



# The Parenthood Regret Scale among Italian parents: psychometric evidence and network associations with parental identity, reflective functioning, parenting behaviors, and sociodemographic characteristics

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## Abstract

Parenthood regret, a feeling arising from the judgment that the decision to have children was wrong and the belief that an alternative choice would have led to a better life, is influenced by various demographic, relational, and contextual factors. Despite its significance, large-scale studies on parenthood regret employing validated measures have only emerged in recent years, and our understanding of the phenomenon is in its infancy. This research aimed to examine the psychometric properties of the Italian version of the Parenthood Regret Scale (PRS) and expand on its relation with parental identity, reflective functioning, parenting behaviors, and relevant sociodemographics using a network approach. Data were collected from 3,165 parents (81.93% mothers) residing in Italy with children aged 0–18. Study 1 ( $N=1,914$  parents; 82.34% mothers) assessed the PRS's factorial structure and invariance across parent gender. Study 2 ( $N=1,251$  parents; 81.29% mothers) examined the associations among parenthood regret, reflective functioning, parental identity, parenting behaviors, and sociodemographic variables. The PRS exhibited strong psychometric properties and invariance between mothers and fathers. Additionally, the network analysis indicated that parenthood regret showed stronger links to higher reconsideration of commitment, lower identity commitment, higher pre-mentalizing modes, and greater parental rejection. Finally, parenthood regret showed small associations with younger parent age, being a father, unplanned pregnancy, non-partnered status, and raising a child with physical or psychological difficulties. The findings confirm the PRS as a reliable measure for assessing parenthood regret in the Italian context and identify its key correlates.

**Keywords** Parenthood regret · Parental identity · Commitment · Mentalization · Rejection

## Introduction

Parenthood is among the most consequential and identity-defining transitions adults undertake, yet it is also one of the most normatively regulated. Contemporary societies across much of the Western world continue to uphold pronatalist expectations that cast parenthood as an inherently fulfilling experience, rendering the acknowledgment of doubt or regret a social taboo with real psychological costs (Donath, 2017; Sihto & Mustosmäki, 2021). Against this backdrop, parenthood regret, defined as a feeling arising from the judgment that the decision to have children was wrong and the belief that an alternative choice would have led to a better life, has emerged as a legitimate and clinically significant construct at the intersection of reproductive psychology,

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identity development, and family functioning (Piotrowski et al., 2026). It challenges idealized narratives of parenting, implicates broader societal debates about reproductive choice and gender equity, and raises pressing questions about how psychological ambivalence toward the parental role is experienced, expressed, and measured across cultures.

Despite its significance, large-scale empirical research employing validated continuous measures of parenthood regret remains scarce, and theoretical accounts of its psychological correlates are still underdeveloped. The present research responds to this gap with two main objectives: first, to examine the psychometric properties and measurement invariance of the Italian version of the Parenthood Regret Scale (PRS; Piotrowski et al. 2023b) in a large national sample; and second, to investigate how parenthood regret is embedded within a broader network of parenting-relevant psychological dimensions, specifically parental identity, reflective functioning, and parenting behaviors, together with key sociodemographic characteristics.

## Defining parenthood regret

If given the chance to revisit their decision, 5–14% of parents would choose not to have children at all (Gallup, 2013; Meil et al., 2023; Piotrowski 2021; Piotrowski et al., 2023b; YouGov, 2021). Parenthood regret is a highly stigmatized and underexplored topic (Donath, 2017; Johnson & Pétursdóttir, 2024; Sihto & Mustosmäki, 2021). The societal expectation that parenthood should be inherently fulfilling (Donath, 2017; Heffernan & Stone, 2021) adds to the difficulty parents face in expressing this feeling and makes it harder for parents to receive understanding and social support.

Donath's pioneering work among Israeli mothers (2015, 2017) offered an initial theoretical framework, documenting an association between maternal regret and a perceived loss of a true self, freedom, control, and time. Donath further demonstrated that parenthood regret often persists across life stages. Since then, research on parenthood regret has expanded across diverse sociocultural contexts, with studies conducted in Belgium, Finland, Germany, Iceland, Israel, Japan, Poland, Russia, Spain, South Africa, Sweden, the United Kingdom, and the United States (e.g., Heffernan & Stone 2021; Hintz & Scharp 2023; Isupova 2024; Johnson & Pétursdóttir 2024; Meil et al. 2023; Piotrowski 2021; Piotrowski et al., 2023a, b; Sihto & Mustosmäki, 2021; YouGov, 2021). In this vein, a recent cross-cultural study found that parents from the United States and South Africa reported lower levels of reconsideration of commitment (an indicator of parenthood regret) compared to parents from Poland and Japan (Piotrowski et al. 2023a).

## Parenthood regret in relation to sociodemographic characteristics and other constructs

The literature suggests that parenthood regret is more commonly reported by young parents (YouGov, 2021), those facing financial hardship (YouGov, 2021), and single parents (Piotrowski, 2021). Some studies also indicate a higher risk among fathers than mothers (Piotrowski et al., 2023b), which may be attributable to the difficulty many men have in forming a stable parental identity due to the dynamic change in the father's role in recent decades (Piotrowski et al., 2024a). The reasons behind parenthood regret are multifaceted, encompassing nostalgia for pre-parenthood freedom, low identification with the parental role, a strained relationship with the other parent, being overwhelmed by parenting demands, and perceived declines in physical and mental health (Bodin, 2023, 2024; Donath, 2017; Garncarek, 2020; Piotrowski, 2021; Sihto & Mustosmäki, 2021). Such experiences are often accompanied by significant emotional distress, including sadness, suffering, and loneliness (Bodin & Fängström, 2025; Garncarek, 2020). In addition, initial quantitative research conducted in Poland and Belgium using dichotomous measures of parenthood regret has linked regret to childhood experiences of abuse and neglect, lower levels of agreeableness, higher levels of anxiety and depressive symptoms, and greater parental burnout (Piotrowski 2021; Piotrowski et al., 2024b).

Notably, qualitative research suggests that parenthood regret is rarely directed at children themselves; rather, parents often express regret toward the parenting experience as a whole. Despite this, most parents continue to express love for their children and remain actively engaged (Donath, 2017), even when experiencing emotional ambivalence (Piotrowski et al., 2024b) or a diminished capacity to fully engage in the parental role (Bodin, 2023). The latest longitudinal studies have also confirmed, however, that there is a relation between parenthood regret and parental burnout and a decline in the closeness of parent-child relationships, suggesting that this phenomenon represents a threat to the integrity of the entire family system (Piotrowski et al., 2025; Roskam et al., 2026). Based on these findings, parenthood regret has recently been proposed as the core symptom of a new syndrome called *parental dysphoria* (Ogrizek et al., 2024). This psychological condition is characterized by persistent discomfort and distress arising from the tension between fulfilling parental responsibilities and a deep sense of inadequacy in performing that role. Dysphoric parents often feel isolated and misunderstood by others, which exacerbates their psychological distress.

## Measuring parenthood regret

In its early stages, the field of parenthood regret research began with qualitative studies based on interviews with regretful parents and analysis of their testimonies on Internet forums (Donath, 2015; Matley, 2020; Moore & Abetz, 2019) and quantitative studies relying on dichotomous measures of regret (i.e., “If you could travel back in time and once again make the decision, would you once again decide to become a parent? Please answer, ‘No, I would choose a life without children,’ or ‘Yes, I would choose to have children.’”; e.g., Piotrowski, 2021). Although these seminal qualitative studies have greatly advanced our understanding of parenthood regret, they are inherently limited in terms of scalability, comparability, and anonymity. Parents who are hesitant to discuss regret (due to stigma or social desirability pressures; Donath, 2017) may be less likely to participate in interviews or may withhold full disclosure in such settings. Similarly, individuals experiencing subtler, ambivalent, or context-dependent forms of regret may not see themselves reflected in the more overt narratives often emphasized in qualitative accounts. Furthermore, their nuanced emotional experiences may not be adequately captured by dichotomous measures of parenthood regret (yes/no format).

To capture the cognitive and emotional complexity of parenthood regret, Piotrowski et al. (2023b) developed the Parenthood Regret Scale (PRS). The PRS is a 12-item self-report questionnaire validated in English-, French-, and Polish-speaking populations and currently used in more than 40 countries through the International Investigation of Parental Burnout (IIPB) Consortium (see: <https://www.burnoutparental.com/international-consortium>); however, formal validation in a wider range of languages is still needed. To date, the only validation study (Piotrowski et al. 2023b) has demonstrated robust psychometric properties, including a unidimensional factor structure, and has provided evidence that parenthood regret is negatively associated with life satisfaction and positively associated with depressive symptoms and parental burnout.

While the PRS, as a self-report instrument, remains susceptible to social desirability bias, it offers several important advantages, including anonymity and standardization across large samples. This can increase the likelihood of participation from parents who may be reluctant to disclose regret in more interactive or face-to-face formats. Furthermore, the PRS enables the empirical testing of theoretical models and the identification of distinct profiles of regretful parents (e.g., Carone et al., 2026c), capabilities that are difficult to achieve through qualitative methods alone or dichotomous measures. In this light, the current research does not position the PRS as a replacement for qualitative inquiry, but rather as a complementary tool that enhances our understanding of both the presence and the intensity of parenthood regret.

Further quantitative research employing validated instruments such as the PRS is needed to identify key correlates, as well as the potential determinants and consequences, of parenthood regret. Such research could provide valuable insights for clinicians working with regretful parents by shedding light on the diverse experiences and emotional complexities that can accompany parenthood, ultimately helping these parents better navigate the challenges of the parental role and potentially reducing the risk of broader family disruption.

## Theoretical frameworks

To advance a more comprehensive understanding of parenthood regret, the present research draws on three complementary frameworks (identity theory, mentalization theory, and psychodynamic caregiving theory), not only as background accounts, but as an integrative lens for interpreting regret as a multi-domain configuration. Identity theory (Crocetti et al., 2008) emphasizes that adjustment in parenthood is closely linked to how stably individuals commit to the parental role, how actively they elaborate it, and whether they reconsider that commitment (Piotrowski, 2018). Mentalization theory (Luyten et al., 2017) highlights parents’ reflective functioning as a relational stance that can organize caregiving under stress (e.g., curiosity about the child’s mind, tolerance of uncertainty, and reduced reliance on pre-mentalizing interpretations). Psychodynamic caregiving theory (George & Solomon, 2008) further situates these processes within the caregiving behavioral system and its internal working models, linking the parent’s representations of the child and of the self-as-caregiver to patterns of emotional availability and care.

Taken together, these frameworks enable us to test whether parenthood regret is coherently embedded in parental identity processes (commitment, in-depth exploration, and reconsideration of commitment), parental reflective functioning, and parenting behaviors (warmth-affection versus hostility-aggression, rejection, and neglect-indifference). This approach refines existing work by positioning parenthood regret not merely as a retrospective evaluation of the reproductive decision, but as an indicator of concurrent strain in how the parental role is experienced (identity), made sense of (mentalization), and enacted in the caregiving relationship (behavior).

## Italian family context

Although parenthood regret has now been documented across many cultural contexts, large-scale studies applying validated measures outside the original validation languages remain scarce, leaving open how sociocultural norms,

gender expectations, and family-policy environments shape the experience and expression of regret.

Italy, the context of the current research, offers a sociocultural and demographic landscape that differs from many settings in which regret has been studied to date (e.g., Belgium, Germany, Spain, Sweden, the United Kingdom). Italian family life is shaped by enduring pronatalist values and traditional gender norms, with motherhood often idealized as self-sacrificial and inherently fulfilling (Aloè et al., 2024). These expectations can intensify the stigma attached to acknowledging regret and may encourage concealment or self-silencing, particularly among mothers. At the same time, fathers increasingly face a dual mandate: continuity with breadwinner expectations and rising norms of emotional and practical involvement in daily caregiving (Carone & Lingiardi, 2022). These identity pressures unfold amid limited public investment in family policies, insufficient childcare infrastructure, and economic precarity, in a demographic context of delayed parenthood and declining fertility (Esposito et al., 2024).

This backdrop is theoretically informative because it allows us to examine whether the PRS captures a comparable latent construct even where parenting is highly normatively regulated, and whether parenthood regret shows a distinctive pattern of covariation with identity, reflective functioning, and parenting in a Southern European welfare context. Compared with countries characterized by more extensive family supports and more gender-equal norms, the Italian context may render the parenting role particularly identity-salient and socially policed. Thus, parenthood regret may be experienced less as an openly articulated dissatisfaction and more as a private, identity-relevant ambivalence. Validating the PRS in Italy, therefore, provides evidence on its cross-cultural robustness, and it offers an empirical test of whether regret aligns with a broader configuration of parental identity processes, mentalizing stance, and caregiving behaviors within a context where social expectations and institutional supports are often misaligned.

## The present research

The present research comprised two studies and a corresponding theoretical contribution. First, in Study 1, drawing on prior validation work (Piotrowski et al. 2023b), we tested whether the PRS retains its unidimensional structure and measurement invariance across mothers and fathers in a large Italian sample, thereby strengthening evidence for cross-cultural comparability.

Second, in Study 2, we drew on the integrative framework outlined above to investigate how parenthood regret was embedded within a broader system of parenting-relevant psychological dimensions (i.e., identity-related experiences, mentalizing stances, and parenting behaviors), using latent network modeling. Our primary objective was to identify

which dimensions showed the most direct and unique connections with parenthood regret when controlling for all other nodes in the system, without imposing directional assumptions that are difficult to justify in cross-sectional designs.

As a secondary objective, we incorporated into the same network key sociodemographic variables already linked to parenthood regret in the literature reviewed above (parent gender, education, relationship status, and child-related difficulties), together with unplanned pregnancy, to evaluate whether they displayed unique associations with regret beyond the psychological dimensions. We also quantified the relative prominence of nodes using centrality indices to describe which constructs were most strongly embedded in the overall structure of conditional relations.

Taken together, the present research makes three contributions. First, it provides the first systematic validation of the PRS in a Southern European context characterized by strong pronatalist norms and a conservative-familist welfare regime, extending the scale's cross-cultural applicability beyond the original samples. Second, it is the first study to pair PRS validation with a theoretically grounded, multi-domain investigation of its psychological correlates through latent network modeling, moving beyond the regression-based approaches of prior quantitative research. Third, it examines unplanned pregnancy as a correlate of continuous parenthood regret for the first time.

## Study 1: Factorial structure and measurement invariance of the parenthood regret scale across parent gender

### Method

#### Participants

To be included in the study, parents had to (a) be aged 18 years or older, (b) have at least one biological child aged 0–18 years who lived with them, and (c) be fluent in the Italian language. The final sample consisted of 2,163 parents residing in Italy: 1,773 mothers, 389 fathers, and one nonbinary parent ( $M=42.41$ ,  $SD=7.60$ ). In terms of gender identity and sexual orientation, 2082 (96.26%) parents identified as cisgender and heterosexual, with the remaining 81 (3.74%) as LGBTQ<sup>1</sup>. All participants had at least one bio-

<sup>1</sup> Although for transgender and nonbinary parents the process of selecting parental terms does not necessarily align with their gender (e.g., choosing “mum” or “dad”), in this study, the five transgender parents (each assigned male at birth and identifying as female) used the term “mother,” while the nonbinary parent (assigned male at birth) used the term “parent.”

logical child aged 0–18 years ( $M=9.46$ ,  $SD=5.48$ ), 49.3% of whom were assigned female at birth.

The average number of biological children per parent was 1.73 ( $SD=0.96$ ), and 92 children were reported to suffer from physical and/or psychological challenges. Among the participants, 76.51% indicated that they had planned their pregnancy, 19.97% reported it was an unplanned pregnancy but they did not consider abortion, and 3.52% stated that they had considered abortion. Most parents (65.80%) were married or in a civil partnership, while the remainder were in a romantic relationship with the child's other parent (23.54%), divorced (7.49%), single (2.74%), or widowed (0.43%). Regarding education, 40.49% had completed high school or less, 17.29% held a bachelor's degree, 29.59% had a master's degree, and 12.63% had a PhD or specialized training. Employment status varied, with 63.78% of parents employed full-time, 24.12% working part-time, and 12.10% unemployed. Almost all parents (95.98%) were born in Italy.

An a priori power analysis using the *semPower* package in R was conducted to estimate the minimum sample size required to detect at least small effects. With alpha and RMSEA levels set at 0.05, a sample size of 233 participants was found to be sufficient for 80% power in a model with one latent and 12 observed variables. The final sample size exceeded this requirement, ensuring adequate statistical power.

## Procedure

Participants were recruited via snowball sampling, with a link to an online survey shared on social media (e.g., Facebook, Instagram) and through word of mouth. During recruitment, participants were not informed in detail that the study focused on parenthood regret to minimize self-selection effects. Rather, they were told this was a study of the various experiences and feelings associated with parenthood. Informed consent was obtained prior to participation, and each participant received a unique reference code to ensure confidentiality and anonymity. The survey, hosted securely on the Qualtrics platform, took approximately 10 min to complete. No compensation was provided. The Territorial Ethics Committee Lazio Area 2 (R.S. 77.24 CET2 utv) granted the study's ethical approval.

## Measures

**Socio-demographic Information** Parents reported their sex assigned at birth, gender, gender identity, sexual orientation, family structure, education level, working status, relationship status, whether they were born in Italy, number of children, caregiving role (primary vs. secondary caregiver),

child age and gender, (un)planned pregnancy, and any physical and/or psychological difficulties experienced by the child.

**Parenthood regret** The Parenthood Regret Scale (PRS; Piotrowski et al. 2023b) is a 12-item self-report measure assessing the severity of regret associated with parenthood (e.g., “If I could decide again whether to have a child, I would choose not to.”, “I wish I could turn back time and not have a child.”, “I resent myself for having children.”) on a 5-point Likert scale (from 1 = *strongly disagree* to 5 = *strongly agree*). Although the scale captures both cognitive evaluations (e.g., judging parenthood as a mistake) and emotional responses (e.g., feelings of sorrow or self-blame), previous exploratory and confirmatory factor analyses (EFA and CFA) have confirmed that all 12 items consistently load onto a single factor across samples in English-, French-, and Polish-speaking populations (Piotrowski et al. 2023b). Furthermore, the PRS has shown robust measurement invariance across diverse cultural and linguistic contexts, as well as across parent gender (Piotrowski et al. 2023b). In the Italian context, the PRS has demonstrated excellent internal validity ( $\alpha = .91-.96$ ; Carone et al., 2026b, 2026c; Tracchegiani & Carone, 2026; Tracchegiani et al., 2026).

## Data analysis

Data analysis was conducted using SPSS (version 24) and Mplus (version 8.3). Answering all the survey questions was mandatory (forced choice); thus, the dataset contained no missing data. Multivariate outliers were identified using Mahalanobis distance and subsequently removed. Normality was assessed by examining skewness and kurtosis. As PRS items were ordered categorically and exhibited non-normal distributions (see Table 1), CFA was performed using a polychoric correlation matrix with a robust weighted least squares mean and variance adjusted estimator (WLSMV; Hoyle, 2012; Li, 2016).

Model fit was evaluated using multiple goodness-of-fit indices (Hoyle, 2012): (1) the chi-square statistic, with a non-significant result indicating perfect fit; (2) the comparative fit index (CFI), with values  $\geq 0.95$  indicating excellent fit and values  $\geq 0.90$  deemed acceptable; (3) the root mean square error of approximation (RMSEA), with values  $\leq 0.05$  indicating excellent and  $\leq 0.08$  indicating good fit, alongside a non-significant 90% confidence interval; and (4) the Tucker-Lewis index (TLI) and non-normed fit index (NNFI), with values  $\geq 0.95$  indicating good fit and values  $\geq 0.90$  indicating acceptable fit.

Measurement invariance of the PRS across parent gender was also assessed. After the unidimensional model was validated, the following invariance models were tested

**Table 1** Descriptive statistics and factor loadings of the PRS items in Study 1 ( $N=1,914$ )

|        | <i>N</i> | <i>M</i> | <i>SD</i> | Min  | Max  | Skewness |           | Kurtosis |           | Factor loading (estimate) |
|--------|----------|----------|-----------|------|------|----------|-----------|----------|-----------|---------------------------|
|        |          |          |           |      |      | Skewness | <i>SE</i> | Kurtosis | <i>SE</i> |                           |
| PRS 1  | 1,914    | 1.18     | 0.48      | 0.00 | 3.00 | 3.09     | 0.06      | 10.61    | 0.11      | 0.97                      |
| PRS 2  | 1,914    | 1.17     | 0.47      | 0.00 | 3.00 | 3.22     | 0.06      | 11.80    | 0.11      | 0.99                      |
| PRS 3  | 1,914    | 1.18     | 0.49      | 0.00 | 3.00 | 3.28     | 0.06      | 11.92    | 0.11      | 0.97                      |
| PRS 4  | 1,914    | 1.18     | 0.49      | 0.00 | 4.00 | 3.32     | 0.06      | 12.93    | 0.11      | 0.96                      |
| PRS 5  | 1,914    | 1.27     | 0.58      | 0.00 | 3.00 | 2.23     | 0.06      | 4.50     | 0.11      | 0.89                      |
| PRS 6  | 1,914    | 1.16     | 0.46      | 0.00 | 3.00 | 3.32     | 0.06      | 12.47    | 0.11      | 0.98                      |
| PRS 7  | 1,914    | 1.13     | 0.41      | 0.00 | 3.00 | 3.77     | 0.06      | 16.24    | 0.11      | 0.98                      |
| PRS 8  | 1,914    | 1.11     | 0.38      | 0.00 | 3.00 | 4.00     | 0.06      | 18.64    | 0.11      | 0.97                      |
| PRS 9  | 1,914    | 1.37     | 0.79      | 0.00 | 4.00 | 2.38     | 0.06      | 5.55     | 0.11      | 0.76                      |
| PRS 10 | 1,914    | 1.13     | 0.41      | 0.00 | 3.00 | 3.86     | 0.06      | 17.48    | 0.11      | 0.98                      |
| PRS 11 | 1,914    | 1.21     | 0.53      | 0.00 | 3.00 | 2.79     | 0.06      | 7.96     | 0.11      | 0.91                      |
| PRS 12 | 1,914    | 1.15     | 0.45      | 0.00 | 3.00 | 3.52     | 0.06      | 14.05    | 0.11      | 0.98                      |

Note. PRS = Parenthood Regret Scale, *M*=Mean. *SD* = Standard deviation. Min = Minimum value. Max = Maximum value.

sequentially: (a) a configural invariance model to confirm consistency in the factor patterns; (b) a metric invariance model to assess the equality of the factor loadings; and (c) a scalar invariance model to assess the equality of the factor loadings and thresholds. The *DIFFTEST* procedure in Mplus (Muthén & Muthén, 2015) was employed to compare nested models and determine the best-fitting invariance model.

## Results

A total of 249 multivariate outliers (11.96%) were identified and removed based on Mahalanobis distance ( $p < .001$ ). Among the outliers, most were mothers (79.12%) and the mean age was 41.98 years ( $SD=7.50$ ), with 94.38% being Italian natives. Children of these outliers had a mean age of 9.49 years ( $SD=5.49$ ; 107 children were assigned female at birth). The final sample consisted of 1,914 parents (82.34% mothers, 17.61% fathers, and 0.05% nonbinary parents;  $M_{age\ parents}=42.43$ ,  $SD=7.45$ ; 50.42% children assigned female at birth,  $M_{age\ children}=9.46$ ,  $SD=5.48$ ). Complete sociodemographics of the final sample are reported as Supplemental Material.

All variables exhibited a non-normal distribution (see Table 1). The unidimensional factor model of the PRS demonstrated good fit:  $\chi^2(df)=420.523(54)$ ,  $p < .001$ ; RMSEA = 0.060, 90% CI [0.054, 0.065]; CFI = 0.998; TLI = 0.998. Invariance testing across parent gender<sup>2</sup>

supported scalar invariance. The comparison between the configural and metric models revealed no significant chi-square difference,  $\chi^2(df)=12.742(11)$ ,  $p = .310$ , confirming metric invariance. Similarly, the comparison between metric and scalar models, with equality constraints applied to thresholds, yielded a non-significant chi-square difference,  $\chi^2(df)=27.947(24)$ ,  $p = .262$ , confirming both metric and scalar invariance across parent gender. Inter-item reliability was 0.96 (Cronbach's alpha).

## Brief discussion

The results of Study 1 confirmed the unidimensional structure of the PRS in a large Italian sample, consistent with previous validations in other linguistic and cultural contexts (Piotrowski et al. 2023b). The scale demonstrated strong psychometric properties and full measurement invariance across parent gender, supporting its reliability for use among both Italian mothers and fathers. These findings provide important evidence that the PRS is a robust tool for capturing parenthood regret in the Italian context, and that the structure of this experience does not differ significantly by parent gender.

Building on these results, Study 2 was designed to extend this validation by exploring how parenthood regret relates to key psychological constructs, specifically reflective functioning, parental identity, and parenting behaviors, as well as sociodemographic variables using a network approach. This approach enabled a more comprehensive understanding of how regret is embedded within broader intrapsychic and relational dimensions of parenting, and helps identify specific psychosocial and sociodemographic correlates that may inform clinical or policy interventions.

<sup>2</sup> For testing invariance across parent gender, the sample consisted of 1,913 parents, with the single nonbinary parent excluded. Given the insufficient number of nonbinary parents in the sample, we believe that excluding the sole nonbinary participant and focusing on parent gender, rather than sex assigned at birth, in the analysis is a more respectful approach that acknowledges and honors the gender identities and lived experiences of transgender and nonbinary parents.

## Study 2: Associations among parenthood regret, parental identity, reflective functioning, parenting behaviors, and sociodemographics

### Method

#### Participants

The sample comprised 1,334 cisgender, heterosexual parents residing in Italy, including 1,075 mothers and 259 fathers ( $M_{\text{age}} = 42.24$ ,  $SD = 7.55$ ). Participants in Study 2 were distinct from those in Study 1. All participants had at least one biological child aged 0–18 years ( $M_{\text{age}} = 9.53$ ,  $SD = 5.52$ ), of whom 49.70% were assigned female at birth. For parents with multiple children in this age range, the oldest child was designated as the “target child” for questionnaire completion and, accordingly, the reported sociodemographic data refers to the target child. Of note, the original sample further consisted of 18 participants who identified as lesbian/gay, 12 as bisexual, 8 as queer+, and 3 as transgender or nonbinary. They were excluded from the present study as they will be included in a separate article focusing on parenthood regret among parents with minoritized sexual and gender identities.

The average number of biological children per parent was 1.71 ( $SD = 0.71$ ), and 3.97% of children were reported to suffer from physical and/or psychological difficulties. Mothers were significantly more frequently identified as the primary caregiver of their child(ren) than fathers,  $\chi^2(1) = 645.76$ ,  $p < .001$ . Among the participants, 74.96% indicated that they had planned their pregnancy, 21.44% reported it was an unplanned pregnancy but they did not consider abortion, and 3.60% stated that they had considered abortion. Most parents (65.67%) were married, while the remainder were in a romantic relationship with the child’s other parent (23.01%), divorced (7.72%), single (3.07%), or widowed (0.53%). Regarding education, 42.43% had completed high school or less, 18.14% held a bachelor’s degree, 28.49% had a master’s degree, and 10.94% had a PhD or specialized training. Employment status varied, with 66.87% employed full-time, 22.41% working part-time, and 10.72% unemployed. Almost all parents (96.18%) were born in Italy.

#### Procedure

The procedure was identical to that of Study 1. The average completion time was approximately 25 min.

### Measures

**Socio-demographic Information** Participants provided socio-demographic details identical to those collected in Study 1.

**Parenthood regret** Parenthood regret was measured using the PRS (Piotrowski et al. 2023b; see Study 1 for a detailed description). In the present study, Cronbach’s alpha was 0.98.

**Reflective functioning** Parental reflective functioning (or mentalization) was measured using the 18-item Parental Reflective Functioning Questionnaire (Luyten et al., 2017; Italian validation in Pazzagli et al., 2018), which evaluates three dimensions of parental reflective functioning: *interest and curiosity in mental states* (6 items; e.g., “I like to think about the reasons behind the way my child behaves and feels”), *pre-mentalizing modes* (6 items; e.g., “My child sometimes gets sick to keep me from doing what I want to do”), and *certainty about mental states* (6 items; e.g., “I always know why my child acts the way he or she does”). Responses are recorded on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). In the present study, Cronbach’s alphas were 0.73, 0.72, and 0.79 for interest and curiosity in mental states, pre-mentalizing modes, and certainty about mental states, respectively.

**Parental identity** Parental identity processes were assessed using the Utrecht-Management of Identity Commitments Scale (U-MICS; Crocetti et al., 2008), adapted to the parenting domain (U-MICS-PI; Piotrowski, 2018; for use in the Italian context, see Tracchegiani et al., 2025). This scale evaluates three dimensions of parental identity: commitment (5 items; e.g., “Being a parent gives me self-confidence”), in-depth exploration (5 items; e.g., “I often reflect on being a parent”), and reconsideration of commitment (3 items; e.g., “I often think not being a parent would make my life more interesting”). Responses are recorded on a 5-point Likert scale ranging from 1 (*completely untrue*) to 5 (*completely true*). In the present study, Cronbach’s alphas were 0.91, 0.83, and 0.88 for commitment, in-depth exploration, and reconsideration of commitment, respectively. The dimension of reconsideration of commitment in the three-factor model of parental identity, like the PRS, deals with disappointment and the sense that the decision to become a parent was wrong. In the Piotrowski et al. (2023a) study, this dimension was used as one of the indicators of

the validity of the PRS. For the same reason, the measurement of reconsideration of commitment was conducted in the present study.

**Parenting behaviors** The Parental Acceptance–Rejection Questionnaire–Short Form (PARQ-SF; Rohner, 2005; Italian validation in Senese et al., 2016) measured parents' attitudes and feelings toward their child through 24 items rated on a 4-point Likert scale ranging from 1 (*never or almost never*) to 4 (*every day*). The present study used the four scores related to the following four dimensions: warmth-affection (8 items; e.g., “I make it easy for my child to confide in me”), hostility-aggression (6 items; e.g., “I punish my child severely when I am angry”), rejection (4 items; e.g., “I resent my child”), and neglect-indifference (6 items; e.g., “I pay no attention to my child”) items. Higher scores on each dimension indicate greater levels of the respective parenting behavior. In the present study, Cronbach's alphas were 0.80, 0.74, 0.76, and 0.70 for warmth-affection, hostility-aggression, rejection, and neglect-indifference, respectively.

## Data analysis

Statistical analyses were conducted using R statistical software version 4.5.2 (R Core Team, 2025), with relevant packages recommended for CFA and for network analysis estimation and visualization (Briganti et al., 2024). Answering all the survey questions was mandatory (forced choice); thus, the dataset contained no missing data. Multivariate outliers were identified at the item level using Mahalanobis distance, with a  $\chi^2$  test applied at a significance threshold of  $p < .001$ . Identified outliers were excluded. Preliminarily, descriptive statistics (see Table 2) and bivariate correlations for study variables (see Supplemental Table 2) were calculated.

To investigate how parenthood regret was embedded within a broader system of parenting-relevant psychological

dimensions (i.e., identity-related experiences, mentalizing stances, and parenting behaviors), we adopted a latent network modeling framework. To do so, we first examined the latent structure of the variables by employing a CFA with the robust weighted least squares mean- and variance-adjusted estimator (WLSMV) and theta parameterization (Hoyle, 2012). The model included the following latent variables: parenthood regret, parental reflective functioning stances, parental identity dimensions, and parenting behaviors. All latent factors were freely allowed to covary to accommodate shared variance among constructs at the measurement level. Model fit was evaluated using the chi-square statistic and associated degrees of freedom, as well as incremental and residual-based indices (CFI, TLI, SRMR) and RMSEA with its confidence interval, following standard recommendations for WLSMV-based CFA of ordinal indicators (Hoyle, 2012). The resulting factor scores were then extracted and used as input for subsequent network modeling.

Unlike traditional multiple regression, mediation, and moderation analyses, which impose directional assumptions and are not recommended for cross-sectional research designs, network modeling offers an exploratory, data-driven approach to uncovering interconnections between latent constructs (Briganti et al., 2024). We acknowledge that regression-based approaches, including standard multiple regression or latent variable structural equation models with pre-specified directional paths, would have been viable alternatives. However, such methods require the analyst to impose a directional structure on the relationships among variables, a step that is difficult to justify theoretically when no single variable can be designated as an unambiguous outcome and when reciprocal associations among predictors are plausible.

Network modeling was therefore preferred as a methodologically transparent alternative that estimates all pairwise conditional associations simultaneously, without privileging any particular causal ordering. At the same time, the

**Table 2** Means and standard deviations of study variables in Study 2 ( $N=1,251$ )

| Variables                               | Mothers ( $n=1,017$ ) |           |      |      | Fathers ( $n=234$ ) |           |      |      |
|-----------------------------------------|-----------------------|-----------|------|------|---------------------|-----------|------|------|
|                                         | <i>M</i>              | <i>SD</i> | Min  | Max  | <i>M</i>            | <i>SD</i> | Min  | Max  |
| Parenthood regret                       | 1.22                  | 0.52      | 0.00 | 4.00 | 1.40                | 0.86      | 0.00 | 4.00 |
| Pre-mentalizing modes                   | 1.94                  | 0.75      | 1.00 | 5.67 | 2.06                | 1.02      | 1.00 | 6.33 |
| Certainty about mental states           | 3.70                  | 1.07      | 1.00 | 7.00 | 3.49                | 1.00      | 1.00 | 6.50 |
| Interest and curiosity in mental states | 5.60                  | 0.79      | 2.67 | 7.00 | 5.33                | 0.98      | 1.17 | 7.00 |
| Parental warmth                         | 3.74                  | 0.37      | 1.75 | 4.00 | 3.59                | 0.47      | 1.75 | 4.00 |
| Parental hostility                      | 1.34                  | 0.42      | 1.00 | 4.00 | 1.36                | 0.45      | 1.00 | 3.17 |
| Parental rejection                      | 1.11                  | 0.31      | 1.00 | 3.75 | 1.22                | 0.45      | 1.00 | 3.25 |
| Parental indifference                   | 1.29                  | 0.39      | 1.00 | 3.00 | 1.36                | 0.44      | 1.00 | 3.17 |
| Commitment                              | 3.83                  | 0.82      | 1.00 | 5.00 | 3.75                | 0.95      | 1.00 | 5.00 |
| In-depth exploration                    | 3.91                  | 0.72      | 1.40 | 5.00 | 3.65                | 0.91      | 1.00 | 5.00 |
| Reconsideration of commitment           | 1.40                  | 0.68      | 1.00 | 5.00 | 1.74                | 1.10      | 1.00 | 5.00 |

Note. *M* = Mean. *SD* = Standard Deviation. Min = Minimum value. Max = Maximum value

conditional dependency structure recovered from cross-sectional data is itself estimated rather than fixed: edges represent partial associations that are contingent on the specific set of nodes included, the regularization applied, and sampling variability, and they convey no information about temporal sequence or causal direction. The resulting structure should therefore be interpreted cautiously, as an exploratory, sample-dependent map of conditional associations to be confirmed in longitudinal and replication designs.

Consistent with prior research, estimating the network from CFA-derived factor scores offers some key advantages (Fontana et al., 2025). First, the nodes represent latent dimensions rather than raw scale totals, improving construct validity and interpretability. Second, factor-score networks offer a parsimonious representation of conditional associations among latent constructs, enabling the network structure to more accurately reflect unique connections among psychological dimensions, rather than correlations inflated by unreliability or overlapping item content. The network structure was estimated as a Gaussian graphical model using EBIC model selection with graphical LASSO regularization (EBICglasso). In the resulting network, edges represent regularized partial correlations between nodes, controlling for all other nodes in the model. Network visualization relied on a force-directed layout, with edge thickness proportional to the magnitude of association and edge sign denoting positive (i.e., green) versus negative (i.e., red) conditional relations.

To support interpretability, node centrality was quantified using strength and expected influence as primary indices. Strength reflects the sum of absolute edge weights connected to a node, whereas expected influence preserves edge sign and therefore captures whether a node is conditionally connected to others predominantly through positive or negative relations. For completeness, betweenness and closeness were also computed descriptively using shortest-path distances. Finally, the accuracy and stability of the estimated network were evaluated via nonparametric bootstrapping of edge weights and case-dropping bootstrapping for centrality stability. Edge-weight accuracy was examined using 1,000 nonparametric bootstrap samples, whereas centrality stability was evaluated using 2,000 case-dropping bootstrap samples and summarized via the correlation-stability (CS) coefficient for strength and expected influence.

## Results

### Data screening

Multivariate outliers were identified at the item level using Mahalanobis distance with a significant threshold of  $p < .001$ ,

removing 83 participants (6.22% of the sample). Among the outliers, most were mothers (69.88%) and the mean age was 41.02 years ( $SD=8.34$ ), with 93.98% being Italian natives. Children of these outliers had a mean age of 9.65 years ( $SD=5.72$ ; 35 children were assigned female at birth). The final sample included 1,251 participants (81.29% mothers,  $M_{age\ parents}=43.32$ ,  $SD=7.49$ ; 50.20% children assigned female at birth,  $M_{age\ children}=9.52$ ,  $SD=5.51$ ). Complete sociodemographics of the final sample are reported in the Supplemental Material.

### Confirmatory factor analysis

A CFA was estimated on the ordinal indicators using the WLSMV estimator with theta parameterization, specifying parenthood regret, parental reflective functioning dimensions, parental identity dimensions, and parenting behavior dimensions as correlated latent factors. The model showed excellent fit according to incremental indices, with a statistically significant  $\chi^2(2089)=7581.30$ ,  $p < .001$ , CFI = 0.997, TLI = 0.996, SRMR = 0.060, and RMSEA = 0.046, 90% CI [0.045, 0.047]. Given the large sample size and model complexity, the significant chi-square was expected.

### Network estimation

Factor scores for all latent variables were extracted from the CFA and combined with socio-demographic covariates (parent age, parent gender, child gender, planned pregnancy, child difficulties, education, working status, and relationship status). A regularized partial correlation network was then estimated using EBICglasso. The resulting adjacency weight matrix therefore represents regularized partial correlation edge weights, such that each edge reflects the unique association between two nodes after conditioning on all remaining nodes in the network (Fig. 1).

The parenthood regret node showed its strongest conditional association with parental identity reconsideration, with a large positive edge weight. Parenthood regret was also strongly and negatively associated with parental identity commitment, indicating that higher parenthood regret co-occurred with lower commitment when controlling for all other constructs and covariates. Parenthood regret further displayed a moderate positive edge weight with pre-mentalizing modes, whereas its direct edges with certainty about mental states and interest/curiosity were shrunk to zero by the LASSO regularization, suggesting that the unique association between parenthood regret and reflective functioning was specific to pre-mentalizing features rather than to the other reflective functioning dimensions once shared variance across the full network was accounted for.

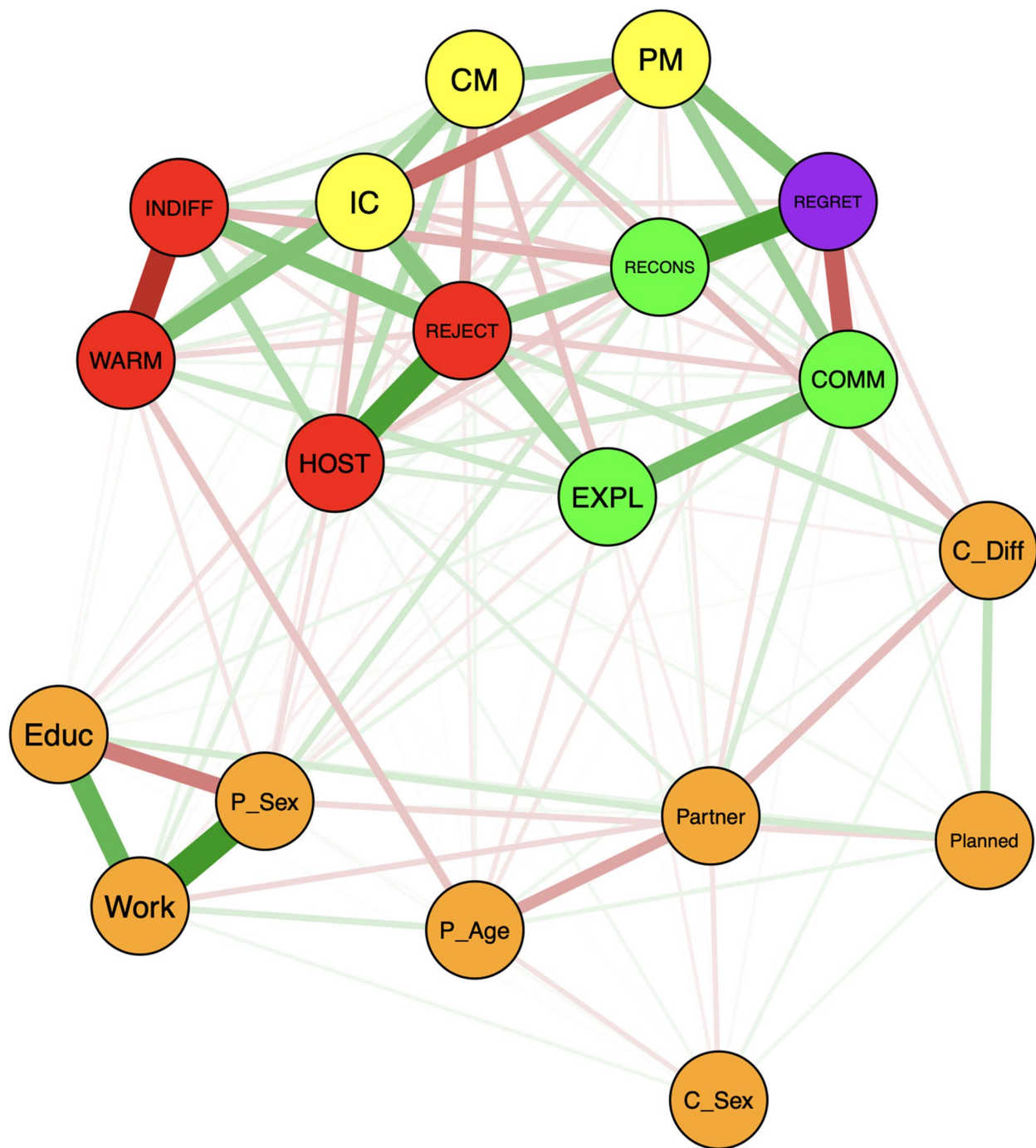


**Fig. 1** EBICglasso network ( $N=1,251$ )

Note. Nodes represent variables, and edges depict the relation between two variables, controlling for all other variables. Thicker edges indicate stronger positive partial correlations. REGRET = Parenthood regret. PM = Pre-mentalizing modes. CM = Certainty about mental states. IC = Interest and curiosity in mental states. COMM = Commitment. EXPL = In-depth exploration. RECONS = Reconsideration of

commitment. WARM = Parental warmth. HOST = Parental hostility. INDIFF = Parental indifference. REJECT = Parental rejection. Parent\_Age = Parent age. Parent\_Sex = Parent gender. Child\_gender = Child gender. Planned\_pregnancy = Planned pregnancy. Child\_difficulties = Child difficulties. Education = Education level. Working\_status = Working status. Partner = Relationship status.

Regarding parenting behaviors, parenthood regret exhibited a positive conditional association with parental rejection. In contrast, edges linking parenthood regret with

parental warmth, hostility, and indifference were small in magnitude. Collectively, this pattern indicates that parenthood regret was most consistently embedded within an

identity-related configuration (high reconsideration and low commitment), with additional links to pre-mentalizing and to a rejection-related parenting dimension, while other putative associations were comparatively weak after conditioning on all other nodes.

Furthermore, parenthood regret showed conditional relations with sociodemographic covariates. More specifically, it had negative edges with parent age, parent gender, planned pregnancy, child difficulties, and relationship status, indicating slightly higher regret in younger parents, in fathers (vs. mothers), in unplanned (vs. planned) pregnancies, when child difficulties were present, and among non-partnered parents. Child gender and the remaining demographic edges were negligible. Centrality indices were computed to quantify the relative structural importance of nodes in the network (Table 3).

Parenthood regret showed relatively high connectivity by strength, indicating that, overall, it was connected to other nodes through a comparatively substantial sum of absolute edge weights. However, the expected influence of parenthood regret was more moderate in magnitude, suggesting that its conditional connections were not uniformly positive and were partly counterbalanced by negative edges (most notably with commitment). Descriptive shortest-path indices indicated a moderate positioning for parenthood regret in the modeled network. Edge-weight accuracy was evaluated using nonparametric bootstrapping. As shown in the Supplemental Material, the precision of several edges varied, with wider intervals for smaller-magnitude connections, consistent with typical regularized network estimation. Case-dropping bootstrapping indicated high stability for expected influence ( $CS = 0.75$ ) and moderate-to-good stability for strength ( $CS = 0.44$ ), supporting the interpretation of the primary centrality findings.

Regarding practical significance, the largest edges in the network (i.e., those connecting parenthood regret with reconsideration of commitment and with identity commitment) represented substantial conditional associations, comparable in magnitude to medium-to-large effects in the psychological literature and suggesting that these identity-related dimensions account for a meaningful portion of the variance in parenthood regret when all other network nodes are held constant. By contrast, the conditional edges linking parenthood regret to sociodemographic covariates were consistently small in magnitude, indicating that demographic characteristics, while statistically detectable given the large sample size, carry modest practical significance in isolation and should be interpreted as markers of contextual vulnerability rather than strong independent predictors of regret.

## General discussion

The present research comprised two large studies aimed at examining the psychometric properties of the Italian version

**Table 3** Centrality indexes of the network in Study 2 ( $N=1,251$ )

| Node                                    | Strength | Expected influence | Betweenness | Closeness |
|-----------------------------------------|----------|--------------------|-------------|-----------|
| Parenthood regret                       | 2.122    | 0.433              | 0.105       | 0.108     |
| Pre-mentalizing modes                   | 1.711    | 0.575              | 0.046       | 0.106     |
| Certainty about mental states           | 1.705    | 0.561              | 0.039       | 0.097     |
| Interest and curiosity in mental states | 2.287    | 0.721              | 0.098       | 0.110     |
| Commitment                              | 1.805    | 0.567              | 0.065       | 0.099     |
| In-depth exploration                    | 1.612    | 0.691              | 0.013       | 0.093     |
| Reconsideration of commitment           | 1.849    | 0.663              | 0.124       | 0.108     |
| Parental warmth                         | 1.750    | -0.070             | 0.131       | 0.102     |
| Parental hostility                      | 1.850    | 0.883              | 0.007       | 0.102     |
| Parental indifference                   | 1.803    | -0.108             | 0.065       | 0.102     |
| Parental rejection                      | 2.628    | 1.677              | 0.170       | 0.116     |
| Parent age                              | 0.874    | -0.354             | 0.059       | 0.086     |
| Parent gender                           | 1.604    | 0.115              | 0.111       | 0.080     |
| Child gender                            | 0.423    | -0.013             | 0.000       | 0.042     |
| Planned pregnancy                       | 0.665    | 0.407              | 0.007       | 0.068     |
| Child difficulties                      | 0.945    | -0.053             | 0.085       | 0.088     |
| Education                               | 1.243    | 0.362              | 0.007       | 0.072     |
| Working status                          | 1.530    | 1.202              | 0.026       | 0.075     |
| Relationship status                     | 1.198    | -0.243             | 0.085       | 0.087     |

of the Parenthood Regret Scale (PRS) and the relations between parenthood regret, reflective functioning, parental identity, parenting behaviors, and relevant sociodemographics. Study 1 confirmed the PRS's unidimensional factorial structure and its robust psychometric properties (Piotrowski et al., 2023b) and further established its measurement invariance between mothers and fathers with diverse gender identities and sexual orientations. These findings confirm the PRS as a reliable and valid instrument for assessing parenthood regret, building upon prior research that has primarily relied on binary measures (e.g., Piotrowski, 2021).

The observed invariance between mothers and fathers represents a significant addition to the parenthood regret literature, suggesting that the PRS captures a shared underlying structure of regret that transcends differences in parent gender (Piotrowski et al., 2023b) and (presumably) caregiving role, given that most mothers were primary caregivers of their child(ren). This is particularly relevant in the Italian context, where traditional gender roles significantly shape parental expectations (Aloè et al., 2024). The results suggest that parenthood regret is not confined to traditional parental roles but reflects broader emotional and psychological experiences shared by both mothers and fathers. These findings

align with contemporary research indicating that both genders experience common emotional challenges in parenting (Meil et al., 2023; Roskam & Mikolajczak, 2020; Tracchegiani & Carone, 2025), albeit influenced by distinct social and cultural frameworks.

Study 2 clarified how parenthood regret is positioned at the intersection of identity processes, reflective functioning, and parenting when these domains are modeled simultaneously. In the network, parenthood regret was most proximally connected to a distinctive identity configuration (lower parental identity commitment coupled with higher reconsideration), suggesting that regret co-occurs with a less consolidated integration of the parental role and a heightened salience of alternative life possibilities. From the perspective of identity theory (Crocetti et al., 2008; Piotrowski, 2018), this pattern aligns with the view that regret is intertwined with an unsettled parental identity, such that parenthood is experienced as a contested rather than stabilized life domain (Piotrowski et al., 2024a). Notably, in-depth exploration did not emerge as a unique correlate once the broader system of variables was considered, implying that parenthood regret is more closely tied to commitment stability and evaluative comparison processes than to reflective elaboration of the parental role per se.

A related nuance emerged for reflective functioning. Parenthood regret was not broadly associated with all mentalization facets, but showed a targeted link to pre-mentalizing modes (Luyten et al., 2017; Pazzagli et al., 2018), consistent with moments in which parents, particularly under strain, shift toward more rigid or distorted readings of the child's internal states. Clinically, this suggests that parenthood regret may be expressed not only as an appraisal of one's reproductive decision, but also as a relational difficulty in maintaining a reflective stance during emotionally charged parent-child exchanges (Carone et al., 2026c).

Taken together, the network supports an integrated interpretation in which identity instability and reflective vulnerabilities co-occur as a coupled configuration rather than as independent correlates. In this configuration, weaker and actively reconsidered commitment, greater susceptibility to stress-driven, non-mentalizing construals of the child and of the caregiving relationship, and more pronounced parenthood regret tend to co-occur as an identity-relevant tension expressed in everyday interactions. These associations should be understood as conditional co-variation within a cross-sectional network, without implying temporal ordering or causal direction.

With respect to parenting behaviors, parenthood regret did not appear to align with a generalized profile of harshness or disengagement across parenting domains. Instead, it was most closely linked to a rejection-related stance toward the child (Rohner, 2005; Senese et al., 2016).

Psychodynamic caregiving theory (George & Solomon, 2008) provides a plausible integrative account: when parenthood regret is embedded in a conflicted parental identity (low commitment, high reconsideration) and accompanied by pre-mentalizing tendencies, rejection may constitute a salient relational expression of this intrapsychic strain within the parent-child relationship. Consistent with this interpretation, parenthood regret may be less consistently expressed through overt hostility and more through emotional distancing, a relational stance that future longitudinal work could examine in relation to reduced parental availability (e.g., Piotrowski et al., 2024b).

Finally, sociodemographic characteristics retained relevance, but the pattern was more consistent with cumulative pressures than with a single demographic explanation. Parenthood regret tended to be higher among younger parents, among those with unplanned pregnancies, among parents raising a child with physical or psychological difficulties, and among non-partnered parents, circumstances that may increase strain, constrain perceived choice, or intensify the sense of being committed to a demanding role under limited resources (Donath, 2017; Piotrowski, 2021). The association with parent male gender also appeared to be embedded within this wider configuration of identity consolidation, relational supports, and caregiving demands, an issue that may be particularly salient in Italy, where parenting remains strongly norm-governed and institutional supports are often limited (Aloè et al., 2024).

Taken together, these findings support a culturally grounded interpretation of parenthood regret. In contexts where motherhood is idealized and regret is stigmatized (Aloè et al., 2024; Donath, 2017; Sihto & Mustosmäki, 2021), parenthood regret may be less readily articulated by mothers and more likely to be experienced as an identity-relevant tension. Compared with more family-friendly and gender-equal settings (where mothers may have greater room to acknowledge ambivalence without strong social sanction; e.g., Bodin, 2023), the Italian context may amplify the identity stakes of parenting while offering fewer structural buffers. By validating the PRS and clarifying how parenthood regret aligns with both psychological processes and contextual characteristics, the present study offers a culturally situated contribution to the literature and underscores the need for culturally responsive tools and interventions that address parents' lived realities, counter stigmatizing discourses, and inform systemic change.

A final conceptual point worth addressing concerns our use of the term parenthood regret rather than regretting parenthood, as used in prior literature (e.g., Donath, 2015, 2017). We acknowledge that "regretting parenthood" emphasizes the active, dynamic nature of the experience, something that may evolve, fluctuate, or be revisited over

time and in different life circumstances. In contrast, “parenthood regret” might imply a more static, enduring condition, perhaps more strongly tied to identity or self-concept. Our decision to use the term parenthood regret follows the naming convention established by Piotrowski et al. (2023b) in their development of the PRS, which served as the primary instrument in our research.

Nonetheless, the emotional experience of regret is not monolithic. For some parents, regret may be a deeply entrenched and identity-related experience that persists even in objectively favorable parenting conditions (e.g., Piotrowski, 2020). For others, it may be transient or contextually triggered (Piotrowski et al., 2026), arising in specific life phases of their child(ren) (e.g., early childhood) (e.g., Piotrowski et al., 2024a), or due to acute stressors such as financial difficulties or strained relationships (e.g., Moore & Abetz, 2019). These nuances are critical, as they point to the need for sensitivity in both measurement and interpretation.

Although the PRS captures the intensity of regret through a dimensional approach rather than a binary classification, further research is needed to explore whether it adequately distinguishes between chronic, identity-linked regret, and more situational, temporary forms (Piotrowski et al., 2026). Longitudinal person-centered studies may be especially useful in disentangling these dimensions and enriching our understanding of the diverse ways in which regret manifests in parenthood. By acknowledging these differences, future research and clinical applications can better tailor support and interventions to parents’ varying needs and experiences.

### Strengths, limitations, and future directions

The research possesses notable strengths. First, drawing on two independent and large samples, it represents one of the most comprehensive examinations of parenthood regret to date (Piotrowski 2021; Piotrowski et al., 2023b, 2024b) and contributes to the growing body of literature that seeks to demystify and de-stigmatize parenthood regret (Bodin, 2024; Donath, 2015). Second, it integrates psychometric validation with the exploration of psychological and sociodemographic correlates of parenthood regret. Third, the validation of the PRS in the Italian context marks a significant methodological and clinical advancement. Finally, the research incorporated multiple theoretical frameworks (i.e., reflective functioning, parental identity, caregiving), offering a multidimensional perspective on parenthood regret.

Despite these contributions, the present research has several limitations. First, although self-report questionnaires are practical tools allowing efficient data collection from large samples, they may have introduced biases such as social desirability, particularly given the sensitive and stigmatized nature of parenthood regret (Donath, 2017),

potentially resulting in underreporting of regret and related negative feelings. Although we sought to mitigate this bias by anonymizing responses and describing the survey broadly in terms of parenting experiences without explicitly emphasizing regret, respondents may still have adjusted their answers to align with socially desirable views of parenthood. In this regard, the use of mandatory response formats (forced choice), while preventing missing data, may have compounded this tendency: when confronted with particularly stigmatized items concerning parenthood regret, participants who might otherwise have skipped sensitive questions were required to provide an answer, potentially increasing the risk of acquiescent responding or other forms of non-substantive bias. Additionally, self-report assessments of reflective functioning are inherently limited by respondents’ introspective accuracy (Luyten et al., 2017). Future research would benefit from integrating observational, implicit, or qualitative methods to validate and enrich self-reported data. Specifically, mixed-methods approaches could offer deeper insights into the lived experiences of parents who regret parenthood, as well as illuminate how these parents reflect upon and interpret their own parenting behaviors (Piotrowski et al., 2024b).

Second, both studies relied on snowball sampling via social media. Although this approach facilitated rapid recruitment and enabled large sample sizes, it is prone to coverage and self-selection biases that constrain external validity. In particular, parents with higher education, greater digital literacy, and urban residence, as well as parents who are more engaged with parenting and mental health content online, may have been overrepresented; conversely, parents with fewer socioeconomic resources, limited internet access, or lower trust in research may have been underrepresented. Such systematic biases may limit the generalizability of effect-size estimates to the broader Italian parent population, and caution should be exercised against extrapolating population-level inferences (e.g., prevalence-like interpretations). These constraints are compounded by a pronounced gender imbalance, as more than 80% of participants in each study were mothers, which further limits the extent to which the findings, and especially any mother-father comparisons, generalize to fathers and to the broader population of Italian parents. Future research should seek replication using probability-based or nationally representative designs (e.g., stratified sampling through national/municipal registries or household surveys, or panels grounded in probability frames) and, where feasible, apply post-stratification weighting to align sample distributions with national benchmarks (e.g., parental education, geographic region, and urbanicity).

Third, several psychometric features of the PRS in this sample warrant interpretive caution. The very high factor

loadings and near-ceiling Cronbach's alpha coefficients observed in both studies, while attesting to strong internal consistency and consistent with prior validation work (Piotrowski et al., 2023b), also raise the possibility of item redundancy: several items may be capturing highly overlapping facets of the same underlying experience rather than meaningfully distinct aspects of regret. In scales assessing highly homogeneous constructs, such levels of inter-item correlation (see Supplemental Table 1) can inflate reliability indices while providing limited informational yield above and beyond a reduced item set. Future research should evaluate whether a shorter form of the PRS, developed using information-theoretic item selection procedures (e.g., relative information curves or bifactor modeling), might retain psychometric adequacy while improving parsimony.

Relatedly, as reported in Table 1, PRS items exhibited pronounced positive skewness and very high kurtosis, consistent with the construct's sensitivity and the low base rate of parenthood regret in the general population (Piotrowski et al., 2026). While the use of a polychoric correlation matrix with the WLSMV estimator appropriately accommodates ordinal, non-normally distributed indicators, extreme kurtosis may nonetheless influence the magnitude and standard errors of factor loading estimates, even under robust estimation. This distributional characteristic is likely to have contributed to the uniformly high factor loadings obtained, and may partly account for the near-ceiling alpha values across both studies. Future research should examine the psychometric properties of the PRS in more heterogeneous or clinical samples, where the full response range may be more evenly represented.

Fourth, although comparisons between mothers and fathers are theoretically meaningful, they are methodologically delicate in the present work because of the substantial imbalance in group sizes. In particular, the smaller number of fathers limits statistical power for father-specific estimates and increases uncertainty around group differences; accordingly, gender comparisons should be interpreted cautiously, generalized only tentatively to the broader population of fathers, and replicated in larger, more balanced samples. On a related note, although the sample in Study 1 included parents with diverse gender identities and sexual orientations, the sample in Study 2 consisted exclusively of cisgender, heterosexual parents whose children were conceived without medical assistance.

The exclusion of 41 LGBTQ+ parents from Study 2 was primarily due to their small number in the initial dataset, which precluded statistically robust subgroup analyses. While we acknowledge that this decision inevitably limits the generalizability of our findings and contrasts with current calls for more inclusive family research (Deneault et al., 2026), we maintain that this choice was methodologically

sound. Importantly, even aggregating the 41 LGBTQ+ parents into a single comparison group against cisgender heterosexual parents would have risked masking the distinct experiences within LGBTQ+ subgroups, as evidence indicates significant heterogeneity among LGBTQ+ parents themselves (Goldberg et al., 2024). Beyond a statistical constraint, we frame this exclusion as a conceptual gap, because it leaves unanswered whether the proposed links between parental identity, reflective functioning, and parenthood regret generalize to parents with minoritized sexual and/or gender identities.

Relatedly, LGBTQ+ parents often face unique societal pressures, stigma, and support systems that may distinctly shape their parental identity, reflective functioning, and parenting behaviors (e.g., Carone et al., 2026a; Goldberg et al., 2024). Although empirical studies specifically addressing parenthood regret among LGBTQ+ populations remain limited, existing literature suggests that LGBTQ+ individuals frequently view parenthood as a meaningful achievement against societal narratives that question or delegitimize their parenting roles (Farr et al., 2022). While this does not imply that the challenging pathways often required for LGBTQ+ individuals to become parents (e.g., adoption, assisted reproductive technologies) inherently shield them from parenthood regret, it does suggest that the nature and expression of regret may qualitatively differ in this population. Future research should therefore be designed a priori to include sufficiently powered samples of sexual- and gender-minority parents (including planned oversampling and targeted recruitment), to examine within-group heterogeneity, test measurement invariance of key instruments, and identify both shared and population-specific correlates of parenthood regret.

Finally, while this research focused on Italian parents, and the PRS was successfully validated within this context, cultural factors influencing the experience and expression of regret may vary significantly across countries (Piotrowski et al. 2023a, b) and over time. Thus, comparative cross-cultural longitudinal studies are needed to explore the ways in which societal norms, gender expectations, family policies, and cultural attitudes shape the psychological experience of regret. Such work would offer valuable insights into the universality versus cultural specificity of this phenomenon, and help refine both theory and intervention strategies across diverse sociocultural settings.

## Implications

These findings carry meaningful social and policy implications. First, they suggest that regret, ambivalence, and emotional strain are legitimate components of the parenting experience and should be openly recognized. Destigmatizing

parenthood regret through public discourse can reduce the shame and isolation felt by many parents and foster greater emotional honesty in parenthood. Second, and importantly, our findings underscore the value of early parenting interventions. Preventive approaches, such as prenatal counseling and identity- and mentalization-based programs, may help parents-to-be reflect on their expectations, consolidate a sense of parental identity, and develop realistic strategies for coping with the demands of parenthood. These efforts may be particularly relevant for groups who appear more vulnerable to regret, including fathers and parents with fewer educational or social resources.

At the policy level, the results reinforce the need for targeted support systems that address the specific vulnerabilities we identified. Expanding parental leave policies, offering specialized support for families of children with special needs, and providing financial and social support for single and lower-income parents are all critical areas for intervention. Educational campaigns might also help engage fathers more actively in caregiving and identity development, helping to mitigate gendered gaps in parental involvement and emotional investment in parenting.

Although further longitudinal and intervention studies are needed to determine whether such initiatives can reduce parenthood regret or help parents better integrate it into their broader parenting experience, our findings suggest that a comprehensive strategy that validates the emotional complexity of parenting while providing tangible support, may foster a more inclusive, compassionate, and realistic societal understanding of parenthood in contemporary contexts.

## Conclusion

Through the validation of the PRS among Italian mothers and fathers, we identified key psychological and sociodemographic correlates of parenthood regret. Our findings show that regret is not a marginal or isolated phenomenon; rather, it affects parents across diverse backgrounds, with higher levels reported among fathers, less educated and single parents, those whose pregnancies were unplanned, and those raising children with physical or psychological difficulties. Furthermore, parenthood regret was significantly linked to weaker parental identity, higher prementalizing modes, and greater rejection in parent-child interactions, underscoring its significance as both a psychological and relational experience. Overall, our research delivers the first large-scale Italian validation of the PRS and, through a theoretically grounded network approach, situates parenthood regret within an interrelated configuration of identity, reflective functioning, and parenting processes.

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**Data availability** Data are available upon reasonable request from the corresponding author.

## Declarations

**Ethical Approval** The Territorial Ethics Committee Lazio Area 2 (R.S. 77.24 CET2 utv) granted the study's ethical approval.

**Consent Participate** Consent information was provided at the start of the survey. Participants were informed that their participation in the online survey indicated their consent.

**Competing Interests** Nicola Carone and Ilaria Maria Antonietta Benzi are Associate Editors of *Current Psychology* and receive an honorarium. However, their role did not interfere with the editorial process.

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## References

- Aloè, E., Corsi, M., & Zaccchia, G. (2024). Measuring patriarchy in Italy. *Review of Political Economy*. <https://doi.org/10.1080/09538259.2024.2360503>
- Bodin, M. (2023). Regretting parenthood in a family friendly, gender equal society: Accounts from Swedish online forums. *Journal of Family Studies*, 29(5), 2195–2212. <https://doi.org/10.1080/13229400.2022.2156379>
- Bodin, M. (2024). It wasn't what I was suited for': Regretful mothers negotiating their reproductive decision and mother role. *Medical Humanities*, 50(1), 70–76. <https://doi.org/10.1136/medhum-2023-012717>
- Bodin, M., & Fängström, K. (2025). Loneliness among parents in Sweden who regret having children. *Journal of Child and Family Studies*. <https://doi.org/10.1007/s10826-024-02988-8>
- Briganti, G., Scutari, M., Epskamp, S., Borsboom, D., Hoekstra, R. H. A., Golino, H. F., Christensen, A. P., Morvan, Y., Ebrahimi, O. V., Costantini, G., Heeren, A., de Ron, J., Bringmann, L. F., Huth, K., Haslbeck, J. M. B., Isvoranu, A. M., Marsman, M., Blanken, T., Gilbert, A., Rhine Henry, T., Fried, E. I., & McNally, R. J. (2024). Network analysis: An overview for mental health research. *International Journal of Methods in Psychiatric Research*, e2034. <https://doi.org/10.1002/mpr.2034>
- Carone, N., & Lingardi, V. (2022). Untangling caregiving role from parent gender in coparenting research: Insights from gay two-father families. *Frontiers in Psychology*, 13, 863050. <https://doi.org/10.3389/fpsyg.2022.863050>
- Carone, N., Mirabella, M., Innocenzi, E., Quintigliano, M., Antonucci, C., Manzi, D., Fortunato, A., Giovanardi, G., Speranza,

- A. M., & Lingardi, V. (2026a). The intergenerational transmission of attachment during middle childhood in lesbian, gay, and heterosexual parent families through assisted reproduction: The mediating role of reflective functioning. *Attachment & Human Development*, 28(4), 402–428. <https://doi.org/10.1080/14616734.2023.2292053>
- Crocetti, E., Rubini, M., & Meeus, W. (2008). Capturing the dynamics of identity formation in various ethnic groups: Development and validation of a three-dimensional model. *Journal of Adolescence*, 31(2), 207–222. <https://doi.org/10.1016/j.adolescence.2007.09.002>
- Carone, N., Tracchegiani, J., & Brumariu, L. E. (2026b). Attachment states of mind and reflective functioning in mothers who regret parenthood. *Attachment & Human Development*, 28(2), 163–184. <https://doi.org/10.1080/14616734.2026.2632639>
- Carone, N., Tracchegiani, J., & Zagaria, A. (2026c). Parental burn-out and reflective functioning in regretful parents: Associations with childhood maltreatment and child dysregulation. *Journal of Social and Personal Relationships*, 43(3), 911–937. <https://doi.org/10.1177/02654075251391496>
- Deneault, A. A., Carone, N., & Madigan, S. (2026). A call to represent the current diversity of family forms in attachment research. *Attachment & Human Development*, 28(4), 429–439. <https://doi.org/10.1080/14616734.2024.2441990>
- Donath, O. (2015). Choosing motherhood? Agency and regret within reproduction and mothering retrospective accounts. *Women's Studies International Forum*, 53, 200–209. <https://doi.org/10.1016/j.wsif.2014.10.023>
- Donath, O. (2017). *Regretting motherhood: A study*. North Atlantic Books.
- Esposito, G., Parazzini, F., Chatenoud, L., Santucci, C., La Vecchia, C., & Negri, E. (2024). Parents' age and total fertility rate in selected high-income countries from Europe and North America, 1990–2020. *European Journal of Obstetrics & Gynecology and Reproductive Biology*, 299, 32–36. <https://doi.org/10.1016/j.ejogrb.2024.05.031>
- Farr, R. H., Tornello, S. L., & Rostosky, S. S. (2022). How do LGBTQ+ parents raise well-adjusted, resilient, and thriving children? *Current Directions in Psychological Science*, 31(6), 526–535. <https://doi.org/10.1177/09637214221121295>
- Fontana, A., Mangialavori, S., Benzi, I. M. A., Tracchegiani, J., Parolin, L. A. L., Cacioppo, M., & Carone, N. (2025). Attachment styles epistemic trust and mentalized affectivity in love addiction among emerging adult women. *Discover Psychology*, 5(1), 124. <https://doi.org/10.1007/s44202-025-00470-0>
- Gallup (2013). *Desire for children still norm in U.S.* <https://news.gallup.com/poll/164618/desirechildren-norm.aspx>
- Garncarek, E. (2020). Living with illegal feelings—Analysis of the Internet discourse on negative emotions towards children and motherhood. *Qualitative Sociology Review*, 16(1), 78–93. <https://doi.org/10.18778/1733-8077.16.1.06>
- George, C., & Solomon, J. (2008). The caregiving system: A behavioral systems approach to parenting. In J. Cassidy, & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (2nd ed., pp. 833–856). The Guilford Press.
- Goldberg, A. E., Allen, K. R., & Sanner, C. (2024). Cherished families, unspoken truths: Navigating hidden and challenging family experiences while growing up with LGBTQ parents. *Journal of Marriage and Family*, 86(1), 219–244. <https://doi.org/10.1111/jomf.12941>
- Heffernan, V., & Stone, K. (2021). #regrettingmotherhood in Germany: Feminism, motherhood, and culture. *Signs: Journal of Women in Culture and Society*, 46(2), 337–360. <https://doi.org/10.1086/710807>
- Hintz, E. A., & Scharp, K. M. (2023). I hate all the children, especially mine: Applying relational dialectics theory to examine the experiences of formerly childfree regretful parents. *Journal of Social & Personal Relationships*, 40(11), 3781–3799. <https://doi.org/10.1177/02654075231194363>
- Hoyle, R. H. (Ed.). (2012). *Handbook of Structural Equation Modeling*. Guilford Press.
- Isupova, O. (2024). Learning, performance, fatigue and regret: Tales of motherhood on Russian social media in the 2010s–2020s. *Europe-Asia Studies*, 76(2), 247–264. <https://doi.org/10.1080/09668136.2023.2267808>
- Johnson, M. A., & Pétursdóttir, G. M. (2024). It'll be all right, everybody has children: Regretting motherhood in Iceland. *NORA-Nordic Journal of Feminist and Gender Research*. <https://doi.org/10.1080/08038740.2024.2380900>
- Li, C. H. (2016). The performance of ML, DWLS, and ULS estimation with robust corrections in structural equation models with ordinal variables. *Psychological Methods*, 21(3), 369–387. <https://doi.org/10.1037/met0000093>
- Luyten, P., Mayes, L., Nijssens, L., & Fonagy, P. (2017). The Parental Reflective Functioning Questionnaire: Development and preliminary validation. *Plos One*, 12, e0176218. <https://doi.org/10.1371/journal.pone.0176218>
- Matley, D. (2020). I miss my old life: Regretting motherhood on Mumsnet. *Discourse Context & Media*, 37, 100417. <https://doi.org/10.1016/j.dcm.2020.100417>
- Meil, G., Romero-Balsas, P., & Saura, D. M. (2023). Regretting fatherhood in Spain. *Journal of Family Research*, 35, 37–52. <https://doi.org/10.1023/10.20377/jfr-819>
- Moore, J., & Abetz, J. S. (2019). What do parents regret about having children? Communicating regrets online. *Journal of Family Issues*, 40(3), 390–412. <https://doi.org/10.1177/0192513X18811388>
- Muthén, L. K., & Muthén, B. O. (2015). *Mplus user's guide (1998–2015)*. Muthén & Muthén.
- Ogrizek, A., Ghanimeh, C., & Moro, M. R. (2024). Parental dysphoria: A new terminology for parents facing parental regret? *International Journal of Social Psychiatry*, 70(4), 832–833. <https://doi.org/10.1177/00207640231212873>
- Pazzagli, C., Delvecchio, E., Raspa, V., Mazzeschi, C., & Luyten, P. (2018). The Parental Reflective Functioning Questionnaire in mothers and fathers of school-aged children. *Journal of Child and Family Studies*, 27, 80–90. <https://doi.org/10.1007/s10826-017-0856-8>
- Piotrowski, K. (2018). Adaptation of the Utrecht-Management of Identity Commitments Scale (U-MICS) to the measurement of the parental identity domain. *Scandinavian Journal of Psychology*, 59, 157–166. <https://doi.org/10.1111/sjop.12416>
- Piotrowski, K. (2020). How good it would be to turn back time: Adult attachment and perfectionism in mothers and their relationships with the processes of parental identity formation. *Psychologica Belgica*, 60(1), 55–72. <https://doi.org/10.5334/pb.492>
- Piotrowski, K. (2021). How many parents regret having children and how it is linked to their personality and health: Two studies with national samples in Poland. *Plos One*, 16(7), e0254163. <https://doi.org/10.1371/journal.pone.0254163>
- Piotrowski, K., Cohen-Malayev, M., Hihara, S., Janowicz, K., Morgan, E., Naude, L., Saiga, S., Schachter, E., & Sugimura, K. (2023a). Parental identity processes across cultures: Commitment, in-depth exploration and reconsideration of commitment among parents from the United States, Israel, Poland, South Africa and Japan. *Identity*, 23(3), 193–207. <https://doi.org/10.1080/15283488.2023.2209581>
- Piotrowski, K., Dzielińska, M., & Lasota, M. (2024a). Processes and statuses of parental identity at different stages of parenthood. *Identity*, 24(2), 139–155. <https://doi.org/10.1080/15283488.2024.2315454>

- Piotrowski, K., Mikolajczak, M., & Roskam, I. (2023b). I should not have had a child: Development and validation of the Parenthood Regret Scale. *Journal of Family Psychology*, 37(8), 1282–1293. <https://doi.org/10.1037/fam0001158>
- Piotrowski, K., Mikolajczak, M., & Roskam, I. (2025). Longitudinal links of parenthood regret and parental burnout at the between-person and within-person levels. *Journal of Marriage and Family*. <https://doi.org/10.1111/jomf.13127>
- Piotrowski, K., Roskam, I., & Mikolajczak, M. (2026). A decade of research on parenthood regret. *Trends in Cognitive Sciences*. <https://doi.org/10.1016/j.tics.2026.02.004>
- Piotrowski, K., Naude, L., Sanna, K., Szramka-Pawlak, B., Kwarciańska, K., & Dzielińska, M. (2024b). Perceptions of parenting among parents who regret having a child: A mixed-methods study. *Journal of Family Studies*, 30(3), 461–484. <https://doi.org/10.1080/13229400.2023.2241520>
- R Core Team. (2025). *R: A language and environment for statistical computing* [Computer software]. R Foundation for Statistical Computing. <https://www.R-project.org/>
- Rohner, R. P. (2005). Parental Acceptance-Rejection/Control Questionnaire (PARQ/Control): Test manual. In R. P. Rohner, & A. Khaleque (Eds.), *Handbook for the study of parental acceptance and rejection* (4th ed., pp. 137–186). University of Connecticut.
- Roskam, I., & Mikolajczak, M. (2020). Gender differences in the nature, antecedents and consequences of parental burnout. *Sex Roles*, 83, 485–498. <https://doi.org/10.1007/s11199-020-01121-5>
- Roskam, I., Mikolajczak, M., & Piotrowski, K. (2026). Unveiling the uniqueness of parental burnout and parenthood regret: Impact on parents and children. *Clinical Psychological Science*, 14(2), 189–205. <https://doi.org/10.1177/21677026251347526>
- Senese, V. P., Bacchini, D., Miranda, M. C., Aurino, C., Somma, F., Amato, G., & Rohner, R. P. (2016). The adult Parental Acceptance-Rejection Questionnaire: A cross-cultural comparison of Italian and American short forms. *Parenting*, 16(4), 219–236. <https://doi.org/10.1080/15295192.2016.1180943>
- Sihto, T., & Mustosmäki, A. (2021). The most invisible maternal experience? Analysing how maternal regret is discussed in Finland. In A. Fitzgerald (Ed.), *Women's lived experiences of the gender gap* (pp. 109–120). Springer. [https://doi.org/10.1007/978-981-16-1174-2\\_10](https://doi.org/10.1007/978-981-16-1174-2_10)
- Tracchegiani, J., & Carone, N. (2025). Parental burnout, personality, and parenting alliance in first-time mothers and fathers during the perinatal period. *Journal of Reproductive and Infant Psychology*. <https://doi.org/10.1080/02646838.2025.2451379>
- Tracchegiani, J. & Carone, N. (2026). Trapped in motherhood: Parenthood regret and mental health among mothers exposed to Intimate Partner Violence. *Journal of Interpersonal Violence*. <https://doi.org/10.1177/08862605261419493>
- Tracchegiani, J., Cruciani, G., & Carone, N. (2026). Having already brought children into a burning world: Childhood experiences of disorganization and role reversal in primary caregiving mothers who regret their parenthood in the age of climate crisis. *The Journal of Genetic Psychology*. <https://doi.org/10.1080/00221325.2026.2677916>
- Tracchegiani, J., Fontana, A., Benzi, I. M. A., Cacioppo, M., & Carone, N. (2025). Personality functioning and parenting behaviors: The mediating role of parental identity. *The Journal of Genetic Psychology*. <https://doi.org/10.1080/00221325.2025.2564989>
- YouGov (2021). *One in twelve parents say they regret having children*. <https://yougov.co.uk/topics/lifestyle/articles-reports/2021/06/24/one-twelve-parents-say-they-regret-having-children>

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