous relationships. It is possible, therefore, that focusing on self-development and seeing sacrifices in the parenting role may be part of a not so much egoistic approach as conscious parenting planning, and that parenting may serve an identity construction function for them. This is showed by the research of Franco-Borges et al.[124], who showed that more than a quarter of respondents cited self-fulfillment as a reason for becoming a parent.

| | UNC | S-FOC | BURD | CHAN | FIN | WOR | MPP | SAT | MENT_S | MENT_O | MENT_M | MENT_T | EA_N |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| UNC | 1 | | | | | | | | | | | | |
| S-FOC | 0.342*** [0.207;0.463] | 1 | | | | | | | | | | | |
| BURD | 0.514*** [0.412;0.602] | 0.443*** [0.324;0.549] | 1 | | | | | | | | | | |
| CHAN | 0.438*** [0.316;0.550] | 0.443*** [0.313;0.558] | 0.437*** [0.305;0.539] | 1 | | | | | | | | | |
| FIN | 0.435*** [0.324;0.535] | 0.539*** [0.415;642] | 0.379*** [0.249;0.496] | 0.391*** [0.255;0.526] | 1 | | | | | | | | |
| WOR | 0.243*** [0.095;0.357] | 0.103 [− 0.045;0.241] | 0.182* [0.008;0.347] | 0.212** [0.047;0.366] | 0.201** [0.048;0.350] | 1 | | | | | | | |
| MPP | 0.734*** [0.673;0.784] | 0.709*** [0.623;0.775] | 0.683*** [0.578;0.756] | 0.707*** [0.626;0.779] | 0.764*** [0.707;0.812] | 0.465*** [0.331;0.578] | 1 | | | | | | |
| SAT | −0.344*** [− 0.481;−0.188] | −0.077 [− 0.207;0.081] | −0.094 [− 0.222;0.067] | −0.183* [− 0.325;−0.021] | −0.360*** [− 0.466;−0.228] | −0.301*** [− 0.415;−0.175] | −0.352*** [− 0.475;−0.206] | 1 | | | | | |
| MENT_S | −0.420*** [− 0.544;−0.290] | −0.024 [− 0.177;0.115] | −0.038 [− 0.204;0.129] | −0.270*** [− 0.410;−0.136] | −0.309*** [− 0.443;−0.177] | −0.234** [− 0.374;−0.088] | −0.338*** [− 0.477;−0.204] | 0.478*** [0.368;0.581] | 1 | | | | |
| MENT_O | −0.229** [− 0.355;−0.094] | 0.058 [− 0.097;0.208] | 0.076 [− 0.058;0.221] | 0.010 [− 0.138;0.141] | −0.133 [− 0.264;−0.003] | −0.023 [− 0.137;0.094] | −0.078 [− 0.209;0.058] | 0.328*** [0.206;0.450] | 0.459*** [0.331;0.568] | 1 | | | |
| MENT_M | −0.173* [− 0.320;−0.026] | 0.002 [− 0.128;0.137] | 0.106 [− 0.036;0.253] | 0.041 [− 0.096;0.168] | −0.069 [− 0.216;0.079] | 0.072 [− 0.078;0.235] | −0.022 [− 0.167;0.125] | 0.260*** [0.116;0.407] | 0.349*** [0.212;0.479] | 0.714*** [0.624;0.792] | 1 | | |
| MENT_T | −0.342*** [− 0.463;−0.213] | 0.011 [− 0.129;0.160] | 0.055 [− 0.102;0.212] | −0.098 [− 0.242;0.043] | −0.214** [− 0.342;−0.064] | −0.081 [− 0.207;0.059] | −0.187* [− 0.315;−0.042] | 0.440*** [0.329;0.539] | 0.756*** [0.688;0.816] | 0.865*** [0.815;0.900] | 0.836*** [0.785;0.881] | 1 | |
| EA_N | 0.345*** [0.211;0.468] | 0.232** [0.086;0.358] | 0.324*** [0.189;0.450] | 0.308*** [0.167;0.429] | 0.472*** [0.350;0.578] | 0.271*** [0.137;0.420] | 0.487*** [0.357;596] | −0.537*** [− 0.633;−0.433] | −0.363*** [− 0.486;−0.220] | −0.162* [− 0.295;−0.026] | 0.019 [− 0.140;0.184] | −0.211** [− 0.344;−0.061] | 1 |

**Table 6**. Correlations between subscales and total of MSMPP-18, life satisfaction, mentalization, and negativity/instability ($N = 184$). * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; UNC–Uncertainty; S-FOC–Self-Focus; BURD–Burden; CHAN–Change; FIN–Financial Concerns; WOR–Worry; MPP–Postponed Parenthood Total; SAT–Satisfaction with Life; MENT_S–Self-Related Mentalization; MENT_O–Other-Related Mentalization; MENT_M– Motivation to Mentalize; MENT_T–Mentalization: Total; EA_N– Negativity/Instability.

In accordance with H7, the negativity/instability dimension of emerging adulthood correlated positively (at moderate and weak levels) with all motives and the overall score of postponed parenthood. This result suggests that people who perceive their life as full of confusion, stress, limitations, worries and unpredictability simultaneously dismiss the prospect of parenthood. Taking on the role of a parent entails experiencing a personality shift toward greater maturity and putting the needs of the child above one's own, and adopting a new identity (father or mother). This process is illustrated, regarding fathers, in a study conducted by Škvařil and Presslerová[125].

## General discussion

The purpose of this research was to focus attention primarily on the significance of motives for postponing parenthood and to present the process of creating a multidimensional scale to measure them. To our knowledge, the MSMPP-18 is the first attempt to apprehend, in a questionnaire manner, relevant motives for postponing parenthood and delayed parenthood overall. Its final 18-item version, named the Multidimensional Scale of Motives for Postponing Parenthood – MSMPP-18, can be found in the Appendix (Supplementary material).

Based on the EFA results, we assumed that the MSMPP could have an 18-item and 6-factor structure. Two separate CFAs, performed in Studies 2–3, supported our hypothesis, and provided evidence that motives for postponing parenthood can be empirically defined in six dimensions: (1) feeling of uncertainty and incompetence; (2) self-focus; (3) parenthood as a burden; (4) fear of change; (5) financial security concern; and (6) worry about a child's future. Moreover, higher-order analysis suggests that the MSMPP-18 can also be treated as one factor of delayed parenthood.

Each dimension has its own specificity and refers to conditions that may lead to postponing the decision to become a parent. More precisely, the first motive, called "sense of uncertainty and incompetence," refers to the belief in one's own inability to cope with the role of a parent or the obligations imposed by parenting. People holding this belief claim that they do not have the required qualities to be good enough parents. The second motive, named "self-focus," alludes to focusing on self-development and achieving one's own aspirations. Personal advancement is considered one of the main goals that determines individual choices in life. The third motive, defined as "parenthood as a burden," means fear of the sacrifices associated with being a parent. In this sense, parenting is a burden because it requires commitment and giving up one's own time. The fourth motive, called "fear of change," is related to negative alterations that may result from the birth of a child. People with high levels of this motive may be afraid of unfavorable transformations of the woman's body after pregnancy and deterioration of sexual satisfaction in the relationship. The fifth motive, "financial security concern," expresses the conviction that their financial situation does not allow people to have a child because the cost of raising an offspring is beyond their economic resources. The sixth motive relates to "worry about a child's future" and indicates the fear that their child could experience war, live in unstable times, or experience a climate catastrophe. Also, for some people, raising a child in a wealthy culture produces a huge carbon footprint, so it contributes to climate change. To sum up, based on our findings, postponed parenthood is a complex decision to delay having the first child for motives related to feelings of uncertainty/incompetence, self-focus, viewing parenthood as a burden, fear of change, financial security concern, and worry about a child's future.

The dimensions of the MSMPP-18 showed very good internal reliability, as measured through Cronbach's alpha, McDonald's omega, and composite reliability. Values of AVE for all six factors supported the convergent validity of the tool. As for criterion-related validity, the MSMPP-18 dimensions and overall score positively correlated with measures of (a) procrastination, (b) future anxiety, and (c) negativity/instability of emerging adulthood. It was also negatively associated with: (a) resilience, (b) satisfaction, and (c) mentalization.

The results obtained in the current studies expand our knowledge about the psychological factors that may coexist with the motives for postponed parenthood. At this stage of the research, it can be assumed that people postponing parenthood may combine certain features that are common to the correlated constructs. Starting with the outcomes from Study 2, higher levels of the inability to cope with the role of a parent, belief that parenting is a burden, fear of negative changes, concern about financial security, and worry about a child's future are linked to higher procrastination and future anxiety, and lower resilience. The analysis of this configuration of variables makes it reasonable to suppose that motives for postponing parenthood relate to lower confidence in the ability to complete tasks, which characterizes procrastination[126]. They may also reflect a fear about the future, which manifests itself in difficulty with decision-making. In fact, as Bishop and Gagne[127] observe, anxiety contributes to engagement in avoidance behaviors. Moreover, motives for postponed parenthood may manifest decreased psychological resilience, i.e. competence to effectively adapt to stressful situations[105]. Study 2 revealed that age may be a confounding variable in the search for predictors of postponed parenthood. This could mean that at different stages of delaying entry into the parenting role, other factors are at work to promote its deferral. This is in line with previous research, which shows that those under the age of 30 indicate unpreparedness for the parental role when giving reasons for refraining from parenthood, while those aged over 36 pointed to a lack of a suitable partner as the main reason[19]. We are convinced that the newly created tool for measuring motives for postponing parenthood will make it possible to more precisely study the dynamics of changes in individual reasons why adults postpone fertility decisions.

Interesting results were also obtained in Study 3. They show that people who score higher on uncertainty and incompetence, have financial security concerns, and are worried about a possible child's future declare decreased satisfaction with life, have lower self-awareness of their own mental states (emotions, feeling, drives), and have higher negativity/instability. These results confirm previous research reports. Swedish childless young adults declared that they could be satisfied in their life if they were good parents[128]. Research conducted among Norwegian women suggested that the postponement of childbirth might be related to their lower satisfaction with life. When it comes to mentalization, the theoretical analyses conducted by Kalland et al.[129] seem to be important for our results. The authors provide evidence that parental mentalization supports early parenthood;

this is, mental representations of parenting shape the quality of the future parent-child relationship. With respect to negativity/instability, it has been found that the developmental instability characteristic of emerging adults appeared to be maladaptive and was negatively associated with life satisfaction and a sense of mastery[130]. Thus, instability of life choices may be reflected in uncertainty and incompetence, self-focus, parenthood as a burden, fear of change, financial security concerns, and worry about a child's future.

In Study 3, we also noted that the sex of the respondents was a confounding variable. This may suggest that the motives for which women and men defer entering the role of parent vary. Some confirmation of this speculation may be provided by the results of a study by Kalus and Szymanska[131], which found that men in relationships that defer parenthood came from less flexible family systems compared to men who had children. The families of origin of men who defer parenthood may have been less able to change within the family system. Similar differences were not observed for women. Additionally, it was shown (admittedly at the level of a statistical trend) that childless men rated their families of origin as more entangled than childless women. Another possible explanation is that the variables of age and sex interact. For example, in a study by Datta et al.[39], the variable of age was the determinant factor for women but not for men in those who entered parenthood after the age of 34.

## Limitations and future research

The psychological approach to the motives for deferred parenthood, carried out in a series of 3 studies, is important from the theoretical, empirical, and practical points of view. However, the current study is not without limitations. First, although the MSMPP-18 shows very good psychometric properties both in terms of its structure and construct validity, it only indicates selected reasons for postponing parenthood, which are not necessarily the most important causes of this phenomenon. Second, self-report data constitute an important source of research, but they are also not free from inherent limitations. Therefore, in the future, survey research could be supplemented with qualitative analyses, thus providing new aspects of the motives related to deferred parenthood. Third, in our research, we selected only some variables as correlates of deferred parenthood motives. As the results showed, this selection indicated significant relationships with procrastination, anxiety, resilience, satisfaction, negativity, mentalization, and negativity/instability. In future research, it would be enriching to examine how the motives for deferred parenthood are related to other relevant variables (e.g., Big Five variables, self-esteem, empathy, optimism, self-regulation, coping skills, maturity to parenthood). Fourth, given that 80% of the respondents were women, this limits the generalizability of the results to men. Future research should include a more gender-stratified sample, which would help to understand the motives of men for postponing parenthood. Fifth, our study did not take into account the role of sexual orientations that respondents may have had. These can modify the motives for which individuals defer parenthood. Future research should consider these issues by examining whether the structure of motives is replicated across groups that differ in this regard, and whether it depends on, for example, environmental pressures and prejudices[132]. Sixth, no questions about additional life pathways related to involuntary childlessness, trauma, or the experience of one's own family of origin were included. Inserting these variables in future studies could provide a better understanding of the relationship between psychological motives for deferred parenting and those of a medical, social, or cultural nature. Seventh, we included in the studies participants who responded that they did not want to have a child. The rationale behind this choice is twofold. It happens that not everyone who declares their reluctance to have children during their lives maintains this decision. Often, both internal changes and favorable external conditions allow such people to reevaluate their original decision, and lead to starting a family. Including these people can help us note the dynamics involved in decision-making and potential changes in motives for postponing parenthood that may take place over the years.

Finally, another important aspect of future research would be to deepen the topic of insecurity about the partner and the influence of family background; dimensions that were included in the original assumptions, but which did not find their support in the structure of the MSMPP-18.

## Appendix: Multidimensional Scale of Motives for Postponing Parenthood (MSMPP-18)

**Instruction:** Parenting is one of the important developmental tasks of people entering adulthood. The thought of being a parent is associated with various experiences that may give a sense of joy and fulfillment or be an expression of fear, dissatisfaction, or reluctance. Below you will find statements that concern different opinions about readiness for parenthood. Please read each statement and rate on a scale from 1 (strongly disagree) to 7 (strongly agree) to what extent it reflects your personal approach to being a mother or father.

1 = I strongly disagree.
2 = I disagree.
3 = I don't quite agree.
4 = I neither agree nor disagree.
5 = I tend to agree.
6 = I agree.
7 = I strongly agree.

**I am postponing the decision to have a child because**:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1. parenting requires many sacrifices. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2. I am afraid that my child could experience war. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3. I am afraid of deterioration of sexual satisfaction in the relationship. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 4. my financial situation at this stage of my life does not allow me to raise a child. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5. I am convinced that I will not cope with the role of a parent. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 6. I do not want my child to live in unstable times. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7. I am afraid I will not be able to cope with parental responsibilities. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8. parenting is taxing. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 9. I do not have the required qualities to be a good enough parent. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 10. I do not want my child to experience a climate catastrophe. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 11. now I focus on self-development. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 12. currently, achieving my aspirations is my priority. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 13. the cost of raising a child is beyond my financial means. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 14. I intend to focus on personal development. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 15. parenting takes time and commitment. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 16. a woman's body changes unfavorably after pregnancy. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 17. I am afraid of negative changes in the relationship when the baby comes. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 18. I do not have sufficient financial resources. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

When it comes to calculating scores, the score on each scale is the sum of the points. In the final version, the factors are as follows:

1) feeling of uncertainty and incompetence, items: 5, 7, 9.
2) self-focus, items: 11, 12, 14.
3) parenthood as a burden, items: 1, 8, 15.
4) fear of change, items: 3, 16, 17.
5) financial security concern, items: 4, 13, 18.
6) worry about a child's future, items: 2, 6, 10.

The sum of all six dimensions creates the factor of postponed parenthood.

## Data availability

The datasets analyzed during the current study are available in the OSF repository and can be accessed at https://osf.io/q673j/?view_only=8513d5d327e94a6ea42b619ab5328577.

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## Author contributions

M.S., A.F., and D.B.: conceptualization. M.S., A.F., and D.B.: data collection. M.S., A.F., and D.B.: data analysis, resources, writing original draft. M.S., and A.F.: manuscript revision. M.S. and A.F.: supervision. All authors contributed substantially to the manuscript and agreed to be accountable for all aspects of the work.

## Declarations

### Conflicts of interest
The authors report no conflicts of interest in this work.

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