



Which Space for Fathers' Mentalizing? A Systematic Review on Paternal Reflective Functioning, Mind-Mindedness and Insightfulness

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Abstract

Over the past twenty years research interest has been focused on deepening the role of parental mentalizing. Nevertheless, few studies have specifically addressed the role played by fathers' mentalizing. This systematic review aims to bridge this gap by offering an exploration of paternal mentalizing within attachment theory considering three different operationalizations: Reflective Functioning, Parental Insightfulness and Mind-Mindedness. Starting from this, the main goals of this systematic review are: (1) to show the effect of paternal mentalizing on child's outcomes or paternal role within the family system, (2) to increase research exchange between different theoretical frameworks, enhancing the knowledge of the mentalization construct, (3) to explore under-researched areas and implications for research and clinical practice. PsycInfo, PsycArticle, Web Of Science, Scopus, Medline, PubMed and EMBASE were systematically searched for articles published until February 7, 2021. In total, 6311 studies were considered for the systematic review; of these, thirty-six met the inclusion criteria. The included studies were subsequently split on the basis of the specific mentalizing operationalization. Overall, the data showed significant associations between paternal mentalizing and both fathers' parenting features and variables related to the paternal broader functioning within the family context. This systematic review also confirms the role of fathers' mentalizing processes in relation to paternal features and child's outcomes. In conclusion, further studies aimed at examining paternal mentalizing specific influences, exploring the causal pathways related to paternal mentalizing and investigating the relationship between different mentalizing dimensions and their diverse effects are recommended.

Keywords Reflective Functioning · Parental Insightfulness · Mind-mindedness · Paternal mentalization · Parental mentalization

Highlights

- This research offers the first review focusing on the role of father's Reflective Functioning, Mind-Mindedness and Parental Insightfulness.
- Studies have pointed to the potential of father's mentalizing in both father's characteristics and child's outcomes.
- There is a need for further longitudinal studies designed to examine the causal pathways from father's mentalizing.
- It underlines the importance of analyzing the differences of the roles played by father's and mother's mentalizing within family system.

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Mentalizing is considered an umbrella concept that overlaps with a range of constructs and capacities focused on various aspects of social cognition, including Theory of Mind (ToM), mindfulness, perspective-taking and empathy. Concepts as ToM focus on cognitive features of mentalizing (e.g., belief-desire reasoning, perspective-taking) while mindfulness and empathy concern affective components of mentalizing (Choi-Kain & Gunderson, 2008). Assuming the

psychoanalytic perspective, Sharp and Fonagy (2008) describe mentalizing as “both a cognitive process akin to psychological insight or perspective-taking, and an emotional process, that is, the capacity to hold, regulate, and fully experience one’s own and others’ emotions in a non-defensive way without becoming overwhelmed or shutting down” (p. 740). From this perspective, the only one we consider, the development of mentalizing depends on early attachment relationships with significant others and, specifically, on the child’s experience of how his mental states are reflected by the caregiver (Fonagy et al., 1991). A lack of emotional containment and empathic response by the caregiver may lead to the exclusion of important aspects of the child’s self and his perceptions of others, limiting the understanding and interpretation—implicitly and explicitly—one’s own and others’ behavior as an expression of mental states (i.e., feelings, thoughts, fantasies, beliefs and desires) (Fonagy et al., 2002, 2007) and in turn influencing the individual psychological adjustment across the life span (Katznelson, 2014; Luyten et al., 2020).

Parental Mentalizing: Reflective Functioning, Mind-Mindedness, and Parental Insightfulness

One aspect of mentalizing abilities that received great attention is represented by parental mentalizing (Sharp & Fonagy, 2008) defined as the parent’s ability to represent and hold in mind his/her child’s internal states. Following the first contributions within the well-known London Parent-Child study (Fonagy et al., 1991, 1994; Steele & Steele, 2008), parental ability to consider infant’s thoughts and feelings (Fonagy & Target, 1997) has been associated with secure attachment relationships and fewer child socio-emotional-behavioral difficulties (see Steele & Steele, 2008). Conversely, a lack of awareness or disregard for the child’s mental world has been linked with child’s attachment insecurity and increased psychological difficulties (Camoirano, 2017).

Within the theoretical framework offered by attachment theory, several empirical studies examined the role of parental mentalizing on child development, despite different perspectives and assessment approaches are considered (see Camoirano, 2017 for a review). This research field is indeed divided into three main lines of research that emphasize the multidimensionality of parental mentalizing (Luyten et al., 2020). The first line is represented by Parental Reflective Functioning (PRF), regarding the parent’s capacity to understand and take into account the child’s mental states (Slade, 2005). Research of PRF has been consistently facilitated by the use of narrative-based measures. In this regard, the first system for assessing individual ability for

Reflective Functioning (RF) was introduced by Fonagy et al. and it is based on subject’s responses to specific demand questions on the *Adult Attachment Interview* (AAI, George et al., 1985); the *Reflective Functioning Scale* (RFS, Fonagy et al., 1998). An addendum to this original RF coding system was later developed by Slade et al. (2004b) for its use with narratives from the *Parent Development Interview* (Aber et al., 1985). Both the scales are applied to interviews’ transcripts and have a potential score ranging from -1 (negative or bizarre RF) to 9 (marked RF); this range score is employed with each individual demand question as well as the overall score. However, considering the different focus of these interviews, it is important to underline that while the AAI addresses individuals’ relatively stable representation of past attachment relationships with primary caregivers, the PDI taps into on-going parental attachment bond with his/her child, thus eliciting dynamic and developing representations (Slade, 2005). More recently, a questionnaire for the evaluation of the PRF has been provided: the Parental Reflective Functioning Questionnaire (PRFQ, Luyten et al., 2017a), which assesses three different dimensions of parental mentalization such as pre-mentalizing modes, certainty about mental states, and interest and curiosity in the child’s mental states.

The second line is represented by Mind-Mindedness (Meins, 1997). Mind-Mindedness has been originally defined as caregivers’ tendency to treat the child as an individual with his/her own mind, and it has been measured in different ways depending on the age of the child. In the first year of child’s life, Mind-Mindedness is assessed in terms of parents’ attuned/versus non-attuned comments regarding child’s internal states during free-play parent-infant interactions (observational/online measure). From the preschool years onward, Mind-Mindedness is also assessed in terms of the extent to which the parent talks about the child’s mental and emotional characteristics in the context of an open-ended invitation to describe the child (interview measure; Meins et al., 1998). In other words, one measure aims to capture what parents say about their child when the child is not present, and the other is intended to capture parents’ language directed to the child. Therefore, this construct is assessed from actual parent-infant interactions, following the coding guidelines defined by Meins and Fernyhough (2015).

Finally, the third line of research connect to the construct of parental mentalizing is represented by Parental Insightfulness, conceptualized as parental ability to consider the motives underlying child’s behaviors and emotional experiences in a complete, positive, and child-focused manner (Koren-Karie et al., 2002). It is simultaneously viewed as a relational construct and a characteristic of the adult self that may be manifested differently in distinct circumstances, with the same child as well as with different

children of the same parent (Liebermann, 2018). It is measured using parental interviews regarding children's thoughts and feelings after watching short videotaped vignettes of parent-child interactions. The coding system is applied to interviewees' transcripts following the guidelines of Koren-Karle and Oppenheim (2001). It consists in ten subscales that envisage the attribution of a score ranging from 1 to 9. Afterward, these scores are converted into four overall Parental Insightfulness classifications: Positively Insightful, Non Insightful—One Sided, Non Insightful—Disengaged, Non Insightful—Mixed. As RF and Mind-Mindedness constructs, Parental Insightfulness could also be seen as one of several ways followed by attachment scholars to explore the set of processes we call parental mentalizing (Fearon, 2018).

Lastly, it should be noted that empirical studies comparing these three attachment-based constructs (e.g., Zeegers et al., 2017) are still lacking; moreover, parental mentalizing studies mainly involved mothers of infants and young children (Charpentier Mora et al., 2022), thus underrepresenting the paternal figure whose mentalizing abilities may have a crucial role for child's development within the family context.

Father's Mentalizing

Empirical research mainly focused on the mother-child relationship overlooking the father's roles while fewer studies documented the significant impact of paternal mentalizing on child's outcomes within the family system. These studies underline that a deficit of paternal mentalizing represents a risk factor for the development of child psychological difficulties, while paternal mentalizing abilities predict a greater child's psychological adaptation.

Nevertheless, the relatively few numbers of contributions addressing paternal mentalizing underlines controversial data regarding the role of father's mentalizing within the family context. If on one hand there is evidence for gender differences in mentalizing as stressed by the different weights of influences of fathers' and mothers' mentalizing on the parenting practices (Benbassat & Priel, 2012; De Roo et al., 2019; Jessee et al., 2018) and child's outcomes (Charpentier Mora et al., 2022; Dollberg et al., 2020; Esbjørn et al., 2013; Goffin et al., 2020; Lundy, 2013; Pazzagli et al., 2019; León & Olhaberry, 2020); mothers' and fathers' mentalizing also seems to have a unique impact on child's psychological functioning (e.g., Zeegers et al., 2018). Furthermore, it is important to note that some studies included only fathers rather than both parents (e.g., Tharner et al., 2016), thus limiting the data comparison. Therefore, more clarity on the role of paternal mentalizing—also considering the different aforementioned lines of research

(RF, Mind-Mindedness, Parental Insightfulness)—is needed, with the additional aim to provide a broader understanding of the phenomenon within the family system.

Starting from these considerations, the present review aims to: (1) offer a report of the empirical findings focusing on the impact of paternal mentalizing (intended within attachment framework as RF, Mind-Mindedness, and Parental Insightfulness) on child's outcomes or paternal role within the family system; (2) lead to a broader understanding of the role of paternal mentalizing; (3) contribute to increase an exchange between the different theoretical frameworks, leading to a more complex comprehension of the phenomenon; and (4) to explore under-researched questions and their implications.

Method

Eligibility Criteria

For the inclusion in this study, the studies had to meet the following criteria: (1) published in a peer-reviewed journal up to February 2021; (2) specified in the paper the precise role of paternal mentalizing within intrapersonal and interpersonal dynamics; (3) used standardized measures of paternal mentalizing related to parent-child attachment relationship; (4) written in English or Italian.

We did not consider papers exploring paternal mentalizing as an outcome variable since the focus of the study is to explore empirical studies in which paternal mentalizing is supposed to play a role by impacting other variables.

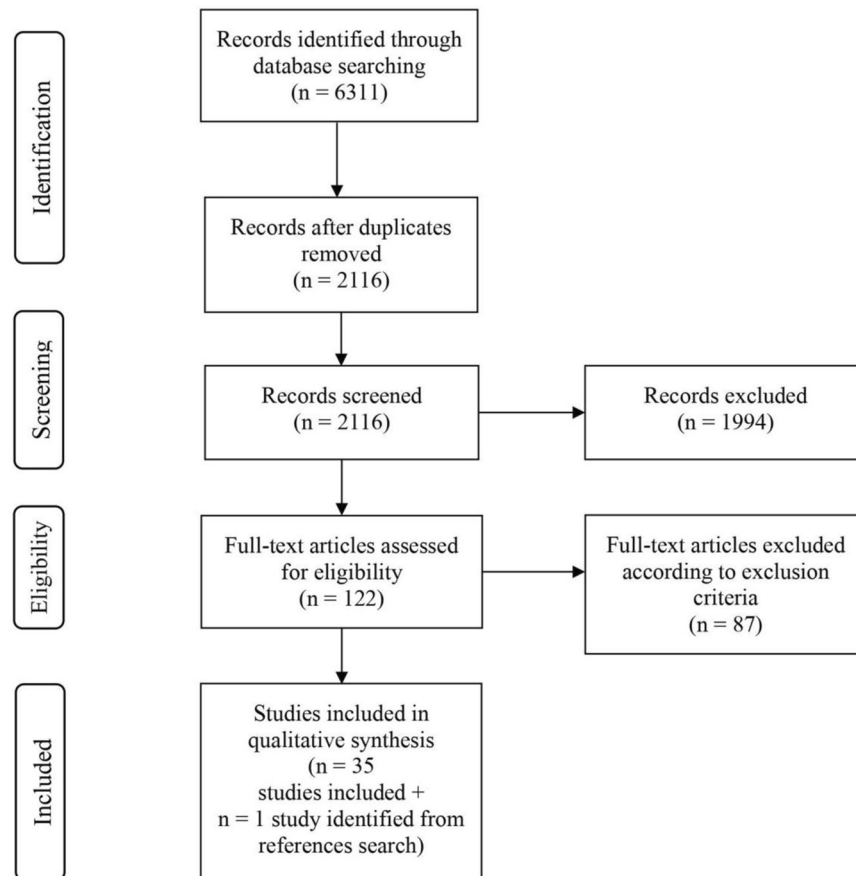
Information Sources

A systematic literature search was firstly conducted by querying the following databases up to 7 February 2021: PsycInfo, PsycArticles, Web Of Science, Scopus, Medline, PubMed and EMBASE. Additional publications were searched looking at the reference lists of all included articles. This systematic review complies with the criteria for PRISMA guidelines (Moher et al., 2009).

Search Strategy

Relevant papers were searched through titles, abstract and keywords with the following keywords: [(father* OR paternal) AND (“reflective function*” OR mentaliz* OR insightful* OR “mind-mindedness” OR “parental reflective functioning questionnaire” OR “reflective functioning questionnaire” OR “AAI” OR “adult attachment interview”)]. A second inquiry was conducted on the selected databases by adding the broader key word “parent*”: [parent* AND (“reflective function*”, OR mentaliz* OR

Fig. 1 Flowchart for search strategy according to PRISMA guidelines concerning study retrieval and selection through the different four phases of the systematic review. A total of 36 studies were eligible to be included in this systematic review



insightful* OR “mind-mindedness” OR “parental reflective functioning questionnaire” OR “reflective functioning questionnaire” OR “AAI” OR “adult attachment interview”].

Selection Process

Preliminary, a screening of titles and abstract related to the studies obtained by the systematic search was performed by the first three authors. Then, three co-authors reviewed all titles and abstracts and independently examining each full article to determine final inclusion or exclusion. Reasons for the exclusion of full texts were documented in a PRISMA flow diagram (see Fig. 1). Discordances on inclusion or exclusion of all studies were analyzed and disagreements between the authors were resolved via discussion by including all authors.

Data Collection Process

Two data extraction tables were created (see Tables 1 and 2) with the following descriptive information from selected studies: (1) publication information as title, author(s), year of publication, and country of origin; (2) sample size and

characteristics; (3) study design and statistical approach; (4) mentalizing assessment measures used; (5) outcome variables, (6) results and (7) quality score. Extracted data were reviewed by all authors and possible disagreement was resolved throughout discussion. Overall, 6311 articles were identified. Figure 1 summarizes the flow process of this systematic review. Initially, a total of 6311 records were selected and 2116 records remained after the elimination of duplicates. The articles were first screening by title and abstract and 122 records were selected as potential relevant. Secondly, a total of 35 records were selected after screening by full text and one record was selected after analyzing references of selected records. So, 36 articles met inclusion criteria and were included in this systematic review.

Assessment of Methodological Quality

To assess the methodological quality of the studies was used a modified version of the Newcastle-Ottawa Scale (Modesti et al., 2016) which consists of a seven-item checklist: (1) representativeness of the sample, (2) sample size, (3) Non-respondents, (4) Ascertainment of the exposure, (5) control for confounds, (6) assessment of the outcome, (7) statistical test. Studies were evaluated by two

Table 1 Summary of reviewed studies on Reflective Functioning and Parental Insightfulness included in qualitative synthesis

Author/s and country	Sample characteristics (<i>n</i> ; M_{age}) and sample type	Study design and analyses	Mentalization measures	Outcome variables	Quality score
Amott and Meins (2007) UK	T1: 25 expecting fathers ($M_{age} = 35.5$ years) and 28 expecting mothers ($M_{age} = 30.5$ years); T2: 17 fathers, 21 mothers and their children ($M_{age} = 6$ months); T3: 18 mother-infant dyads ($M_{age} = 12$ months) and 15 father-infant dyads ($M_{age} = 15$ months). Community sample	Longitudinal study Correlational analyses Goodness-of-fit-analyses	RF Scale on AAI	Mind-mindedness comments; child's attachment	7
Benbassat and Priel (2012) Israel	105 fathers ($M_{age} = 49.3$ years), 105 mothers ($M_{age} = 46.4$ years) and their 105 teenage children ($M_{age} = 15.8$ years). Community sample	Cross-sectional study Correlational and regression analyses Moderation models	PDI	Adolescent's RF and social competences, personal and social self-perception, internalizing and externalizing problems	7
Benbassat and Shulman (2016) Israel	65 young adults ($M_{age} = 20.1$ years) and their parents—follow up study of Benbassat and Priel (2012). Community sample	Longitudinal study Correlational and regression analyses	PDI	Young adult's personal and social self-perception, internalizing and externalizing problems, quality of romantic relationships, complexity of self-description	7
Buttitta et al. (2019) USA	77 fathers ($M_{age} = 33.80$ years) and their children ($M_{age} = 23.72$ months). Community sample	Cross-sectional study Correlational and regression analyses SEM: testing moderation models	PDI-R	Parental sensitive behaviors; child's distress	8
Cooke et al. (2017) Australia	120 fathers and mothers with 12-month-old children (range _{age} = 20–53 years). Community sample	Spearman's correlation analyses <i>t</i> -tests and analyses of variance statistics	PRFQ	Family functioning; parenting self-efficacy; fathering role	7
De Roo et al. (2019) Canada	306 parents: 120 fathers (range _{age} = 20–50 years), 186 mothers (range _{age} = 20–50 years) and their children (range _{age} = 0–12 years). Community sample	Cross-sectional study CFA	PRFQ	Parenting sense of competence; perceived stress; social support; parental coping	5
Dieleman et al. (2020) Belgium	268 fathers ($M_{age} = 47.77$ years), mothers ($M_{age} = 45.83$ years) and adolescents ($M_{age} = 15.14$ years). Community sample	Correlational analyses Cross-sectional study SEM: testing mediation and moderation models	PRFQ-A	Psychologically Controlling Parenting	7
Di Renzo et al. (2020) Italy	24 fathers ($M_{age} = 41.38$ years) and 26 mothers ($M_{age} = 38.20$ years) of 26 children ($M_{age} = 34.36$ months) diagnosed with Autism Spectrum Disorder or at risk for autism due to a diagnosis of global development delay	Cross-sectional study Multivariate analyses of covariance	IA	Parental attunement during parent-child play interactions	7
Esbjörn et al. (2013) Denmark	34 fathers and 37 mothers with their 38 clinically anxious children ($M_{age} = 10.1$ years) referred for CBT treatment	Cross-sectional study Correlational and regression analyses	RF Scale on AAI	Child's anxiety	7
Fonagy et al. (1991) UK	200 expecting parents (100 father and 100 mothers) at T1 (T2: 12 months after the birth for mother-child dyads; 18 months after the birth for father-child dyads). Community sample	Longitudinal study Chi-Square test of independence and correlational analyses	RF scale on AAI	Child's attachment	7
Gordo et al. (2020) Spain	113 fathers ($M_{age} = 37.85$ years) and 433 mothers ($M_{age} = 36.23$ years) with their infants ($M_{age} = 15.87$ months). Community sample	Cross-sectional study Correlational analyses and <i>t</i> -test statistics SEM: testing mediation models Multigroup analysis	PRFQ	Child's socioemotional adjustment	7
Jessee et al. (2018) USA	97 expecting parents: 97 fathers ($M_{age} = 31.15$) at T1 and mothers ($M_{age} = 29.19$) (T2: 3.5 months after the birth of their child; T3: 13 months after the birth of their child). Community sample	Longitudinal study Correlational and regression analyses	RF Scale on AAI	Coparenting quality; marital quality; child's behavior in triadic interactions	9
			PDI-R		8

Table 1 (continued)

Author/s and country	Sample characteristics (<i>n</i> ; M_{age}) and sample type	Study design and analyses	Mentalization measures	Outcome variables	Quality score
León and Olhaverri (2020)	50 parents (fathers, $M_{age} = 33.58$ years; mothers, $M_{age} = 31.52$ years) and their children ($M_{age} = 26.70$ months) referred for social-emotional difficulties	Cross-sectional study Correlational and regression analyses		Quality of triadic interactions; child social-emotional difficulties	
Lis et al. (2004)	120 expecting fathers ($M_{age} = 28$ years) and mothers ($M_{age} = 24$ years). Community sample	Cross-sectional study Analyses of variance statistics Correlational and regression analyses	RF Scale on CGG	Paternal styles	5
Marcu et al. (2016)	77 parents (mothers, $M_{age} = 31.51$ years; fathers, $M_{age} = 33.88$ years) and their children ($M_{age} = 17.91$ months). Community sample	Cross-sectional study Multivariate analyses of covariance	IA	Triadic cooperation; child's involvement in the interaction; coparenting	8
Mazzeschi et al. (2019)	162 parents with their 81 children. 41 ADHD children ($M_{age} = 9.37$ years) and their parents: 41 fathers ($M_{age} = 47.21$ years) and mothers ($M_{age} = 40.29$ years); 40 normative children ($M_{age} = 9.55$ years) and their parents: 40 fathers ($M_{age} = 48.80$ years) and mothers ($M_{age} = 42.03$ years)	Cross-sectional study Multivariate analyses of variance and regression analyses	PRFQ	Odds of being in the clinical group (ADHD children)	8
Nijssens et al. (2018)	T1: 76 fathers ($M_{age} = 31.48$ years) and 76 mothers ($M_{age} = 29.31$ years) with their infants ($M_{age} = 10.11$ months); T2: 53 fathers ($M_{age} = 32.83$ years) and 53 mothers ($M_{age} = 29.69$ years) with their infants ($M_{age} = 21.81$ months). Community sample	Longitudinal study SEM; testing mediation models	PRFQ	Parenting stress	8
Nijssens et al. (2020)	T1: 76 fathers ($M_{age} = 31.48$ years) and 76 mothers ($M_{age} = 29.31$ years) with their infants ($M_{age} = 10.11$ months); T2: 53 fathers ($M_{age} = 32.83$ years) and 53 mothers ($M_{age} = 29.69$ years) with their infants ($M_{age} = 21.81$ months). Community sample	Longitudinal study SEM; testing mediation models	PRFQ	Child social-emotional competences	8
Pazzagli et al. (2019)	120 parents: 60 fathers ($M_{age} = 44.70$ years), 60 mothers ($M_{age} = 42.96$ years) and their 60 children ($M_{age} = 8.92$ years) of which 30 were clinically obese and 30 were control normal weight children	Cross-sectional study <i>t</i> -test statistics and regression analyses	PRFQ	Child's weight	7
Ruiz et al. (2020)	154 fathers ($M_{age} = 37.56$ years) and 168 mothers ($M_{age} = 35.06$ years) of 173 children ($M_{age} = 15.92$ months) of which 99 born preterm. Community sample	Cross-sectional study Linear mixed effects models	PDI	Parenting issues topics on PDI	8
Stover and Coates (2016)	24 fathers ($M_{age} = 33.79$ years; fathers' children age: $M = 2.71$ years) with concurrent history of IPV and SA	Cross-sectional study Correlational and regression analyses	PDI-R	Father-child interactions Parenting behaviors	7
Stover and Kiselica (2014)	79 fathers ($M_{age} = 34.68$ years; fathers' children age: $M = 3.41$ years) with a history of Intimate Partner Violence (IPV) and/or substance abuse (SA) and controls	Cross-sectional study Correlational and regression analyses	PDI-R	Parenting behaviors	7
Wang (2021)	202 parents ($M_{age} = 38.7$ years): 80 fathers, 103 mothers, 6 step-fathers, 4 step-mothers, 4 grandmothers, 1 aunt, 1 uncle, and their children ($M_{age} = 10.91$ years, range $_{age} = 5-18$ years). Community sample	Cross-sectional study SEM; testing mediation model	PRFQ	Child's behavioral problems and child's functioning	7

SEM structural equation modeling, CFA confirmatory factor analysis, RF Scale on AAI Reflective Functioning Scale on Adult Attachment Interview, PDI Parent Development Interview, PDI-R Parent Development Interview—Revised, PRFQ Parental Reflective Functioning Questionnaire, PRFQ-A Parental Reflective Functioning Questionnaire for Adolescents, IA insightfulness assessment, RF Scale on CGG Reflective Functioning Scale on Clinical Interview for Parents During Pregnancy (Colloquio per Genitori in Gravidanza)

independent authors, and disagreements were solved through discussion with a third author (see Tables 1 and 2 for the quality of the studies included in the systematic review).

Results

Since the included studies concern different conceptualizations of the parental mentalizing construct, the results are divided for the specific mentalizing operationalization adopted by the study (RF, Mind-Mindedness, Parental Insightfulness).

Studies on Reflective Functioning

Twenty-one studies (Arnott & Meins, 2007; Benbassat & Priel, 2012; Benbassat & Shulman, 2016; Buttitta et al., 2019; Cooke et al., 2017; De Roo et al., 2019; Dieleman et al., 2020; Esbjørn et al., 2013; Fonagy et al., 1991; Gordo et al., 2020; Jessee et al., 2018; León & Olhaverby, 2020; Lis et al., 2004; Mazzeschi et al., 2019; Nijssens et al., 2018, 2020; Pazzagli et al., 2019; Ruiz et al., 2020; Stover & Coates, 2016; Stover & Kiselica, 2014; Wang, 2021) explored fathers' mentalizing through the operationalization into RF (see Table 1 for studies information). Six studies had a longitudinal design (Arnott & Meins, 2007; Benbassat & Shulman, 2016; Fonagy et al., 1991; Jessee et al., 2018; Nijssens et al., 2018, 2020) and fifteen had a cross-sectional design (Benbassat & Priel, 2012; Buttitta et al., 2019; Cooke et al., 2017; De Roo et al., 2019; Dieleman et al., 2020; Esbjørn et al., 2013; Gordo et al., 2020; León & Olhaverby, 2020; Lis et al., 2004; Mazzeschi et al., 2019; Pazzagli et al., 2019; Ruiz et al., 2020; Stover & Coates, 2016; Stover & Kiselica, 2014; Wang, 2021).

In reference to the characteristics of the sample, eighteen studies included both fathers and mothers, and three employed only fathers. The sample size ranged from 24 to 268 participating fathers and their ages across studies ranged from 20 to 53 years. Together, these studies represent 1783 fathers. Nineteen studies used fathers from a community sample and two studies used a sample of fathers with a history of Intimate Partner Violence (IPV) and/or substance abuse; additionally, one of them compared community and IPV/substance abuse fathers.

Regarding the characteristics of target children involved in the studies, two studies included adolescents (age range = 11.74–18.80 years; 14–18 years), three studies included preschool and school-age children (age range = 4–11 years), seven studies included infants (age range = 1–3.41 years), one study included expecting couples, two studies included a wider age range (0–12 years; 5–18 years). Six studies (i.e., longitudinal studies) included

different children's ages into the same research: one study (Arnott & Meins, 2007) included couples in the third trimester of pregnancy ($M = 34.5$ weeks) at the first visit, 6 months children at the second visit and 12–15 months children at the third visit; another study (Benbassat & Shulman, 2016) included adolescents ($M_{\text{age}} = 15.8$ years) at the first visit and young adults ($M_{\text{age}} = 21.01$ years) at the second visit; Jessee et al. (2018) included couples in the third trimester of pregnancy at the first visit, 3.5 months children at the second visit and 13 months children at the third visit; Nijssens et al. (2018, 2020) included 8–13 months children ($M_{\text{age}} = 10.11$ months) at the first visit and 19–26 months children ($M_{\text{age}} = 21.81$ months) at the second visit. Lastly, Fonagy et al. (1991) included expecting parents at the first visit and 12-months and 18-months children at the second visit. Sixteen studies used community child samples and five studies used clinical or not normative child samples: children with observed socio-emotional difficulties ($n = 1$), clinically anxious children referred for cognitive behavior therapy treatment ($n = 1$), children born preterm ($n = 1$), children having ADHD at their first diagnosis ($n = 1$), clinically obese children ($n = 1$).

RF was assessed using the following measures: Parental Reflective Functioning Questionnaire for Adolescents (PRFQ-A; Luyten et al., 2017b) ($n = 1$); Parental Reflective Functioning Questionnaire (PRFQ; Luyten et al., 2017a) ($n = 8$); PDI-Reflective Functioning Scale (PDI-RFS; Slade et al., 2004b) applied to the transcripts of the Parent Development Interview or the Parent Development Interview-Revised (PDI-R; Slade et al., 2004a) ($n = 7$), AAI-Reflective Functioning Scale (AAI-RFS; Fonagy et al., 1998) applied to the transcript of the Adult Attachment Interview ($n = 4$); ratings of Reflecting Self Function applied to the Clinical Interview for Parents during pregnancy (Lis et al., 2000) ($n = 1$). Considering their heterogeneity, all studies on RF were divided into two groups based on the differences in their aims and hypotheses: 1) paternal mentalizing related to the family system/paternal role ($n = 13$); 2) paternal mentalizing related to child's outcomes ($n = 12$).

Studies on Reflective Functioning Related to the Family System or to the Paternal Role

Regarding studies on RF related to the family system and/or to the parental role, eleven studies had a cross-sectional design while three studies had a longitudinal design. Details on each study are stated in Table 1.

Most of the included studies explored parental functioning supporting the hypothesis according to which paternal mentalizing would be associated with parents' features as self-efficacy, self-confidence, parental

Table 2 Summary of reviewed studies on Mind-Mindedness included in qualitative synthesis

Author/s and country	Sample characteristics (<i>n</i> ; M_{age}) and sample type	Study design and analyses	Mentalization measures	Outcome variables	Quality score
An and Kochanska (2020) USA	Family study (FS): T1: 102 parents (102 fathers and 102 mothers) and their 102 infants at age 7 months; T2: 100 fathers, 100 mothers and their 100 children at age 2 years; T3: 100 fathers, 100 mothers and their 100 children at age 3 years; T4: 100 fathers, 100 mothers and their 99 children at age 4.5 years; T5: 91 fathers, 89 mothers and their 92 children at age 5.5 years. Children and Parents study (CAPS): 200 parents (200 father and 200 mother) and their infants at age 7–9 months	Family study (FS) is a longitudinal study: Correlational and regression analyses: testing moderated mediation models Children and Parents study (CAPS) is a cross-sectional study: Correlational and regression analyses: testing moderation models	FS study: Mind-mindedness online measure CAPS study: Parents' dysfunctional Internal Working Models (IWMs) of the child	FS study: observed child's disregard for rules and parents' rated child's regard for rules CAPS study: parents' rated child's difficulties	8
Arnott and Meins (2008) UK	T1 (third trimester of pregnancy): 53 expecting parents: 25 fathers ($M_{age} = 35.5$ years) and 28 mothers ($M_{age} = 30.5$ years). T2 (6-months postpartum): 38 parents: 17 fathers and 21 mothers and their children ($M_{age} = 6$ months). Community sample	Longitudinal study Correlational analyses Analyses of co-variance	T1: Mind-mindedness interview "What do you think your baby will be like at 6 months of age?" T2: Mind-mindedness online measure	T2 Mind-related comments	8
Colonnese et al. (2019) The Netherlands	104 parents (fathers, $M_{age} = 34.10$ years; mothers, $M_{age} = 31.37$ years) and their 4-months children ($M_{age} = 3.73$ months) at T1, 12-months children ($M_{age} = 11.87$ months) at T2, 30-months children ($M_{age} = 29.59$ months) at T3 and 4.5 years old children ($M_{age} = 53.41$ months) at T4. Community sample	Longitudinal study SEM Analysis of variance Multiple regression analyses: testing moderation models	Mind-mindedness online measure	Child's social competence; child's behavior problems	8
Dollberg et al. (2020) Israel	78 families: 78 fathers ($M_{age} = 37.41$ years), 78 mothers ($M_{age} = 35.91$ years) and their children ($M_{age} = 47.56$ months). Community sample	Cross-sectional study APIMeM within a path analysis framework Correlational and regression analyses: testing mediation and moderation models	Mind-mindedness interview "describe your child"	Child's behavioral problems	7
Gagné et al. (2018) Canada	T1: 92 fathers ($M_{age} = 34$ years), 92 mothers ($M_{age} = 31$ years) and their 92 18-months children ($M_{age} = 18.27$ months); T2: 83 3-years old children ($M_{age} = 36.72$ months). Community sample	Longitudinal study Correlational and multiple regression analyses	Mind-mindedness online measure	Child's rule compatible conduct; child's inhibitory control	9
Gershly and Gray (2020) Israel	112 parents: 48 fathers and 64 mothers seeking parent training for their 74 ADHD children ($M_{age} = 9.63$ years)	Cross-sectional study Multilevel modeling approach: testing main effects and interaction effects (i.e., moderation models)	Mind-mindedness interview "describe your child"	Parent's emotion regulation; parental hostility; parental coercive behaviors; parental submissive behaviors	7

Table 2 (continued)

Author/s and country	Sample characteristics (<i>n</i> ; M_{age}) and sample type	Study design and analyses	Mentalization measures	Outcome variables	Quality score
Goffin et al. (2020) USA	T1: 101 fathers, 101 mothers and their 101 7-months children; T2: 99 4.5-years old children; T3: 92 5.5-years old children; T4: 90 6.5-years old children. Community sample	Longitudinal study Multivariate analysis of variance Correlational analyses Multiple regression analyses: testing mediation models	Mind-mindedness online measure	Child's Theory of Mind; child's conscience	8
Lundy (2003) USA	24 parents: 24 fathers ($M_{age} = 29.92$ years), 24 mothers ($M_{age} = 26.79$ years) and their 6-months children. Community sample	Cross-sectional study Multivariate analysis of variance Correlational analyses Multiple regression analyses: testing mediation models	Mind-mindedness online measure	Child's attachment Frequency of parent-infant interactional synchrony	6
Lundy (2013) USA	39 parents: 39 fathers ($M_{age} = 33.90$ years), 39 mothers ($M_{age} = 32.37$ years) and their 39 children ($M_{age} = 4.05$ years). Community sample	Cross-sectional study Correlational analyses Multiple regression analyses: testing mediation models	Mind-mindedness online measure Mind-mindedness interview "describe your child"	Child's Theory of Mind	7
Lundy and Fyfe (2016) USA	36 families: 36 fathers ($M_{age} = 34.28$ years), 36 mothers ($M_{age} = 32.36$ years) and their children ($M_{age} = 4.05$ years). Community sample	Cross-sectional study Multivariate analysis of variance Correlational and regression analyses: testing mediation models	Mind-mindedness online measure	Parental control and autonomy promoting comments; child's mind-mindedness; child's Theory of Mind	8
Miller et al. (2019) USA	T1: 101 fathers, 101 mothers and their 101 7-months children; T2: 101 fathers, 101 mothers and their 101 15-months children. T3: 100 fathers, 100 mothers and their 100 2-years old children; T4: 82 fathers, 82 mothers and their 82 10-years old children. Community sample	Longitudinal study Analyses of variance Correlational analyses Multiple regression analyses: testing mediation models	Mind-mindedness online measure	Parental responsiveness; child's attachment security	8
Tharner et al. (2016) Denmark	19 English fathers ($M_{age} = 39.89$ years) and 20 danish fathers ($M_{age} = 38.20$ years) and their children (English, $M_{age} = 4.50$ years; Danish, $M_{age} = 4.91$ years). Community sample	Cross-sectional study Analysis of co-variance Regression analyses	Mind-mindedness interview "describe your child"	Mental state language	8
Zeegers et al. (2018) The Netherlands	T1: 135 parents (135 fathers, $M_{age} = 33.87$ years; 135 mothers, $M_{age} = 31.30$ years) and their 4-months children ($M_{age} = 4.2$ months); T2: 131 parents (131 fathers, 130 mothers) and their 12-months children ($M_{age} = 12.4$ months). Community sample	Longitudinal study SEM: testing direct effects and mediation models	Mind-mindedness online measure	Child's HRV levels	8

SEM structural equation modeling, *APIMeM* actor-partner interdependence mediation model, *PRFQ* Parental Reflective Functioning Questionnaire, *PCS* Parent Cognition Scale, *HRV* heart rate variability

discipline's use, or parenting behaviors. For example, Buttitta et al. (2019) showed that father's child-focused RF (considered as one of the two types of parental RF deriving from the PDI and intended as the parent's capacity to understand the mental states underlying the child's behavior and their impact on the parent; Suchman et al., 2010) was positively associated with socio-emotional supportive behaviors during father-child interactions. The authors also found a moderation role of father's child-focused RF linking family income and fathers' sensitivity to child's cues for autonomy during father-child interactions: low family income was related with poor fathers' sensitivity to child's cues for autonomy only at low levels of father's RF, suggesting a buffer effect of paternal mentalizing in the context of socio-economic risks.

Dieleman et al. (2020) found a significant indirect association between self-critical perfectionism and psychologically controlling parenting via fathers' pre-mentalizing. In their study, the presence of paternal self-critical perfectionism was positively associated with a greater presence of fathers' pre-mentalizing modes, in turn, connected with fathers' use of psychologically controlling strategies towards their adolescent children. However, the indirect association became marginally significant when controlling for adolescents' problem behaviors, but it showed up when relying only on adolescent (and not parent) reports of psychologically controlling parenting. Moreover, Cooke et al. (2017) investigated the link between fathers' mentalizing and parenting factors, showing a positive association between mentalizing (greater interest and curiosity about mental states and lower pre-mentalizing modes) and paternal perception of family functioning. Finally, the authors also found that parenting self-efficacy was positively associated with paternal mentalizing (greater certainty and interest and curiosity about mental states and lower pre-mentalizing modes), and that fathering role (i.e., fathering motivation about parenting attitudes) was positive associated with paternal mentalizing (greater interest and curiosity about mental states and lower pre-mentalizing modes). On the other hand, Jessee et al. (2018) found that only pre-birth maternal RF—and not paternal RF—significantly predicted subsequent greater positive marital engagement and fewer marital conflict during a family play session, as well as greater supportive co-parenting and fewer undermining co-parenting during triadic family interactions. León and Olhaberry (2020) kept open the issue with a sample of family triads, showing that the father's PRF significantly predicted a higher functionality level of family interactions, although this effect disappeared when mothers' PRF was entered in the model.

In terms of subjective parental experience, De Roo et al. (2019) found a series of associations between parents' mentalizing and parenting variables. Specifically, positive

associations emerged between fathers' interest and curiosity about mental states and fathers' parental efficacy, as well as social support and paternal coping. In addition, a positive association was found between certainty about mental states, paternal parental efficacy, and satisfaction as well as paternal coping, while a negative association was found between fathers' pre-mentalizing modes and satisfaction, social support and paternal coping. Lastly, a positive association was found between fathers' pre-mentalizing modes and perceived stress.

Moreover, Nijssens et al. (2018) showed the mediational role of paternal pre-mentalizing modes within the longitudinal link between paternal attachment anxiety and paternal parenting stress. Stover and Kiselica (2014) and Stover and Coates (2016) explored instead parents' features in two samples of fathers with a history of IPV and substance abuse, showing that mentalizing positive predicted the use of parental discipline (but the effect disappeared when controlling for substance use and years of education), but failed to predict other parenting behaviors (i.e., hostile-aggressive parenting, criticizing and use of violence) and father-child interaction variables. In addition, Lis et al. (2004) explored paternal detachment/involvement style expressions (concerning three dimensions of paternal styles: observer, expressive and instrumental) and Reflective Self Function in a sample of expecting fathers using the Clinical Interview for Parents (Lis & Zennaro, 1997). Results showed that lower frequencies of Self-Reflective Function passages predicted instrumental and observer paternal style while medium-to-high frequencies of Self-Reflective Function passages predicted an expressive style (further involving their self with the pregnancy and exploring their own emotional involvement). Ruiz et al.'s contribution (2020) focused on a sample of fathers and mothers with infants born preterm and at term, using the Parental Development Interview (Slade, 2005) for assessing both paternal PRF and the prevalence of specific parenting related topics emerging from the interview. Specifically, 11 prevalent topics were extracted from the PDI interviews, throughout the Latent Dirichlet Allocation (Grün & Hornik, 2011). Firstly, the authors found three main topics—parental care attitudes, parental role and child's development—showing that fathers, compared to mothers, talked more about parental care attitudes, and role topics, while mothers talked more about child's development topic. Secondly, the authors found a relationship between RF and interview topics showing that fathers, compared to mothers, increased RF specifically about parental role topics while specifically about child's development topic.

Furthermore, a study by Arnott and Meins (2007) found a longitudinal positive association between fathers' RF-AAI administered during the last trimester of pregnancy, and fathers' appropriate Mind-Mindedness comments at 6-months after childbirth.

Studies on Reflective Functioning Related to Child's Outcomes

Regarding on RF addressing child's outcomes, six studies had a cross-sectional design while three studies had a longitudinal design. Moreover, three contributions already described in the previous paragraph have been also included within this section due to the variety of considered outcome variables, related to both parental features/family functioning and child's outcomes (Buttitta et al., 2019; Jessee et al., 2018; León & Olhaverri, 2020). Details of each study are stated in Table 1.

The included studies mainly explored the role of fathers' RF on children and adolescents' psychological (dis)adjustment. The first included contribution is represented by Fonagy et al. study (1991) which represents the first-ever study on RF. Authors found a positive association between father's pre-birth RF-AAI and child's attachment security assessed at child's 18 months (albeit it was weaker compared with mother's association).

A recent longitudinal study by Jessee et al. (2018) showed that neither paternal nor maternal RF predicted subsequent child's behavior during a family interaction. Additionally, a longitudinal study by Buttitta et al. (2019) found that father's child-focused RF did not predict subsequent child's distress in a follow-up but predicted (with a trend toward significance: $p < 0.10$) subsequent child's distress throughout the mediational role of father's social emotional supportive behaviors, demonstrating that higher paternal mentalizing predicted more social-emotional supportive behaviors which in turn, predicted less child's distress during a task.

Other studies instead supported the link between father's mentalizing and children's mental and physical problems: Mazzeschi et al. (2019) showed the positive role of fathers' interest and curiosity about mental states in predicting less probability to have children with a diagnosis of ADHD (and conversely a greater probability to have children with an ADHD diagnosis for each increment of father's certainty about mental states).

Another contribution by Benbassat and Priel (2012) showed that father's PRF predicted higher adolescents internalizing problems. Authors also confirmed a moderation path in which fathers' levels of controlling behavior were positively related with adolescent externalizing problems only at low levels of father's PRF. A follow-up longitudinal study of the paper by Benbassat and Priel (Benbassat & Shulman, 2016) has instead shown that fathers' PRF predicted young adults' higher levels of internalizing problems but not externalizing problems. The two contributions furthermore showed that paternal PRF predicted both lower adolescent's personal self-perception and young adults' level of personal self-perception.

Additionally, Benbassat and Priel (2012) have shown that paternal PRF significantly predicted adolescent RF and acted as a moderator affecting the strength of three relation paths: the negative relation between paternal involvement and adolescent RF (significant relation only at low levels of father's PRF); the positive relation between parental warmth and adolescent social self-perception (significant relation only at high levels of father's PRF); the positive relation between father's level of controlling behavior and adolescent social self-perception (significant relation only at high level of father's PRF) and within the negative relation between father's level of controlling behavior and adolescent social self-perception (significant relation only at low levels of father's PRF). Likewise, Benbassat and Shulman (2016) have shown that paternal PRF directly predicted higher levels of young adults' self-description and mentalistic description of romantic relationship. As last results, Benbassat and Priel (2012) have shown that paternal mentalizing predicted adolescents' social-competences and acted as a moderator within the negative relation between paternal control and adolescent socio-competences (significant relation only at low levels of father's PRF).

Esbjørn et al. (2013) did not find any significant association between paternal RF-AAI and child anxiety, while low maternal RF-AAI was found to predict high levels of child anxiety in a sample of clinically anxious children. Similarly, Pazzagli et al. (2019) showed that high mother's certainty about mental states—and not father's certainty about mental states—predicted child's weight in clinically obese children.

Different included studies mainly explored the role of fathers' RF on children and adolescents' socio-emotional competencies and problems: for example, Nijssens et al. (2020) demonstrated the mediational role of fathers' pre-mentalizing modes within the longitudinal link between paternal attachment anxiety and child socio-emotional competencies and problems. In their study, a greater presence of paternal attachment anxiety was positively associated with a higher level of fathers' pre-mentalizing modes, in turn, associated with a greater presence of socio-emotional problems and a fewer presence of socio-emotional competencies.

Furthermore, focusing on a sample of fathers and mothers of infants, Gordo et al. (2020) found an indirect association between both fathers and mothers mentalizing—interest and curiosity, certainty about mental states and pre-mentalizing dimensions—and children's socioemotional adjustment. Specifically, results showed a mediational role played by parental competence, as well as a direct negative effect of both parents pre-mentalizing on children's socio-emotional adjustment. In addition, León and Olhaverri (2020) found out that paternal RF-PDI did not predict child socio-emotional difficulties in a sample characterized by the

presence of children between 12 and 38 months old. Another different result was found by Wang (2021), who stressed that fathers—and also mothers’—pre-mentalizing modes performed a mediational role within the link between parental childhood maltreatment and child behavioral problems. Specifically, the relation between parental childhood maltreatment and child behavioral problems was partially mediated by fathers’ pre-mentalizing.

Studies on Mind-Mindedness

Thirteen studies (An & Kochanska, 2020; Arnott & Meins, 2008; Colonesi et al., 2019; Dollberg et al., 2020; Gagné et al., 2018; Gershy & Gray, 2020; Goffin et al., 2020; Lundy, 2003, 2013; Lundy & Fyfe, 2016; Miller et al., 2019; Tharner et al., 2016; Zeegers et al., 2018) explored fathers’ mentalizing by the operationalization into Mind-Mindedness (see Table 2 for studies information). Six studies had a longitudinal design (Arnott & Meins, 2008; Colonesi et al., 2019; Gagné et al., 2018; Goffin et al., 2020; Miller et al., 2019; Zeegers et al., 2018), six had a cross-sectional design (Dollberg et al., 2020; Gershy & Gray, 2020; Lundy, 2003, 2013; Lundy & Fyfe, 2016; Tharner et al., 2016) and one study had both longitudinal and cross-sectional design (An & Kochanska, 2020).

Regarding sample characteristics, twelve studies included both fathers and mothers, and one study employed only fathers. Sample size ranged from 24 to 135 participating fathers and the age of parents across studies ranged from 29.92 to 39.89 years. Together, these studies represented 823 fathers. Twelve studies used community sample fathers and one study involved a sample of parents looking for parent-training services addressed to help their ADHD children (Gershy & Gray, 2020).

In reference to the characteristics of target children involved in the studies, one study included school-aged children and adolescents (age range = 6–15 years), four studies included preschool children (age range = 3–5 years) and one study included 6-months infants.

Six contributions (i.e., longitudinal studies) included different children’s ages into the same study: one study (Zeegers et al., 2018) included 4 months children at the first visit and 12 months children at the second visit; Colonesi et al. (2019) considered four measurements (4, 12, 30 months and 4.5 years); also Miller et al. (2019) considered four measurements (7, 15, 25 months and 10 years); the study of Goffin et al. (2020) included four measurements (7 months, 4.5, 5.5 and 6.5 years); Arnott and Meins (2008) included couples in the third trimester of pregnancy at the first visit and 6 months children at the second visit; another study (Gagné et al., 2018) included 18 months children at the first visit and 3 years old children at the second visit. Finally, one research (An & Kochanska, 2020)

included both a cross-sectional study with children at age 7–9 months and a longitudinal study with different children’s ages collected at five-time points: 7 months children and 2, 3, 4.5, 5.5 years children. Twelve studies in total included normative child samples while one study included children with a diagnosis of ADHD.

Mind-Mindedness was assessed using the following measures: online Mind-Mindedness measure (Meins et al., 2001) ($n = 8$); Mind-Mindedness Interview (Meins et al., 1998) ($n = 3$); both measures ($n = 2$).

Because of their heterogeneity, and following the same organization adopted for the studies on RF, all studies were divided into two groups based on the differences in their aims and hypotheses: 1) parental mentalizing related to the family system/parental role ($n = 3$); 2) parental mentalizing related to child’s outcomes ($n = 10$).

Studies on Mind-Mindedness Related to the Family System or to the Paternal Role

About studies on Mind-Mindedness related to the family system and/or the parental role, two studies had a cross-sectional design while one study had a longitudinal design. Details on each study are stated in Table 2.

Most of the included studies explored fathers’ characteristics such as the use of mental-state language, emotion regulation, parenting behavior, and psychopathological symptoms. For example, Gershy and Gray (2020) found that both fathers’ and mothers’ mentalizing acted as a moderator within the positive relation between parents’ difficulties in emotion regulation and hostile parental behaviors towards their child (significant only at low levels of parents’ Mind-Mindedness). However, no direct role of paternal and maternal Mind-Mindedness on both parents’ difficulties in emotion regulation or parenting behaviors was found (i.e., hostility, coercive and submissive behaviors).

Tharner et al. (2016) found that father’s positive representations of their mother’s caregiving model and the length of paternity leave were associated to fathers’ mental-state language use throughout the mediational role of Mind-Mindedness: both the two predictor variables were associated to higher paternal Mind-Mindedness which in turn was associated with higher use of mental-state language during a father-child interaction task. Finally, Arnott and Meins (2008) found a positive association between fathers’ total number of comments in the Mind-Mindedness interview administered before the child’s birth and their subsequent scores for inappropriate mind-related comments (the relationship with appropriate mind-related comments approached significance) during infant-father interactions at six-months post-partum. Moreover, only for fathers there emerged a large positive correlation between appropriate and inappropriate mind-related comments, and fathers’

antenatal use of mentalistic comments predicted subsequent appropriate mind-related comments after childbirth.

Studies on Mind-Mindedness Related to Child's Outcomes

Concerning studies on Mind-Mindedness related to child's outcomes, four contributions had a cross-sectional design while six studies had a longitudinal design. Details on each study are stated in Table 2.

The included studies mainly explored the role of fathers' Mind-Mindedness on child's attachment, mentalistic competencies, and behaviors. Two studies examined the role of Mind-Mindedness on child's attachment: Miller et al. (2019) found that fathers' mind-minded appropriate comments longitudinally predicted the child's attachment security at ten years throughout the mediating role of child's attachment security at two years. Moreover, Lundy (2003) showed that fathers' mind-minded thought-related comments predicted both directly and indirectly—throughout the role of interactional synchrony—child's attachment security.

Furthermore, three studies explored the association between paternal Mind-Mindedness and child's theory of mind: Goffin et al. (2020) found that only maternal—and not paternal—Mind-Mindedness appropriate comments longitudinally predicted child's conscience at 6.5 years, throughout the mediating role of child's theory of mind at 4.5–5.5 years. No indirect nor direct effects were thus shown for fathers' Mind-Mindedness. Lundy (2013) also showed that only maternal, and not paternal, Mind-Mindedness predicted child's theory of mind throughout the full mediation role of interactional attunement. Finally, Lundy and Fyfe (2016) used three serial mediation models showing that (1) parents' Mind-Mindedness (combined women and men scores due to no significant gender differences between mother and fathers' mind-mindedness), predicted higher child's theory of mind throughout the mediation of parents' autonomy-promoting questions and child's mind-related comments; (2) parents' Mind-Mindedness predicted lower child's theory of mind throughout the mediation of parental control comments and child's mind-related comments; (3) parents' Mind-Mindedness predicted higher child's theory of mind throughout the mediation of parents' interactional attunement and autonomy-promoting questions.

Other studies offered support to the relation between paternal Mind-Mindedness and child's behavior. Gagné et al. (2018) found that paternal Mind-Mindedness predicted, above child's temperament, child's inhibitory control. Dollberg et al. (2020) did not find any significant role of paternal Mind-Mindedness, showing instead a moderating role of maternal Mind-Mindedness within the

association between both parents' anxiety levels and child's externalizing behaviors, so that the strongest positive association between these variables only occurred at low levels of maternal Mind-Mindedness. Finally, Colonnese et al. (2019) longitudinally explored the association between parental Mind-Mindedness and child's social competencies and behavior problems, showing that greater child's externalizing problems were predicted by low levels of both parents' appropriate mind-related comments—only if the other parent's appropriate mind-related comments were also low. No association was found between parental appropriate mind-related comments and both child's social competencies and internalizing problems. Moreover, both parents' non-appropriate mind-related comments predicted fewer child's social competences and greater externalizing problems without any effect on child's internalizing problems.

Zeegers et al. (2018) investigated the association between fathers and mothers Mind-Mindedness and child's physiological emotion regulation (i.e., HRV, heart rate variability) showing that father's appropriate mind-minded related comments at 12 months were associated to higher infant baseline HRV levels, while father's non-appropriate mind-related comments predicted lower baseline HRV levels at 12 months. Finally, a mediation model has been tested, showing that father's appropriate mind-related comments at 12 months predicted father's parenting quality at 12 months, which in turn predicted higher infant baseline HRV at 12 months.

The last investigation by An and Kochanska (2020) involving two studies was included. The first one concerned fathers' and mothers' Mind-Mindedness and the second one concerned fathers' and mothers' RF, both explored as moderating variables within a model on child's difficulty. The first study explored both fathers and mothers' appropriate mind-minded comments as moderators within the indirect association between child's difficulty—measured at 7 months—and child observed and parent-rated disregard for rules—measured at age 5.5—throughout both parents' power-assertive discipline—measured at age 2 to 4.5. The authors found that fathers', and not mothers', appropriate mind-minded comments moderated the link between child's difficulty and power-assertive discipline, as child's difficulty was associated to father's power-assertive discipline only for fathers who made few appropriate mind-minded comments. Therefore, the indirect path from child's difficulty to child's disregard for rules via father's power-assertive discipline was moderated by the father's level of Mind-Mindedness. The second study explored both fathers' and mothers' dysfunctional Internal Working Models (IWMs) of the child—an aggregate variable composed by pre-mentalizing dimension of PRFQ and child-responsible subscale of Parent Cognition Scale (Snarr et al., 2009)—as

moderating variables within the link between observed child's difficulty and parent-rated child's difficulty. The authors found that both parents' dysfunctional IWMs of the child were positively associated with parent-rated child's difficulty and that maternal, but not paternal, dysfunctional IWMs of the child moderated the link between observed child's difficulty and parent-rated child's difficulty, as the association between observed child's difficulty and parent-rated child's difficulty was significant only in mothers with low and average dysfunctional IWMs of the child.

Studies on Parental Insightfulness

Two studies (Di Renzo et al., 2020; Marcu et al., 2016) explored fathers' mentalizing by the operationalization into Parental Insightfulness (see Table 1 for studies information). The first contribution is represented by a cross-sectional study (Marcu et al., 2016) involving a community sample composed of seventy-seven parents among fathers and mothers (77 fathers, $M_{age} = 33.88$; 77 mothers, $M_{age} = 31.51$) and their children ($M_{age} = 17.91$ months) and used Insightfulness Assessment (Oppenheim & Koren-Karie, 2002) to measure parental mentalizing. The second contribution was proposed by Di Renzo et al. (2020) and entailed the participation of 50 parents among fathers and mothers (24 fathers, $M_{age} = 41.38$; 26 mothers, $M_{age} = 38.20$) of 26 children ($M_{age} = 34.36$ months) who have been diagnosed with ASD or being at risk for autism due to a diagnosis of global developmental delay. Both the authors used Insightfulness Assessment for measuring paternal mentalizing.

Going into detail, Marcu et al. (2016) found that families with both insightful fathers and mothers reported significantly greater scores on family cooperation and co-parenting during triadic interactions, compared to families with only one insightful parent (with no gender differences related to the insightful parent) or both non-insightful parents. A similar result has been presented by Di Renzo et al. (2020) in a sample of fathers and mothers and their children with ASD (or at risk for) showing better parental attunement during parent-child interaction in both fathers and mothers classified as Insightful and Resolved (i.e., parental resolution of the loss related with the experience of receiving a child diagnosis of ASD) compared to Non-Insightful and Unresolved fathers and mothers.

Discussion

The main aim of this review was to explore the role of paternal mentalization within attachment framework considering different lines of research—RF, Mind-Mindedness, Parental Insightfulness—in order to contribute to a deeper understanding of the phenomenon and to shed light on the

role displayed by father's mentalizing abilities in relation to multiple outcomes. Thirty-six articles met inclusion criteria and were included in this study which represents, to the best of our knowledge, the first systematic review focusing on the role of father's RF, Mind-Mindedness and Parental Insightfulness. As a consequence of the different conceptualizations of paternal mentalizing and taking into account the complexity and variability related to the aims of the included studies, the findings were presented on the basis of the specific measure adopted and of the role that father's mentalizing was supposed to play in relation to paternal features, family system or considering child's outcomes.

Considering Reflective Functioning and Parental Insightfulness studies in the context of the family system, our findings showed some significant associations between father's mentalizing and diverse outcomes related to family functioning, although some discrepancies were found. One study suggested a significant association between father's mentalizing and the paternal perception of family functioning (Cooke et al., 2017), while another one underlined that families with Insightful parents showed higher levels of family cooperation (Marcu et al. 2016). One other study emphasized that only pre-birth mother's mentalizing (and not that of the father) predicted subsequent higher positive outcomes related to the dyadic parental relationships within the family context (Jessee et al., 2018). León and Olhaverby (2020) likewise found that the significant role acted by father's mentalizing on family interactions disappeared when mother's mentalizing was inserted in the statistical model, suggesting a lower contribution of paternal mentalizing. However, some caution should be maintained in interpreting these studies' results, as they mainly have a cross-sectional design, except for the study by Jessee et al. (2018). It should also be specified that the aforementioned studies measured mentalizing with different instruments (PRFQ, RF-AAI, RF-PDI-R, IA), thus potentially referring to different dimensions of mentalizing (see Luyten et al., 2020, section titled Mentalizing Is Multidimensional). Other studies have instead highlighted the association between father's mentalizing and several parental variables such as social-emotional supportive behaviors (Buttitta et al., 2019), parental discipline (Stover & Kiselica, 2014), parental self-efficacy (Cooke et al., 2017; De Roo et al., 2019), satisfaction related to their parenting, social support and parental coping (De Roo et al., 2019), use of appropriate mind-related comments during a free-play session with the child (Arnott & Meins, 2007), and paternal detachment/involvement style expressions (Lis et al., 2004). These results underlined the important role played by fathers' mentalizing in influencing paternal features. Finally, in relation to parenting stress, Di Renzo et al. (2020) found a significant association between paternal pre-mentalizing modes and

fathers' perceived stress, while another contribution underlined a mediational role of father's mentalizing within the link between paternal attachment anxiety and parenting stress (Nijssens et al., 2018). Overall, these studies have shown an association between paternal mentalizing and both fathers' parenting features and variables related to the paternal broader functioning within the family context. The variability of these results, probably associated to the different mentalizing measures adopted and to the heterogeneity of the samples, requires the need for further longitudinal studies designed to examine the causal pathways related to paternal mentalizing.

Considering studies on Reflective Functioning and Parental Insightfulness addressing child's outcomes, our findings showed some significant associations between father's mentalizing and children and adolescents' features, such as behaviors and psychopathological problems; nevertheless, mixed results were also displayed. For example, Jessee et al. (2018) found no effect of paternal mentalizing on child's behaviors during triadic interactions, while Benbassat and Priel (2012) found a positive association between father's mentalizing and adolescent's internalizing problems and a negative association with adolescent's personal self-perception. The same association was found by Benbassat and Shulman (2016) in a follow-up of the aforementioned study (Benbassat & Priel, 2012). Taken together, these results seem to suggest that paternal mentalizing may be also associated with negative consequences on different child's outcomes. In other words, the capability to recognize and acknowledge the mixed nature of feelings and affects related to one's self or others, may lead to an increased awareness of negative feelings. Additionally, these two contributions, together with the one by Dieleman et al. (2020), highlight the important role played by paternal mentalizing during their child's adolescence. These findings stress the centrality that the paternal figure may have in facilitating the separation-individuation process associated with the adolescence transition, thus promoting the acquisition of child's autonomy (Benbassat & Priel, 2012). Future studies are therefore required with the intent to explore additional possible relations between father's mentalizing and child's features and problems, also taking into account the influence of child's age or other child's characteristics.

As concerns child's socio-emotional competencies, one study (Nijssens et al., 2020) found a significant mediational role of father's mentalizing in the link between paternal attachment anxiety and child's socio-emotional competencies and problems while another study (León & Olhaverri, 2020) did not find a link between father's mentalizing and child's socio-emotional difficulties within triadic play interactions, suggesting a possible complexity that needs to be addressed with further investigation.

In summary, the reviewed studies confirmed the role that paternal RF plays on children's, adolescents' and young adults' outcomes even if it seems to have a more significant impact on paternal parenting characteristics which are in turn associated with the overall family functioning and with parents-child interactions. Concerning the different measures adopted for assessing PRF, with a specific focus on the self-report PRFQ, it is possible to argue that pre-mentalizing modes represent the most significant dimension among the three components of the questionnaire, also showing relevant negative influences on both father's and child's outcomes. This dimension, that resulted associated with negative outcomes also in other studies (e.g., Charpentier Mora et al., 2022; Nijssens et al., 2020), raises the question of which mentalizing dimensions—pre-mentalizing or pro-mentalizing dimension—have the greatest impact and on which specific outcomes. Additionally, results deriving from the selected studies also presented several discrepancies, thus requiring additional investigations for clarifying the unique role performed by fathers' mentalizing.

Concerning studies on Mind-Mindedness about paternal features within the family system, the studies mainly focused on the moderating or mediating role played by father's mentalizing, such as the contribution of Gershy and Gray (2020) and Tharner et al. (2016). Furthermore, Arnett and Meins (2008) emphasized the positive association between fathers' antenatal total number of mind-related comments and their subsequent scores for appropriate mind-related comments after childbirth. According to Mind-Mindedness studies related to child's outcomes, some contributions have also pointed out the role of father's Mind-Mindedness on child's attachment, infant affect and child's physiological emotion regulation measured through HRV levels (Lundy, 2003; Miller et al., 2019; Zeegers et al., 2018), other studies have shown the role of father's Mind-Mindedness on child's inhibitory control, social competencies and behavior problems (Colonnesi et al., 2019; Gagné et al., 2018); while the association between father's Mind-Mindedness and child's theory of mind did not show any significant link (Goffin et al., 2020; Lundy, 2013). In sum, the reviewed studies confirmed the role that paternal Mind-Mindedness plays in relation to paternal features and child's outcomes, also stressing the important indirect role acted by paternal Mind-Mindedness within the relation between several paternal parenting aspects. Moreover, it could be noted that almost all the contributions involved samples characterized by the presence of both parents with infants and children in the first years of their lives. In light of the paper further studies are required in order to deepen and clarify paternal mentalizing specific influences also paying particular attention to (1) the contribution of paternal mentalizing within different child's

developmental stages (e.g., middle childhood, adolescence and young adulthood), (2) the inclusion of father's mentalizing in more complex models that take into account the circularity of the effects within the child's psychological and psychopathological development, (3) the analysis of the differences and similarities of the roles played by fathers' and mothers' mentalizing on different variables, (4) the use of larger and differentiated samples (e.g., clinical samples), (5) the use of larger community and clinical samples, (6) determine if paternal mentalizing may be considered an independent and unique factor in influencing children's outcomes or if it acts within a complex dynamic together with other variables (e.g., maternal mentalizing, parenting stress or alliance), and (7) the role of paternal mentalizing within child's socio-affective competencies throughout his/her development.

Overall, the great variability of the results emerging from the reviewed studies may be considered not only in light of the diverse measures or samples involved in each contribution but also as a consequence of the dynamic and multifaceted nature of mentalization construct, thus requiring further investigations that should allow for a more structured and coherent comprehension of the phenomenon. The presented findings also pointed out the relative low number of contributions addressing the topic of paternal mentalizing compared to maternal mentalizing. During the last decades a growing research interest in the paternal role has been displayed (Schoppe-Sullivan & Fagan, 2020) probably as a result of social economic and cultural transformations addressing the parental roles.

Lastly, it is important to note that the variability emerged from the studies limits the possibility of articulating generalized conclusions about the specific role played by paternal mentalizing. Research related to the father's ability to keep in mind multiple aspects of their own and their child's subjective experience has to be further explored.

Limitations of the Present Study

Several limitations need to be addressed. Firstly, we can't rule out the possible presence of publication bias, as positive results are more likely to be published than negative ones. Secondly, methodological heterogeneity in the included studies has to be considered both to the different operationalizations of the mentalizing construct—RF, Mind-Mindedness, Parental Insightfulness—and also to the different instruments used for the measurement within the same conceptualization (e.g., interviews' coding system, observational measures, self-report questionnaires). As a consequence, this heterogeneity limits the generalizability of research findings. Thirdly, there are few studies, especially those on RF and Parental Insightfulness, which focused on the role of father's mentalizing within

longitudinal design, thus limiting the validity of estimated causal paths.

Implications for Research and Practice

The studies included in this review, while showing adequate quality, suggest some points on which future contributions should focus in order to analyze the role of father's mentalizing: (1) the most considered age groups partially excluded middle childhood and adolescence, stressing the importance to investigate them in order to understand the paternal role during these crucial developmental stages; (2) studies with repeated research designs—longitudinal design or clinical trials—should allow the inclusion of father's mentalizing in more complex statistical models that explore the possible interactions between different factors; (3) since mentalizing is a capacity that unfolds within interactive exchanges (e.g., Bizzi et al., 2021), future studies should evaluate its effects throughout real-world settings, also adopting physiological measurements that allow its exploration in association with well-known variables related to mentalizing abilities; (4) future research should rely on both community and clinical samples, also considering populations characterized by different family organizations (i.e., both parent-families, single-parent families, divorced-parent families, stepfamilies, adoptive families, foster families, same-sex families) and exploring the link between paternal mentalizing and other attachment-based variables (e.g., Pace et al., 2015; Piermattei et al., 2017). This may help to evaluate the role of father's mentalizing within these specific samples; (5) the value of father's mentalizing is also related to the possibility of evaluating treatment programs aimed at improving mentalization competencies that involve the parental couple; (6) the comparison of father's and mother's mentalizing could be explored to assess both the mutual influences of the two mentalistic processes and the special importance of each parent's mentalization; (7) the possible influence of specific child's features on paternal mentalizing abilities should be taken into consideration.

Conclusion

The findings highlighted by the studies included in this review suggest that father's mentalizing plays an important role but currently only few studies have examined its role within the family system. Available evidences suggest that father's mentalizing, whether operationalized as RF, Parental Insightfulness or Mind-Mindedness, may be associated with several variables related to both family functioning, and parents' and child's outcomes. Future research should include longitudinal studies and experimental designs to elucidate potential causal pathways also

involving clinical samples and investigating father's mentalizing in connection with the role played by mother's mentalizing. To conclude, future studies are recommended with the aim to examine more closely the relationship between different mentalizing dimensions and their diverse effects within different family systems as well as parents', child's and adolescent's outcomes.

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