



# Understanding the Externalizing Behavior of School-Age Boys: The Role of a Mother's Mentalization and Attachment

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## Abstract

**Objectives** Externalizing behavior problems are considered to be a serious impediment to a child's development, and therefore it is important to identify their predictors. In this study, we investigated the connections between school-aged boys' externalizing problems, the mother's reflective functioning (RF) and the mother's perception of her childhood relationship with her own caregivers.

**Methods** The study sample comprised 39 school-age boys diagnosed with externalizing behavior problems together with their mothers. A child's psychopathology was assessed using the Child Behavior Checklist and Teacher Report Form. Our assessment of the mothers' mentalizing capacities was based on the Adult Attachment Interview and Reflective Functioning Scale. The perception of a mother's childhood relationship with her parents was assessed using the Parental Bonding Instrument.

**Results** The analysis revealed that more severe cases of aggressive and rule-breaking behavior in boys were associated with lower RF in mothers, as well as with a mother's perception of her childhood relationship with her own parents as less autonomous. More aggressive behavior in boys was also associated with a mother's perception of herself as experiencing a higher degree of care from her father during her own childhood.

**Conclusions** These are only preliminary findings and we have discussed them with a view to understanding the possible ways in which a mother's RF and the intergenerational context of relationship quality are associated with externalizing behavior problems in middle childhood.

**Keywords** Mentalization · Reflective function · Disruptive behavior · Externalizing behavior problems · Transgenerational patterns

Externalizing behavior problems are the most common psychiatric and psychotherapeutic diagnoses reported for children. Their prevalence rate varies between 5 and 10% of children aged 8–16 (Cepeda 2012; Denham et al. 2000; Hill 2002). Oppositional, aggressive and hyperactive behavior cause considerable distress in children and their families, are associated with educational failure and social problems, and often lead to antisocial behavior, substance abuse,

criminality, personality problems and mental health disorders in later life (Hill et al. 2007; Stormshak et al. 2000). Due to their prevalence, stability over time, cumulative character and the severity of their developmental consequences, externalizing behavior problems constitute a major challenge for health care (Yates et al. 2010). Externalizing problems typically peak in toddlerhood and decrease by school entry. However, some children do not exhibit this normative decline in middle childhood (Hill et al. 2006). Therefore, research focused on understanding its predictors and developmental course in this period is crucial for formulating interventions aimed at treatment and prevention.

A child's growing independence in its relationship with its parents and the development of his or her agency and autonomy in the context of learning social and academic skills are considered to be the main developmental challenges in middle childhood (between 6 and 12 years of age;

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Bosmans and Kerns 2015; Namysłowska 2004). A child's growing autonomy, the growing complexity and opacity of his mental states, as well as his ability to dissimulate emotion make it more challenging for parents to make sense of his experience (Borelli et al. 2016). On the other hand, despite a child's growing autonomy, parents remain his primary attachment figures, providing a *secure base* and *safe haven* when needed (Bosmans and Kerns 2015). Gender also appears to be an important context for understanding the difficulties experienced by children and their parents. Disruptive behavioral problems are more common in boys than in girls (Cepeda 2012; Egeland and Kreutzer 1991; Hill et al. 2007; Yates et al. 2010), as school-age boys have poorer emotional and behavioral regulation skills than girls (Weis et al. 2013). For this reason, parental ability to understand a child's, and particularly a boy's disruptive behavior in context of underlying emotions seems to be an important issue.

Difficulties in the mother–child relationship have received increased attention as a risk factor in the development of child psychopathology (Bowlby 1973; Ensink et al. 2016; White and Renk 2012) and the parental contribution to this problem has been shown to be even more influential in the case of children whose initial problems lie within a clinical range comparable to children without such problems (Denham et al. 2000; Stormshak et al. 2000). Mother's mentalization is considered to be an important predictor of children's externalizing behavior problems (Ensink et al. 2016, 2017; Sharp et al. 2007). Mentalization is defined as the ability to understand one's own and other people's behavior in terms of intentional mental states (Allen et al. 2008; Fonagy et al. 2002). In the context of the parent–child relationship, good mentalizing promotes affect self-regulation in a parent, results in a better understanding of a parent's complex interactions with a child, and also helps ensure more contingent responses towards the child (Sharp and Fonagy 2008; Slade et al. 2005; Suchman et al. 2010). Consequently, a parent's mentalization is fundamental to the development of a child's self-organization, self-control, agency, and affect regulation (Fonagy and Target 1997; Fonagy 2004a; Sharp and Fonagy 2008).

Mentalization is a complex construct and it can be measured by means of self-reporting (Fonagy et al. 2016; Hausberg et al. 2012), observing interactions (Ensink et al. 2017; Sharp and Fonagy 2008), and analyzing narration. Within the framework of attachment-focused research based on narration analysis, it has been operationalized as (1) an adult's general Reflective Functioning (RF) coded from the Adult Attachment Interview (AAI), which focuses on reflecting an individual's childhood experiences with his or her caregivers (Fonagy et al. 1991, 1998), or (2) parental RF, which is coded from the Parental Development Interview (PDI; Slade 2005). Both operationalizations proved to

be valid in parent–child relationship research, as various studies show a link between low RF in a mother and a child's attachment insecurity and behavioral problems (Camoirano 2017; Ensink et al. 2016; Fonagy et al. 1991; Grienberger et al. 2005; Meins et al. 2013; Smaling et al. 2016, 2017). In this study, we decided to measure general RF in mothers, because we assumed that in the context of a child's externalizing behavior problems, a mother's self-regulatory skills might play a fundamental role. A child's provocative or disobedient behavior often evokes feelings of frustration, anger, helplessness or guilt. Such negative emotions, when linked with compromised mentalization, can pose a challenge to a mother's emotion regulation system. This may lead to harsher parenting responses towards a child (Denham et al. 2000; Mazursky-Horowitz et al. 2015), less parental effort put into teaching a child to understand his own emotional experiences (Katz and Windecker-Nelson 2004), and consequently leads to a higher risk of a child's externalizing behavior problems (Beyers et al. 2003; Gershoff 2002).

A mother's capacity for mentalization is embedded in her own attachment history (Fonagy et al. 2002). The quality of a mother's early relationship with her parents has an impact on the emotional content of her mental representations of close relationships, as well as on their accessibility and flexibility (Main 1993). It affects the activation or deactivation of attachment strategies and the ability to think about emotions in moments of higher arousal (Fonagy et al. 2011), which is highly important in the context of parenting (Fonagy and Target 1997; Main 1993). Also, the intergenerational context of affect regulation in the parent–child relationship needs to be taken into account. This has been described in systemic models as the repetition of relational patterns in subsequent generations (Bowen 1978; McGoldrick et al. 1999). Research has demonstrated a cross-generational continuity in externalizing behavior problems (Bailey et al. 2009), as well as a high level of intergenerational stability in attachment and mentalization skills (Fonagy et al. 2002; Rosso et al. 2015; Van IJzendoorn 1995). Parenting is regarded as a modulator of environmental and genetic risk underlying the intergenerational transmission of patterns of aggression (Fonagy 2004b). Hence, the reflective functioning of parents appears to be an important area of research.

While a large number of studies have been conducted on the associations between mother's mentalization skills, her attachment style and a child's psychosocial functioning in infancy and early childhood (Camoirano 2017; Centifanti et al. 2016; Fonagy et al. 1991; Grienberger et al. 2005; Meins et al. 2013; Smaling et al. 2016, 2017), studies focusing on the later stages of a child's development are scarce (Benbassat and Priel 2012; Bizzi et al. 2019; Borelli et al. 2016; Esbjørn et al. 2013; Sharp et al. 2007).

Nevertheless, the importance of research on parent's reflective function and child's psychosocial functioning in middle childhood cannot be overlooked, as it provides an opportunity for extending the scope of earlier research on mentalization in parents (Borelli et al. 2016). Furthermore, our paper addresses the issue of children who do not exhibit a normative decline in problematic behavior as they enter and progress through middle childhood (Hill et al. 2006). The developmental stage of middle childhood offers new challenges for both the child and his parents (Bosmans and Kerns 2015), especially when emotion and behavior regulation difficulties are already present (Denham et al. 2000; Stormshak et al. 2000). We focused on boys because they are at a higher risk of displaying externalizing behavior problems than girls (Cepeda 2012; Hill 2002). We decided to examine a mother's adult RF as we assumed that a mother's understanding of her own internal reality results in more efficient regulation of her own emotions while confronting a child's aggressive or disobedient behavior (Denham et al. 2000; Fonagy et al. 2002). Mothers who can engage in RF have more information that allows them to respond sensitively to the child (Borelli et al. 2016). By including in our study the adult RF of mothers measured with AAI-RF, we were able to assess the extent to which a mother's reflective functioning is associated with a child's behavioral problems, independently of the influence exerted by a child's temperament and a child's other personal features (Camoirano 2017). This would not be possible if maternal RF was measured with PDI. Moreover, research on a parent's general RF in the context of a child's development is limited. Despite the promising results reported by the pioneering London Parent-Child Project (Fonagy et al. 1991), so far only few papers (e.g. Arnott and Meins 2007; Ensink et al. 2016; Esbjørn et al. 2013) have applied AAI-RF in research on child's development (Camoirano 2017).

In light of mentalization theory and research, the model used in our study involves associations between a mother's adult RF level, her attachment to her own childhood caregivers and a child's behavioral problems. We assume that these associations are mediated by the mother's emotion regulation and parental practices (Denham et al. 2000), as well as by the child's mentalization and emotion regulation (Sharp and Fonagy 2008). However, we did not examine these mediating factors in our study. The first aim of our study was to assess the level of RF in mothers whose sons display externalizing behavior problems at the clinical level. We hypothesized that the mothers included in the study would have weak general mentalizing capacities. Our second aim was to analyze the associations between the severity of externalizing behavior problems in school-age boys and a mother's adult RF, as well as a mother's perception of her childhood relationship with her parents. We hypothesized that more severe externalizing behavior

problems in children would be associated with lower RF in mothers, as well as with a mother's perception of the poorer quality of her relationship with her own caregivers.

## Method

### Participants

The sample consisted of 39 mother–child dyads. The participants were recruited through the Mental Health Centre for Children and Adolescents (64%), the Family and Child Psychotherapy Institute (10%), the Community Day Care Centre (8%) and school psychologists' referrals (18%).

All the children were male and aged 7–10 years old ( $M = 8.41$ ,  $SD = 0.78$ ). Alongside a child's age and gender, the third inclusion criterion was the presence of externalizing behavior problems (aggressive, oppositional, rule-breaking, impulsive or hyperactive behavior). Behavioral problems were assessed by means of a clinical interview conducted by a child and adolescent psychiatrist or clinical psychologist. The main exclusion criteria were pervasive developmental disorders, mental retardation or psychotic disorders in a child as well as a mother's current substance abuse.

The mean age of the mothers was 35.74 ( $SD = 4.71$ , range 25–44). Thirty-one percent of them had completed higher education, 38% secondary education and 31% primary or vocational education. All of the participants were Caucasian, of whom 90% lived in large cities, and 94% declared themselves to have average or good financial situation. All the participants but one were primary caregivers of their children from their birth, and 72% of the women had raised the child in a two-parent family unit. Most of the mothers participating in the study (87%) had never parted with their child for any long period of time (more than 3 months).

### Procedure

The study was part of a larger research project approved by the ethics committee of Jagiellonian University Medical College (KBET/122.6120.36.2015). The study began with a database search of health care centers as well as efforts to contact mothers whose children met the study's inclusion criteria. After receiving preliminary information about the study 63% of all contacted mothers agreed to participate. At the beginning of the first meeting we informed the participants of the procedure and the aim of the study, after which the mothers gave their written consent to participate, and the children gave their verbal consent. During the first meeting the mothers filled in questionnaires and participated in a short interview on the psychosocial functioning of their

children. The children performed a short mentalizing task (Biased Mentalizing Task, BMT), which has been described elsewhere (Dejko 2017; Sharp and Fonagy 2008). As it was the preliminary phase of work on the Polish version of BMT, we decided that the data obtained was not reliable enough to be included in this study. A second meeting was organized, in which the mothers attended without their children and participated in AAI.

## Measures

### Mothers' General Reflective Functioning

To assess their reflective functioning the mothers participated in an Adult Attachment Interview. The AAI is a semi-structured interview that focuses on childhood experiences of attachment (George et al. 1996). It is a well-established and widely validated research tool used in research on both attachment and mentalization (Van IJzendoorn 1995).

We applied the Reflective Functioning Scale (RFS; Fonagy et al. 1998) to the AAI to evaluate mother's RF. The RF coding is based on four main criteria: A. Awareness of the nature of mental states, B. Explicit effort to tease out mental states underlying behavior, C. Recognizing developmental aspects of mental states, and D. Mental states in relation to the interviewer. After rating each identified AAI passage separately and taking into account changes in narration dynamics, as well as the coherence of the narration as a whole, an overall rating is assigned to the interview. The overall rating ranges from  $-1$  (negative RF) to  $9$  (exceptional RF; Allen et al. 2008).

According to validation studies of RFS, the scale possesses good psychometric properties (Fonagy et al. 1998; Taubner et al. 2012). In our study, two raters coded independently the AAI transcripts (the first two authors of the paper). The raters had been trained in the RF rating procedure at the Anna Freud Center and had successfully passed the validation procedure. The first rater coded all the transcripts, while the second rater coded randomly selected one-third of the transcripts. The inter-rater reliability was excellent (*Krippendorff's alpha* = 0.93;  $p < 0.05$ ).

### Children's Externalizing Behavior Problems

We applied the Child Behavior Checklist (CBCL) and Teacher Report Form (TRF) in the Polish version adapted by Wolańczyk (2002) to assess the severity of a child's externalizing behavior problems. The CBCL is a widely recognized caregiver report and the TRF is teacher report designed to identify problems in the psychosocial functioning of children aged 6–18 years. Both measures consist of 113 questions aimed at identifying internalizing and externalizing problems. Empirically based eight-syndrome

subscales make it possible to create a profile that accurately illustrates the psychosocial functioning of child. In this study we decided to apply only Aggressive Behavior Scale and Rule-breaking Scale from CBCL and TRF, as these scales correspond to the aims of the study. The Polish version of the CBCL and TRF have been demonstrated to have good psychometric properties (Wolańczyk 2002). Wolańczyk (2002) reported alphas of .72 to .95 for the Aggressive Behavior Scale and Rule-breaking Scale for both the CBCL and TRF.

### A mother's Perception of Her Childhood Relationship with Her Caregivers

To gauge the wider, intergenerational context of relationship quality we made use of the Polish version of the Parental Bonding Instrument (PBI; Parker et al. 1979; Popiel and Prąglowska 2006). The PBI retrospectively measures participants' perceptions of their relationship with their parents during their childhood and adolescence. The questionnaire consists of 25 items relating to a child's relationship with his or her mother and 25 parallel items concerning the child's relationship with his or her father. The items are rated using a 4-point, Likert-type scale. The perception of this relationship is assessed separately for the mother and the father in three dimensions: Care (e.g. *Spoke to me with a warm and friendly voice*), Overprotection (e.g. *Tried to control everything I did*) and Autonomy (e.g. *Liked me to make my own decisions*). A higher score on the Care Scale and the Autonomy Scale, indicates a higher quality relationship. A higher score on the Overprotection Scale indicates a poorer quality relationship. We used a three-factor PBI structure, as research conducted by Xu et al. (2016) has demonstrated that it fits the data better than two- or four-factor structure and it possesses satisfactory psychometric properties. Horecka-Lewitowicz (2006) reported alphas of 0.73 to 0.96 for mother-related and father-related scales of Polish version of PBI.

### Socio-Demographics

Information on demographics was provided from a structured questionnaire that included questions about place of residence, the age of the mother and child, the mother's education level, family structure as well as important events from the life of the child and his family. Other questions concerned the child's general health and development as well as the mental health care experiences of the mother and child.

### Data Analyses

All the analyses were performed using the R Core Team (2018). Firstly, we conducted preliminary analyses (descriptive statistics and inter-correlations between

variables). Secondly, we carried out regression analyses. We constructed separate models for each of the following scales serving as a dependent variable: the CBCL Aggressive Behavior Subscale, the CBCL Rule-breaking Subscale, the TRF Aggressive Behavior Subscale and the TRF Rule-Breaking Subscale. The independent variables were the mother's RF and PBI Care, as well as the Overprotection and Autonomy Scales both for the mother and father. All the regression models contained the additive effects of RF and one of the selected PBI scales (e.g. Mother Care). We did not apply the Bonferroni correction because the results of the separate analyses were far from independent (the dependent variables were correlated, and the independent variables were correlated).

## Results

### Preliminary Analyses

First, the results of the preliminary analyses indicate that the mothers' education level was strongly associated with their RF level,  $F(2,32) = 5.90$ ,  $p = 0.006$ . A post hoc Tukey test showed that mothers with primary or vocational education had a significantly lower level of RF ( $M = 1.6$ ) than mothers with a secondary ( $M = 3.36$ ) or higher education ( $M = 3.91$ ) significantly at  $p < 0.05$ . Other socio-demographic variables (mothers' age, place of residence) did not correlate significantly with any of the measured variables.

All the means and standard deviations of the measured variables are presented in Table 1. To examine the links between a child's psychopathology and maternal factors (reflective functioning and the perception of a mother's childhood relationship with her parents), correlational analyses were used. The results are presented in Table 2.

### The Level of Mothers' General RF

The mean level of RF in mothers was 3.03 ( $SD = 1.82$ ), which indicates an overall low level of mentalization skills in studied sample. We rated seventeen percent of the participants as having a negative or no RF. They tended to exhibit active and hostile resistance to mentalizing, as well as bizarre attributions, extreme concreteness and an absence of reflection. Fifty-two percent were rated as having a low RF level, which means that more than half of the participants tended to refer to mental states at a rudimentary level. Their references to mental states were rather general, unintegrated and detached from the individual's experience. Seventeen percent of the participants were rated as having an ordinary level of RF. Their narration regarding close

relationships included a number of instances of reflection, even if they were lacking in complexity. Finally, fourteen percent of the sample was rated as having marked levels of RF, which means that reflectiveness was maintained at a consistently high level.

### Associations between Maternal Factors and a Child's Psychopathology

The associations between maternal factors (adult reflective functioning and a mother's perception of her childhood relationship with her parents) and child externalizing behavior difficulties, as reported by mother and teacher, are shown in Tables 3 and 4.

We found significant associations between maternal factors and a child's externalizing behavior as reported by his mother. RF had a significant negative effect on a child's aggressive behavior, when a child's aggressive behavior was regressed on RF and a mother's perception of her autonomy in her childhood relationship with her mother ( $z = -3.00$ ,  $p = 0.005$ ). A mother's RF was also a significant predictor of a child's aggressive behavior when other maternal variables were controlled for: PBI mother overprotection ( $z = -2.65$ ,  $p = 0.013$ ), PBI mother care ( $z = -2.38$ ,  $p = 0.024$ ), PBI father autonomy ( $z = -2.77$ ,  $p = 0.009$ ), and PBI father overprotection ( $z = -2.28$ ,  $p = 0.029$ ). Other significant predictors of child aggressive behavior, where RF was controlled for, were a mother's perception of care in her childhood relationship with her father ( $z = 2.62$ ,  $p = 0.014$ ) and autonomy in her childhood relationship with her mother ( $z = -2.29$ ,  $p = 0.029$ ). For more results, see Table 3.

When a child's rule-breaking behavior was regressed on RF and a mother's perception of her autonomy in her childhood relationship with her mother RF had a significant negative effect ( $z = -2.84$ ,  $p = 0.008$ ). A mother's RF was also a significant predictor of child rule-breaking behavior when other maternal variables were controlled for: PBI mother overprotection ( $z = -2.60$ ,  $p = 0.014$ ), PBI mother care ( $z = -2.40$ ,  $p = 0.022$ ), PBI father autonomy ( $z = -2.98$ ,  $p = 0.005$ ), and PBI father overprotection ( $z = -2.22$ ,  $p = 0.034$ ). Other significant predictors of child rule-breaking behavior, where RF was controlled for, included a mother's perception of her autonomy in her childhood relationship with her father ( $z = -2.19$ ,  $p = 0.036$ ) as well as with her mother ( $z = -2.13$ ,  $p = 0.041$ ). For more results, see Table 3.

No significant correlation was observed between a mother's RF or her perception of her childhood relationship with her parents and a teacher's reports of a child's aggressive and rule-breaking behavior. The results are reported in Table 4.



**Table 1** Descriptive statistics of a mother's reflective functioning, her child's psychopathology and her perception of her childhood relationship with her own parents

	Minimum	Maximum	M	SD	Skewness	Kurtosis
Mother's RF	-1	7	3.03	1.82	0.14	0.11
<b>CBCL</b>						
Rule-breaking behavior	1	12	5.77	3.36	0.38	-1.07
Aggressive behavior	11	36	21.26	7.09	0.58	-0.83
<b>TRF</b>						
Rule-breaking behavior	0	18	6.84	4.54	0.65	-0.24
Aggressive behavior	0	50	20.67	12.81	0.41	-0.41
<b>PBI</b>						
Mother care	0	36	21.05	8.76	-0.55	-0.23
Mother overprotection	0	17	7.41	4.94	0.30	-0.97
Mother autonomy	2	21	11.44	5.02	-0.03	-0.67
Father care	0	34	16.72	10.91	-0.15	-1.32
Farther overprotection	0	13	4.36	3.57	0.73	0.18
Father autonomy	2	21	13.41	5.20	-0.15	-0.77

RF reflective function, CBCL Child Behavior Checklist, TRF Teacher Report Form, PBI Parental Bonding Instrument

**Table 2** Intercorrelations matrix between maternal factors (reflective functioning and perception of a mother's childhood relationship with her parents) and a child's internalizing and externalizing behavior problems as reported by mother and teacher on the CBCL

	1	2	3	4	5	6	7	8	9	10
1 RF	-									
2 PBI M Care	-0.06	-								
3 PBI M Op.	0.27	-0.16	-							
4 PBI M Aut.	-0.35*	0.21	-0.57**	-						
5 PBI F Care	-0.17	0.35*	-0.09	-0.16	-					
6 PBI F Op.	0.06	-0.07	0.51**	-0.39*	0.18	-				
7 PBI F Aut.	-0.42	-0.02	-0.33*	0.61**	-0.06	-0.43*	-			
8 CBCL Aggr.	-0.41*	-0.04	0.21	-0.30	0.40*	0.38*	-0.24	-		
9 CBCL R-br.	-0.32	-0.10	0.20	-0.28	0.10	0.41*	-0.24	0.73**	-	
10 TRF Aggr.	-0.05	-0.20	0.03	0.04	-0.24	-0.26	0.16	-0.01	-0.02	-
11 TRF R-br.	-0.28	-0.26	-0.11	0.25	-0.25	-0.24	0.26	0.07	0.14	0.84**

RF reflective function, PBI Parental Bonding Instrument, M mother, F father, Op. overprotection, Aut autonomy, Aggr. aggressive behavior, R-br. rule-breaking behavior, CBCL Child Behavior Checklist, TRF Teacher Report Form

\* $p < 0.05$ ; \*\* $p < 0.001$

## Discussion

The aim of our study was to examine the associations between a child's externalizing problems, a mother's general RF and her perception of her childhood relationship with her own caregivers. We decided to study a clinical sample of school-aged boys, as research shows that this group might experience more problems with emotion and behavior regulation (Denham et al. 2000; Hill et al. 2006; Weis et al. 2013). In support of our predictions, we observed that higher levels of aggressive and rule-breaking behavior in children reported by mothers were associated with lower levels of mother's mentalization and her perception of poorer childhood relationship with her own

caregivers. Our analysis did not reveal any significant association between maternal factors and child externalizing behavior reported by teachers. One possible explanation for this finding is that mothers, due to their emotional engagement, are less objective observers of child behavior compared to teachers. Mothers with lower RF in particular might project their feelings onto the child (Ensink et al. 2017) or engage in a process known as prementalizing, which hinders their perception of child behavior and underlying mental states (Rutherford et al. 2016). However, recent research conducted by Borelli et al. (2017) pointed out that a low RF may facilitate observation of such behavior, as it is associated with a greater focus on events occurring in the external world, and therefore it may result

**Table 3** Regression analyses for predicting CBCL child aggressive and rule-breaking behavior reported by mother

	CBCL aggressive behavior				CBCL rule-breaking behavior			
	Estimate	SE	<i>z</i>	<i>p</i>	Estimate	SE	<i>z</i>	<i>p</i>
RF: PBI mother autonomy								
RF	−1.89	0.63	−3.00	0.005	−0.89	0.31	−2.84	0.008
Autonomy	−0.52	0.23	−2.29	0.029	−0.24	0.11	−2.13	0.041
RF: PBI mother overprotection								
RF	−1.71	0.64	−2.65	0.013	−0.82	0.31	−2.60	0.014
Control	0.38	0.24	1.62	0.116	0.20	0.12	1.72	0.095
RF: PBI mother care								
RF	−1.58	0.66	−2.38	0.024	−0.77	0.32	−2.40	0.022
Care	−0.10	0.14	−0.70	0.490	−0.08	0.07	−1.12	0.270
RF: PBI father autonomy								
RF	−1.88	0.68	−2.77	0.009	−0.96	0.32	−2.98	0.005
Autonomy	−0.37	0.23	−1.59	0.122	−0.24	0.11	−2.19	0.036
RF: PBI father overprotection								
RF	−1.43	0.63	−2.28	0.029	−0.67	0.30	−2.22	0.034
Control	0.50	0.30	1.66	0.108	0.29	0.15	1.99	0.055
RF: PBI father care								
RF	−0.96	0.62	−1.53	0.136	−0.67	0.34	−1.99	0.056
Care	0.27	0.10	2.62	0.014	0.01	0.06	0.24	0.814

The table presents results from separate regression analyses for each PBI scale  
*CBCL* Child Behavior Checklist, *RF* reflective functioning, *PBI* Parental Bonding Instrument

**Table 4** Regression analyses for predicting child aggressive and rule-breaking behavior reported by teacher

	TRF aggressive behavior				TRF rule-breaking behavior			
	Estimate	SE	<i>z</i>	<i>p</i>	Estimate	SE	<i>z</i>	<i>p</i>
RF: PBI mother autonomy								
RF	−0.27	1.45	−0.19	0.851	−0.52	0.48	−1.08	0.288
Autonomy	0.11	0.49	0.23	0.823	0.18	0.16	1.07	0.293
RF: PBI mother overprotection								
RF	−0.46	1.39	−0.33	0.744	−0.67	0.47	−1.42	0.166
Control	0.08	0.52	0.16	0.871	−0.06	0.18	−0.34	0.734
RF: PBI mother care								
RF	−0.41	1.32	−0.31	0.761	−0.72	0.44	−1.63	0.114
Care	−0.27	0.27	−1.00	0.327	−0.12	0.09	−1.39	0.176
RF: PBI father autonomy								
RF	0.06	1.42	0.04	0.968	−0.53	0.48	−1.10	0.282
Autonomy	0.41	0.47	0.87	0.393	0.17	0.16	1.06	0.296
RF: PBI father overprotection								
RF	−0.24	1.30	−0.18	0.856	−0.67	0.45	−1.50	0.144
Control	−0.88	0.62	−1.43	0.163	−0.25	0.21	−1.17	0.253
RF: PBI father care								
RF	−0.66	1.31	−0.50	0.618	−0.82	0.44	−1.87	0.072
Care	−0.31	0.22	−1.42	0.165	−0.12	0.07	−1.70	0.099

The table presents results from separate regression analyses for each PBI scale  
*TRF* Teacher Report Form; *RF* reflective functioning, *PBI* Parental Bonding Instrument

in more adequate reporting of externalizing behavior symptoms. It is also possible that school and home environments evoke different displays of problematic behavior in children.

Our analysis revealed a low level of RF in mothers, which is lower than RF in securely attached mothers as reported by Fonagy et al. (1991), and RF in mothers whose school-age children suffer from anxiety problems (Esbjörn et al. 2013). Mothers' capacity to reflect on their own emotions is significantly compromised in the studied sample and resembles typical RF scores of insecurely attached mothers (Fonagy et al. 1991) or self-reflection scores noted in mothers with substance use disorders (Suchman et al. 2010). It is interesting that RF levels in the mothers who participated in our study turned out to be lower than we would expect for a middle or high SES sample. Our results might be better understood in light of data on SES gathered with more objective measures (instead of mothers' declarations), as well as data concerning mothers' general psychological functioning.

The results of our study are consistent with other research which has shown a correlation between compromised mentalizing in a mother and the externalizing behavior of a child (Centifanti et al. 2016; Ensink et al. 2017; Meins et al. 2013; Sharp et al. 2007). The underlying mechanisms are possibly transactional. A low RF in a mother hinders her self-understanding and affects both regulation and impulse control (Fonagy and Target 1997; Fonagy et al. 2002), leading to less sensitive and thoughtful responses to the child (Ensink et al. 2016; Finzi-Dottan et al. 2006; Suchman et al. 2010), and as a result possibly continuing a child's behavioral problems. The behavior of a more difficult child in turn is harder to understand and might require better mentalization in the parent. When interactions with the child are intense and evoke anger, helplessness, criticism or withdrawal, a mother's compromised mentalizing can contribute to a vicious cycle of heightening tension, resulting in maintaining or even aggravating the child's oppositional, disobedient or rule-breaking behavior (Stormshak et al. 2000).

Various studies have shown a correlation between low RF levels in parents and poor-quality caregiving (Borelli et al. 2012; Grienberger et al. 2005; Huth-Bocks et al. 2014; Rosenblum et al. 2008; Stacks et al. 2014) and negative parenting behaviors (Ensink et al. 2016), which in turn contributes to oppositional and aggressive child behavior (Patterson 1986; Stormshak et al. 2000). Although parenting practices have not been included in our study, they may play an important role, as Stormshak et al. (2000) showed that coercive and punitive parenting tends to aggravate a child's oppositional, aggressive or hyperactive behavior. Associations between a mothers' capacity to mentalize her own mental states, parenting practices and a

child's externalizing behavior problems require further research.

Our study showed that the mothers of boys exhibiting more severe aggressive and disobedient behavior described their childhood relationship with their parents as one in which their autonomy was restricted. A limited experience of autonomy in a mother's childhood relationship with her parents might make it more difficult for her to understand and support her school-aged child's growing independence. In such a context, a child's aggressive and disobedient behavior might be seen as a struggle for more understanding and support for his need for growing autonomy and self-reliance (Namysłowska 2004). It is also possible that a less autonomous mother's relationship with her attachment figures has influenced her perception of her child's disobedient behavior in such a way that she sees it as being more severe than it may actually be. Furthermore, we achieved a surprising result, which is positive association observed between a mother's perception of care in her childhood relationship with her father and her son's aggressive behavior. There might be two potential explanations for this. First, we assume that in cases where a mother's childhood relationship with her father was more positive, there were fewer opportunities for them to experience and learn how to deal with difficult interchanges, conflicts or ruptures in interaction. It might also be more difficult to express anger and opposition against a highly caring father. As a consequence, the ability of a mother to identify, regulate and express feelings in her relationship with her son might be hindered (Jurist 2005). Secondly, a mother's expectations of a close, warm and caring relationship (possibly related to her idealization of father) might be transferred to her relationship with her son, without acknowledging the specific needs and challenges that characterize this relationship.

In our study we applied widely recognized research tools and the conclusions are interesting and potentially important. However, our study has some limitations, as a consequence of which the findings are rather exploratory and must be replicated in further research before firm conclusions can be drawn for clinical practice. The sample size is modest. Hence, any conclusions should be made with caution. An analysis does not allow for any inferences to be made regarding causal associations. We assume that these associations are complex and transactional, and possibly mediated by such factors as emotion regulation, parenting practices and child's mentalization. However, we could not examine these mediating factors with our study design. The absence of a control group precludes drawing any conclusions about specific and discriminative characteristics of the sample, and the inclusion of boys precludes any inferences concerning girls. The majority of mothers who participated in the study were Caucasian from



middle or high a SES background, which makes it impossible to draw any conclusions about mothers from a more adverse socioeconomic environment, as well as from different ethnical background. The absence of boys' fathers from the study makes the picture somehow narrow and incomplete, as research shows that the involvement of the father is a significant determinant of a child's development (Barker et al. 2017; Benbassat and Priel 2015; Denham et al. 2000; Duhig et al. 2002; Esbjørn et al. 2013). There is also a need for further research on the subject which would include more objective measures of a child's psychosocial functioning (Fearon and Belsky 2011), as well as information regarding parenting practices, as well as parental attitudes and approaches to raising children (Denham et al. 2000; Stormshak et al. 2000). Our article presents the preliminary results and further research is needed before practical conclusions can be drawn.

Due to the paucity of research aimed at understanding the psychosocial functioning of school-age children from a mentalization perspective (Borelli et al. 2016; Esbjørn et al. 2013; Sharp et al. 2007), and bearing in mind the preliminary nature of the results presented in this article, further research in this area should be continued. In spite of the limitations of our study, our findings show interesting associations between a mother's general RF and the perceived quality of her childhood relationship with her parents, and the severity of externalizing behavior in already diagnosed children. Hence, we believe research on psychotherapeutic interventions that focus on a mother's RF are crucial. Although RF in parents is currently regarded as a vital intervention target, existing research and clinical programs promote RF mainly among parents of infants and toddlers (Borelli et al. 2016; Grienberger et al. 2005). Mentalization-based therapeutic programs for parents of school-age children require more research and clinical attention.

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## Compliance with Ethical Standards

**Conflict of Interest** KDW received research grant from Jagiellonian University Medical College. The author declares that she does not have any other conflict of interest. The other authors declare that they have no conflict of interest.

**Ethical Approval** All procedures performed in studies involving human participants were in accordance with the ethical standards of

the institutional research committee in Jagiellonian University Medical College (KBET/122.6120.36.2015) and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. This article does not contain any studies with animals performed by any of the authors.

**Informed Consent** Informed consent was obtained from all individual participants included in the study.

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