



Associations of mentalization and epistemic trust with internalizing and externalizing problems in adolescence: A gender-sensitive structural equation modeling approach

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Abstract

Introduction: Mentalization, operationalized as reflective functioning (RF), allows individuals to interpret actions as caused by intentional mental states. Previous research highlighted the gender-specific associations between adolescents' internalizing and externalizing difficulties and mentalizing impairments. In addition, research suggested that mentalizing facilitates the creation of epistemic trust (ET) to evaluate social information as accurate, reliable, and relevant. However, few investigations explored the concurrent associations between RF, ET, and adolescent psychopathology.

Methods: A sample of 447 Italian cisgender adolescents (57% assigned females at birth; age range 12–19 years old; $M_{\text{age}} = 15.54$, $SD = 1.98$) self-reported RF (RFQY-5), ET towards mother, father, and peers (IPPA) and mental health problems (YSR-112). Gender-specific structural equation modeling explored the associations between RF, ET, and internalizing/externalizing problems.

Results: Results suggested an excellent fit for the theoretical model and revealed gender-related associations. In females, findings suggest that ET mediates the association between RF and psychopathology, with indirect associations from RF through ET to lower internalizing and externalizing problems. However, in males, RF and ET display independent associations with psychopathology.

Conclusion: Overall, findings suggest that ET might be a transdiagnostic factor playing different roles associated with adolescent psychopathology. Indeed, links between RF and ET might help to explore gender differences in mental health problems in this developmental phase.

KEYWORDS

adolescence, epistemic trust, externalizing problems, internalizing problems, mentalization, reflective functioning

1 | INTRODUCTION

1.1 | Mentalizing and internalizing and externalizing problems in adolescence

Mentalization, operationalized through reflective functioning (RF), is the human ability to interpret one's and others' behaviors as caused by intentional inner mental states (Bateman & Fonagy, 2012; Bateman & Fonagy, 2016). Mentalization is a multidimensional competence that is optimally developed in a secure attachment relationship and is crucial to regulating

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emotions and behaviors (Allen, 2018): its conceptualization encompasses four polarities, including implicit or explicit, internal or external, directed toward the self or others, and cognitive or affective characterizations (Fonagy & Luyten, 2009). Thus, mentalizing might be considered a process, instead of a structural capacity, that allows individuals to navigate life's experiences with openness and flexibility, fostering curiosity toward their own and others' mental states. As such, how individuals think about themselves and others in terms of mental states plays a significant role in adolescence, when changes occur in multiple domains (i.e., body, brain, social environment). Indeed, adolescents face crucial developmental tasks such as evolving a coherent sense of self, investing in interpersonal relationships with peers and romantic mates, and pursuing life and goals investments (Casey et al., 2008; Sharp & Wall, 2018). In this scenario, making sense of self and other-related emotions and behaviors is crucial (Fonagy et al., 2018).

Difficulties in mentalizing have been classified into different forms, including “no-mentalizing”, “under-mentalizing”, and “hyper-mentalizing” (Sharp & Venta, 2013). “No mentalizing” entails individuals not referencing mental states when interpreting their or others' psychological/behavioral experiences. Moreover, individuals might fail to acknowledge the interplay between different perspectives in more complex social interactions (“under-mentalizing”). Others might instead make assumptions, attributing mental states to other people beyond the available evidence, with others struggling to justify it (Sharp & Venta, 2013).

Research on difficulties in mentalizing demonstrated significant associations with both internalizing or self-focused manifestations (i.e., anxiety, depression, and somatic complaints) and externalizing or other-related problems (i.e., impulsivity, aggression, oppositional, and conduct behaviors) (Luyten et al., 2020; Ramires et al., 2020).

Numerous studies on internalizing problems suggest that impaired ability to reflect about self and others in terms of mental states is associated with higher emotional problems (Fischer-Kern & Tmej, 2019; Nolte et al., 2019). Consistent with this, transient or stable failures of mentalizing have been noted in depression and anxiety (Ha et al., 2013; Luyten et al., 2012; Spada et al., 2008). Indeed, attachment disturbances and early adversity might foster developmental vulnerabilities that impair the development of reflective functioning that, in turn, might contribute to developmental trajectories that include depression and anxiety (Fonagy & Luyten, 2009; Luyten & Fonagy, 2018). Research findings confirm a causal relationship between attachment disruption, mentalizing impairments, and stress dysregulation (Luyten & Fonagy, 2018). These interactions promote hyperreactivity to stress patterns that might trigger somatic symptoms (Luyten et al., 2019). In addition, it has been suggested that problems in embodied mentalizing can make adolescents experience their bodies as alien objects (Schattner et al., 2008; Shai & Belsky, 2011).

However, research has also highlighted conflicting or mixed results when exploring the association between mentalization and internalizing problems (Duval et al., 2018; Lind et al., 2020). For example, Duval and colleagues found significant associations between uncertainty about mental states (measured with the Reflective Functioning Questionnaire for Youth; RFQ-Y) (Sharp et al., 2009), hyper-mentalizing (measured with the Movie Assessment of Social Cognition; MASC) (Dziobek et al., 2006) and internalizing problems. However, they found no associations between interest in and certainty about mental states (RFQ-Y), good mentalization, hypo-mentalizing, or nonmentalizing (MASC), and internalizing symptoms (Duval et al., 2018). These results suggest the importance of considering different facets of mentalizing and exploring how they impact (or not) on adolescents' internalizing problems.

Research also explored the associations between difficulties in reflective functioning and externalizing problems such as substance use disorder (Suchman et al., 2018), pathological gambling (Ciccarelli et al., 2021, 2022; Cosenza et al., 2019), attention deficit and hyperactivity disorder (Poznyak et al., 2019), and conduct and oppositional disorders (Abate et al., 2017; Möller et al., 2014). Adolescents with disruptive behavior disorders show difficulties understanding their own and others' mental states compared with a nonclinical sample (Bizzi et al., 2019). Mentalizing difficulties predict the development of externalizing disorders and suggest a worse prognosis (Chow et al., 2017). Models accounting for these associations suggest that impaired mentalizing hinders reflecting on the impact of one's actions and impedes perspective-taking (Fonagy, 2003; Fonagy & Luyten, 2018; Fonagy et al., 2018; Taubner et al., 2019). Furthermore, in adolescents, mentalizing is negatively associated with ADHD symptoms in both girls and boys, with hypo-mentalizing and nonmentalizing observed to be particularly associated with ADHD symptoms in girls (Akça et al., 2021). Hyper-mentalizing has been noted in adolescents with early maltreatment experiences associated with automatic and impulsive reactions in social contexts, increasing the risk of aggressive behaviors (Abate et al., 2017). All in all, the literature suggests that adolescents' impairment in their ability to reflect on themselves and interpersonal-related experiences is associated with several emotional/behavioral problems.

1.2 | Epistemic trust and mentalizing

There is increased interest in the theoretical writings on mentalizing in epistemic trust (ET) (Fonagy & Allison, 2014). ET reflects evaluating social communication, incoming information from the social world, as accurate, reliable, and relevant (Fonagy et al., 2015; Sperber et al., 2010). ET allows the assimilation of information into existing knowledge schemas and is conceived of as a developmental achievement in the sense of enabling individuals to make optimal use of social

communication to enhance learning and social adaptation. Indeed, theoretically, infants are characterized by a stance of epistemic vigilance (Sperber et al., 2010), that is, identifying information shared by others as potentially misleading or inaccurate. The caregiver's ostensive communicative cueing (i.e., turn-taking, contingent responsiveness, eye contact, and vocal tone) in the context of attachment relationships play a crucial role in activating a receptive stance to personally relevant and meaningful communication (Gergely, 2013). In a persuasive series of experiments, Mascaro and Kovács demonstrated that reliance on communication is calibrated during early childhood, up to the point of overriding evidence about informants' own knowledge; toddlers will trust a novel cue when it is used communicatively (Mascaro & Kovács, 2022). Toddlers' trust could not be explained by mere compliance: it is reduced when communicated information is pitted against what participants currently see. During the second year of life, individuals' tendency to rely on familiar and novel communicative cues intensifies. Ostensive communication cues may be powerful because they identify the communicator as recognizing the individuality of the addressee, implicitly acknowledging their agency, and generating feelings that contribute to reducing epistemic vigilance and opening the possibility for enduring learning (Fonagy et al., 2015).

Mentalizing is conceptualized as “a means by which epistemic trust is established” (Fonagy & Allison, 2014), thus allowing people to discern who may be considered to be appropriately interested in their welfare, lifting the protection of epistemic vigilance and enabling them to engage fully in interpersonal social learning experiences. This may have particular significance for adolescence. Indeed, as adolescents become increasingly interested in their and others' minds, their increased ability to mentalize alongside neurodevelopmental strides in complex cognition opens up the possibility of gathering swathes of meaningful social knowledge to integrate into their prior experiences (Blakemore & Mills, 2014). Recent literature building on measures of ET has begun to explore the role of mentalizing and ET in clinical or other distressing conditions (Campbell et al., 2021; Jaffrani et al., 2020; Locati et al., 2022). ET is found to be associated with a wide range of mental disorders, both internalizing and externalizing disorders. Indeed, disruptions in ET might help maintain the adoption of maladaptive attributions and interpretations of social communication (Fonagy et al., 2017; Nolte et al., 2019). Difficulties in ET might distort social communication, acting on negative appraisal mechanisms while impairing positive appraisal (Li et al., 2022). It has been suggested that anxiety disorders may be characterized by epistemic freezing, where individuals use cognitive closure, thus relying on rigid knowledge systems, even when misleading or inaccurate, to avoid stressful experiences (Fonagy & Allison, 2014; Luyten et al., 2020; Pierro & Kruglanski, 2008). On the externalizing spectrum, conduct disorder patients are characterized by an absence of ET and a deficit in judging information from others (Manders et al., 2013). These difficulties underlie significant problems in interpersonal understanding that support aggression as a communication strategy (Talia et al., 2021).

While RF, ET, and mental disorders are conceptually linked, almost no studies explored the relationship between mentalizing and psychopathology while considering ET and its role in the dynamics of social communication (Fonagy et al., 2017). ET and mentalizing might both play a complex role in reducing the risk of developing mental disorders, but further evidence of their interplay is needed, especially in adolescence, a developmental phase characterized by an increased risk of mental disorder and major shifts in social roles and social understanding. Adolescence is a critical period to develop a mature capacity to infer others' motivations and intentions and adjust trust behaviors based on social interactions with the physiological increase of their sensitivity to others' perspectives (Lee et al., 2016; van den Bos et al., 2011).

Adolescence is associated with substantial asymmetries signaling emerging girls' vulnerability to mental disorders, especially emotional problems, while boys' mental health problems are more likely to exacerbate in the form of externalizing problems (De Bolle et al., 2012; Sharp & Wall, 2018). The significant role of gender in the development of psychopathology trajectories in childhood and adolescence has been extensively studied but the importance of gender differences in studies on mentalizing in adolescent populations is quite limited (Newlove-Delgado et al., 2021; Sharp & Wall, 2018). For example, research shows that females have an advantage in mentalizing abilities in nonclinical and clinical populations (Baron-Cohen et al., 2005; Lai et al., 2015), perhaps rooted in prioritizing internal cues from infancy (Watson et al., 2011). Recent studies extend this general female advantage effect in considering gender differences in mentalizing errors (Fossati et al., 2018; Poznyak et al., 2019). On the other hand, data on adult populations also suggest that gender does not impact the ability to mentalize. For example, a study found no gender differences in the neural activity in the medial prefrontal cortex during a mentalization task (Krach et al., 2009). Again, another study on clinical populations found significantly greater difficulties in mentalizing in patients with autistic spectrum disorders but not in patients with schizophrenia (Chung et al., 2014).

All in all, the literature on gender specificities in mentalization during adolescence is still scarce.

1.3 | The current study

In summary, previous findings (Ciccharelli et al., 2021; Nolte et al., 2019; Spada et al., 2008; Taubner et al., 2019) showed that RF is associated with both internalizing and externalizing problems. The literature also suggests complex associations between RF and ET (Fonagy & Allison, 2014) and how these may link to the development of mental health problems (Fonagy et al., 2017; Locati et al., 2022). Research has also highlighted the importance of gender differences in the developmental paths

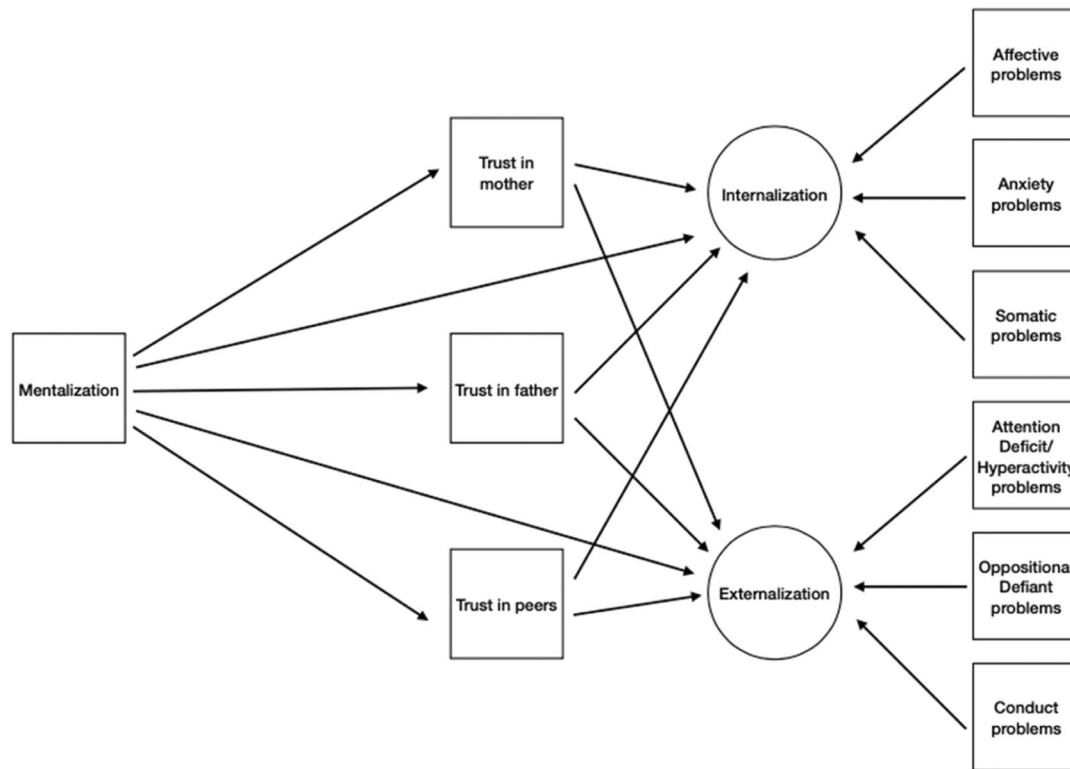


FIGURE 1 Theoretical model for the associations of mentalization, epistemic trust, and latent variables of internalizing and externalizing problems.

of psychopathology in adolescence (Sharp & Wall, 2018); this might indicate specific associations in the interplay of mentalizing, ET, and mental health problems.

The current study aims at addressing gaps in understanding the association between RF and ET in adolescence and their associations with internalizing and externalizing problems. Also, it aims at exploring gender differences in these associations. To the best of our knowledge, this is the first comprehensive empirical contribution aiming to integrate RF, ET, gender differences, and their associations with mental health problems in nonclinical adolescents.

The specific objectives of the study are twofold. First, we want to test a theoretical model that includes the associations between RF, ET, and latent variables of internalizing (affective, anxiety, somatization) and externalizing (ADHD, oppositional, and conduct disorder) problems, aiming at gender invariance (Figure 1). Second, we want to explore gender differences in direct and indirect associations with psychopathology in this model.

First, based on the theoretical model outlined above (Fonagy & Allison, 2014; Fonagy et al., 2017), we anticipate RF and ET to display inverse associations with internalizing and externalizing problems. Moreover, ET will act as a mediator in the association between RF and internalizing and externalizing problems. Thus, the higher ability of adolescents to reflect on themselves and interpersonal-related experiences, the greater epistemic trust, which enables greater access to social learning, will associate with lower psychopathology.

Second, we expect females and males to display associations between RF and psychopathology. As no quantitative literature is available, we hypothesize that, in line with Fonagy and Allison (2014), indirect associations from RF through ET to mental health problems will emerge in both females and males. Moreover, given the exploratory nature of this contribution and the lack of available evidence, we do not have a specific hypothesis on the gender-specific associations.

2 | MATERIAL AND METHOD

2.1 | Participants and settings

The study is based on cross-sectional data collection. Participants were recruited in 2022 from 11 secondary schools in Italy. Informed consent was obtained from both parents and adolescents. Adolescents' participation was voluntary, and they did not receive any incentive for their study enrollment. Students received a unique reference code and completed self-report

questionnaires via a private web link to ensure anonymity. The Ethical Committee of the University of Milano-Bicocca approved all materials and procedures.

Participants were 447 cisgender adolescents (57% assigned females at birth; age range 12–19 years old; $M_{\text{age}} = 15.54$, $SD = 1.98$). Subjects self-reported their ethnicity as Caucasian (85%), Latino (13%), or Asian (2%), with all participants fluent Italian speakers.

To determine the minimum number of participants required to detect at least small effects, an a-priori power analysis was conducted using the R package *semPower*. Alpha and RMSEA levels were set to .05. Results indicated that for two latent variables and 10 observed variables, the required sample size to achieve 80% power to reject a wrong model was $N = 411$. Thus, the obtained sample size of $N = 447$ is sufficiently powered for the study.

2.2 | Measures

2.2.1 | Epistemic trust

Inventory of Parent and Peer Attachment (IPPA) (Armsden & Greenberg, 1989; Guarnieri et al., 2010). The IPPA is a 75-item self-report questionnaire exploring attachment security in adolescents from 13 to 18 years old, which includes three forms for mother, father, and peers. In each form, the item format is a 5-point Likert scale from 1 (“almost always or always true”) to 5 (“almost never or never true”). Each form yields an overall score for attachment security as well as three subscale scores: Trust (example item “I trust my mother/father/friends”), communication (example item “I tell my mother/father/friends about my problems and troubles”) and Alienation (example item “I get upset a lot more than my mother/father/friends knows about”). Following previous studies (Orme et al., 2019), we adopted the IPPA Trust scale as an operationalization of the Epistemic Trust concept, that is, as an indication of the degree to which the adolescents felt able to rely on attachment figures and peers. All scales showed excellent internal consistency: $\alpha = .92$ (ET in father and mother) and $\alpha = .93$ (ET in peers). Higher scores on this scale indicate higher mother, father, or peers ET.

2.2.2 | Internalizing and externalizing problems

Youth Self Report (YSR) (Achenbach & Rescorla, 2001). The YSR is a 112-item self-report measure that assesses general psychological and mental health problems. Each item is scored on a 3-point scale (0 = “not true” to 2 = “very or often true”). The measure yields Empirical Syndrome scores and DSM-Oriented scores. For this study, we utilized the YSR DSM-Oriented scales assessing internalizing and externalizing problems as defined in the DSM-IVR (APA, 2013): the scales include the internalizing spectrum affective problems (items exploring depression and dysthymia), anxiety problems (items exploring generalized anxiety, separation anxiety, and specific phobia), somatic problems (items exploring somatization), and for the externalizing spectrum attention-deficit/hyperactivity problems (items exploring attention-deficit/hyperactivity disorder), oppositional defiant problems (items exploring oppositional defiant disorder), and conduct problems (items exploring conduct disorder). All scales showed acceptable to good internal consistency: $\alpha = .65$ (oppositional defiant problems) to $\alpha = .85$ (affective problems). Higher scores in these two scales indicate greater psychological problems.

2.2.3 | Mentalizing

The initial operationalization of mentalization in adolescence using the Reflective Functioning Questionnaire for Youth (RFQ-Y) highlighted the need for more psychometrically stable measures to explore this complex construct (Ha et al., 2013). Recently, Sharp et al. (2022) used item-level analysis on the original self-report Scale B via item response theory (IRT) and developed a reduced item set with valid psychometric properties that were used in our study.

Reflective Functioning Questionnaire Youth-5 (RFQY-5) (Sharp et al., 2022) is a 5-item self-report measure of reflective functioning aimed at adolescents. The RFQY-5 allows exploring a specific facet of mentalization, that is, the way adolescents think about themselves and others, allowing for perspective taking on mental states behind behaviors and feelings, on a 6-point Likert scale ranging from “strongly disagree” to “strongly agree” (i.e., “I pay attention to my feelings”, “In an argument, I keep the other person's point of view in mind”, “I like to think about reasons behind my actions”, “I'm often curious about the meaning behind others' actions”, and “I pay attention to the impact of my actions on others' feelings”). Notably, the RFQY-5 only explores explicit features mentalizing but not implicit ones. The scale showed acceptable internal consistency $\alpha = .73$. Higher scores indicate higher reflective functioning (RF).

2.3 | Statistical analyses

Statistical analyses were conducted using RStudio ver. 2022.07.2 (Rstudio Team, 2022). In addition, we used descriptive statistics to explore the participants' general characteristics and Pearson's correlations between the study variables using the *psych* package (Revelle, 2022). A confirmatory factor analysis (CFA) verified whether the latent variables for internalization, indicated by anxiety problems, affective problems, and somatic problems, and externalization, indicated by attention-deficit/hyperactivity, oppositional defiant problems, and conduct problems, were adequately represented. To test our hypotheses, we performed structural equation modeling (SEM) using the *lavaan* package (Rosseel, 2012).

2.4 | Theoretical model testing

First, we tested a model that examined the role of ET_M, ET_F, and ET_P in the association between RF and mental health problems.

The model was computed using a weighted least squares—mean and variance adjusted (WLSMV) estimator (Li, 2016) to account for Likert-based ordinal measurements. The fit of the model was evaluated by accounting for complementary goodness of fit indexes (Ullman & Bentler, 2012): chi-square (χ^2) statistic (if χ^2 is not significant, it means that model fit with the observed data; however, this statistic is sensitive to sample size and needs to be interpreted adopting a multifaceted approach) (Bollen, 1989); Comparative Fit Index (CFI) and Tucker-Lewis Index (TLI) (values ≥ 0.95 indicate a good fit, values ≥ 0.90 indicate an adequate fit); root mean square error of approximation (RMSEA) (values < 0.05 indicate an excellent model fit, values between 0.05 and 0.08 moderate fit, and values between 0.08 and 0.10 acceptable fit, such as the nonstatistical significance of its associated 90% confidence interval [CI]).

We computed direct associations (paths' coefficients from RF to mental health problems), indirect associations (paths' coefficients from RF to ET_M, ET_F, ET_P X paths' coefficients from ET_M, ET_F, ET_P to mental health problems), and total associations (direct associations + indirect associations). To examine the significance of the indirect associations, we used 95% bootstrap CIs and tested all possible indirect associations (MacKinnon & Fairchild, 2009).

To assess gender invariance, we used multigroup SEM accounting for (a) a configural invariance model with invariant factor loading patterns, (b) a metric invariance model with invariant factor loadings, and (c) a scalar invariance model with invariant factor loadings and intercepts; (d) a residual factorial invariance model with invariant indicator residual variances. We relied on the difference in χ^2 ($\Delta\chi^2$) test between nested models to identify the best fitting model. The models' predictive and explanatory powers were assessed with path coefficients and R^2 .

2.5 | Theoretical model testing in females and males

To assess gender differences, the theoretical model was tested separately for females and males to highlight specific pathways in the associations between RF, ET, and mental health problems. In all analyses, where meaningful according to the parsimony principle, we accounted for age as a covariate.

3 | RESULTS

Table 1 shows means and standard deviations for all female and male variables.

Table 2 shows Pearson's correlations between the variables included in the study.

The measurement model for internalizing and externalizing psychopathology evidenced adequate fitting, allowing covariance between anxiety problems and conduct problems, and oppositional defiant problems and conduct problems (χ^2 (df) = 7.48 (6), p = .278; χ^2/df = 1.25; CFI = 0.99; TLI = 0.99; RMSEA = 0.02 [90% CI 0.00–0.07], p = .787). Standardized loadings ranged from 0.51 (conduct problems) to 0.94 (affective problems) across all variables.

3.1 | Associations of RF, ET, and latent variables of mental health problems

A theoretical model was tested, including RF direct and indirect associations in the relationship between ET and mental health problems. Age was included in the model as a covariate.

The fit indices of the model showed a close to adequate fitting model (χ (df) = 112.28(34), p < .001; χ/df = 3.30; CFI = 0.90; TLI = 0.84; RMSEA = 0.07 [90% CI 0.06–0.09], p = .004).

TABLE 1 Means and standard deviations for reflective functioning, epistemic trust, and internalizing and externalizing problems in females and males.

| Descriptives | | | | |
|--|---------|-----|-------|------|
| | Gender | N | Mean | SD |
| Reflective functioning | Males | 193 | 4.01 | 1.00 |
| | Females | 254 | 4.14 | 0.91 |
| Trust in mother | Males | 191 | 34.03 | 5.18 |
| | Females | 251 | 31.51 | 8.30 |
| Trust in father | Males | 185 | 32.21 | 6.21 |
| | Females | 238 | 29.39 | 8.31 |
| Trust in peers | Males | 193 | 36.63 | 7.42 |
| | Females | 254 | 35.75 | 7.76 |
| Affective problems | Males | 191 | 17.60 | 3.86 |
| | Females | 251 | 23.00 | 5.57 |
| Anxiety problems | Males | 191 | 9.12 | 2.12 |
| | Females | 251 | 11.91 | 2.49 |
| Somatic problems | Males | 192 | 8.19 | 1.89 |
| | Females | 252 | 10.40 | 2.92 |
| Attention deficit/hyperactivity problems | Males | 191 | 11.62 | 2.73 |
| | Females | 251 | 12.69 | 2.74 |
| Oppositional defiant problems | Males | 191 | 8.65 | 1.97 |
| | Females | 251 | 9.26 | 1.90 |
| Conduct problems | Males | 191 | 23.51 | 3.06 |
| | Females | 251 | 23.12 | 3.16 |

Note: Reflective functioning = RFQY-5 (Sharp et al., 2022); trust in mother, trust in father, trust in peers = IPPA (Armsden & Greenberg, 1989); affective problems, anxiety problems, somatic problems, attention-deficit/hyperactivity problems, oppositional defiant problems, conduct problems = YSR-112 (Achenbach & Rescorla, 2001). Abbreviations: IPPA, Inventory of Parent and Peer Attachment; RFQY-5, Reflective Functioning Questionnaire Youth-5; SD, standard deviation; YSR-112, Youth Self Report-112.

TABLE 2 Pearson's correlations between reflective functioning, epistemic trust, and internalizing and externalizing problems.

| | Internalizing problems | Externalizing problems | Trust in mother | Trust in father | Trust in peers | Reflective functioning |
|------------------------|------------------------|------------------------|-----------------|-----------------|----------------|------------------------|
| Internalizing problems | — | | | | | |
| Externalizing problems | .604*** | — | | | | |
| Trust in mother | -.487*** | -.432*** | — | | | |
| Trust in father | -.445*** | -.360*** | .431*** | — | | |
| Trust in peers | -.239*** | -.118* | .208*** | .203*** | — | |
| Reflective functioning | -.030 | -.195*** | .208*** | .098* | .226*** | — |

Note: *** $p \leq .001$; ** $p \leq .01$; * $p \leq .05$. Reflective functioning = RFQY-5 (Sharp et al., 2022); trust in mother, trust in father, trust in peers = IPPA (Armsden & Greenberg, 1989); internalizing and externalizing problems are calculated as factorial scores = YSR-112 (Achenbach & Rescorla, 2001). Abbreviations: IPPA, Inventory of Parent and Peer Attachment; RFQY-5, Reflective Functioning Questionnaire Youth-5; SD, standard deviation; YSR-112, Youth Self Report-112.

We examined modification indices to improve model fit. Thus, we allowed ET residual variances to correlate (ET_M with ET_F, ET_F with ET_P). The fit indices of the model were satisfactory ($\chi^2(df) = 52.33(32)$, $p < .05$; $\chi^2/df = 1.63$; CFI = 0.97; TLI = 0.96; RMSEA = 0.04 [90% CI 0.02–0.06], $p = .814$).

Positive associations were found between RF and ET: the higher RF, the higher ET in the mother, father, and peers. On the one side, a positive association was found between RF and the latent variable of internalizing problems; on the other, a

negative association was found between RF and the latent variable of externalizing problems. Finally, negative associations were found between ET and mental health problems (see Figure 2 for direct associations). Moreover, indirect associations were observed in the model.

Considering ET_M as a mediator, the total effect of the association between RF and internalizing problems ($\beta = .18$, 95% bootstrap CI [0.03–0.33]) and the indirect effect through ET_M to internalizing problems ($\beta = -.11$, 95% bootstrap CI [–1.08 to –0.26]) were significant. Moreover, the total effect of the association between RF and externalizing problems ($\beta = .20$, 95% bootstrap CI [0.05–0.36]) and the indirect effect through ET_M to externalizing problems ($\beta = -.10$, 95% bootstrap CI [–0.33 to –0.08]) were significant.

Also, considering ET_P as a mediator, the total effect of the association between RF and internalizing problems ($\beta = .23$, 95% bootstrap CI [0.09–0.37]) and the indirect effect through ET_P to internalizing problems ($\beta = -.06$, 95% bootstrap CI [–0.56 to –0.04]) were significant.

The model explained a total variance of 39% of internalizing problems and 29% of externalizing problems.

When testing for gender invariance, the baseline model showed an acceptable fit, supporting configural invariance. In the next step, equality constraints were imposed on all factor loadings to examine metric invariance. The resulting model also achieved an acceptable fit (i.e., items were related to the latent factor equivalently across groups) ($\chi^2(df) = 100.91(68)$, $p = .006$; $\chi^2/df = 1.12$; CFI = 0.95; TLI = 0.92; RMSEA = 0.05 [90% CI 0.03–0.07], $p = .529$). Equality constraints were imposed on all thresholds to test scalar invariance: this model did not achieve an acceptable fit.

3.2 | Gender differences

Overall, data showed no significant gender differences in RF, $t(445) = -0.96$, $p = .338$, and ET_P, $t(445) = 1.60$, $p = .106$. Thus, the ability to reflect on self and others' mental states was not different in females and males (i.e., the means of RF measured in the two groups did not significantly differ). Similarly, the levels of ET in peers were not statistically different between girls and boys. However, significant gender differences emerged in ET_M, $t(440) = 3.85$, $p < .001$ and in ET_F, $t(421) = 4.18$, $p < .001$. Indeed, males displayed higher levels of ET in the mother and in the father compared with females.

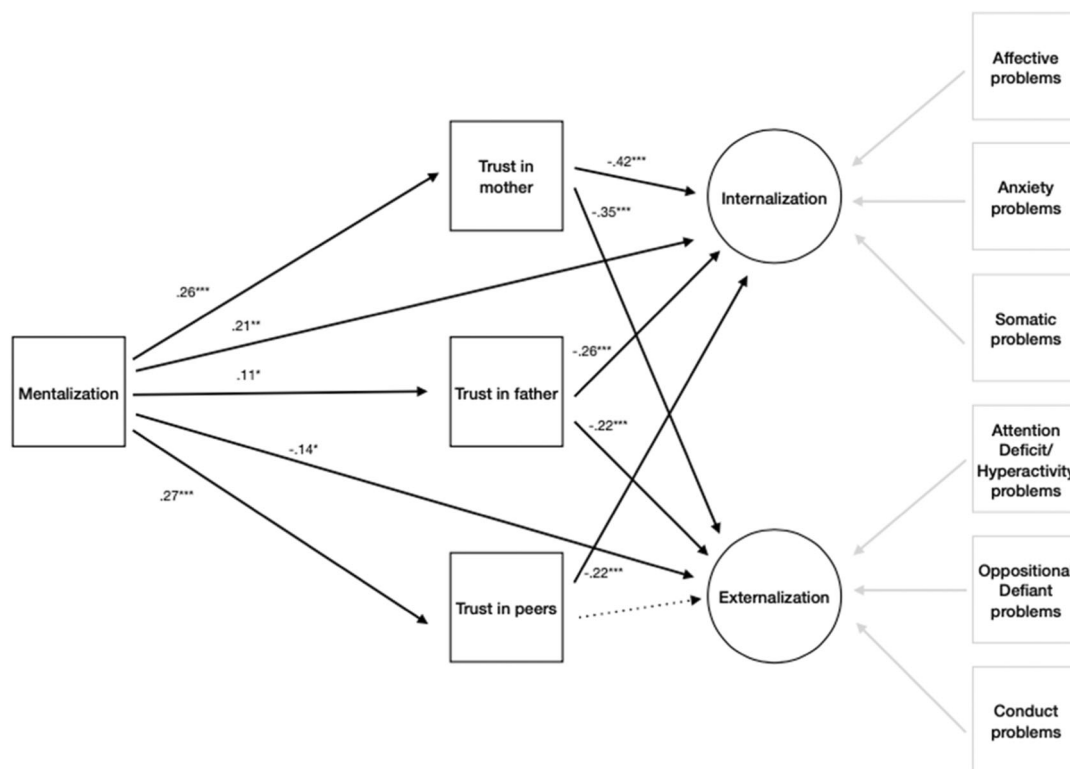


FIGURE 2 Model for the associations of mentalization, epistemic trust, and latent variables of internalizing and externalizing problems using structural equation modeling (SEM). To improve the clarity of the figure, factor loadings were not included. Age was included in the model as a covariate for Mentalization. Solid lines represent statistically significant direct associations, and dashed lines represent nonsignificant associations. Only statistically significant standardized estimates are provided in the model. *** $p \leq .001$; ** $p \leq .01$; * $p \leq .05$.

Associations of RF, ET, and latent variables of mental health problems in females

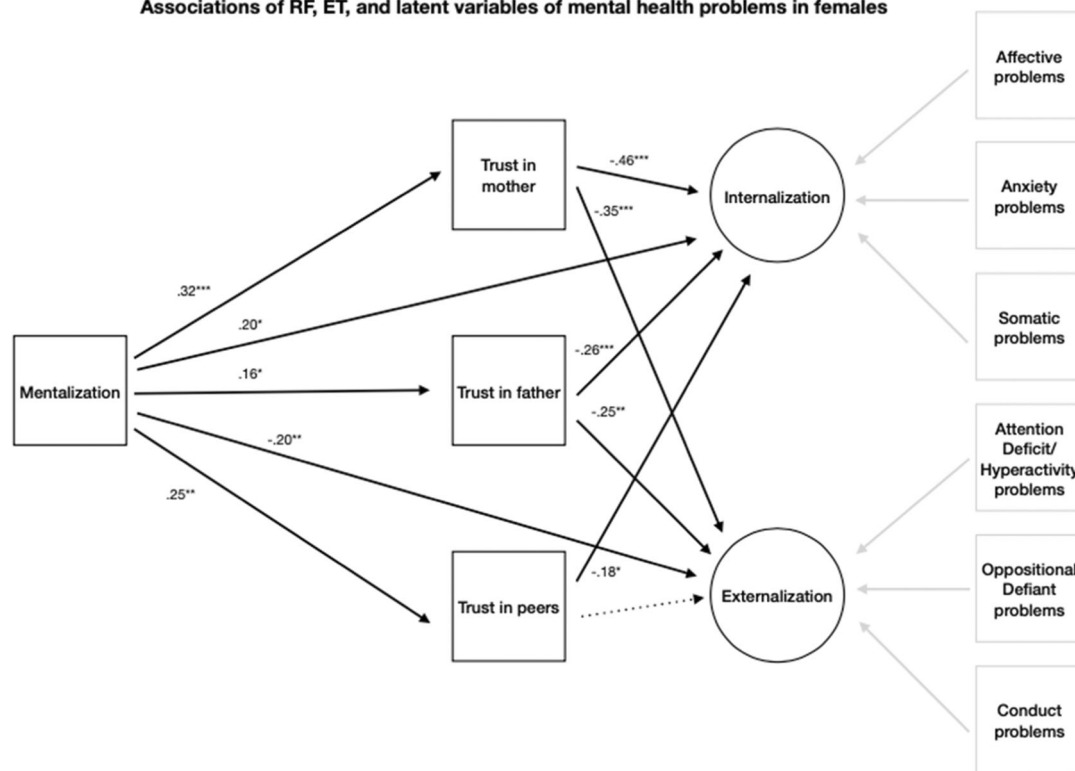


FIGURE 3 Model for the associations of mentalization, epistemic trust, and latent variables of internalizing and externalizing problems using structural equation modeling (SEM) in females. To improve the clarity of the figure, factor loadings were not included. Age was included in the model as a covariate for Mentalization. Solid lines represent statistically significant direct associations, and dashed lines represent nonsignificant associations. Only statistically significant standardized estimates are provided in the model. *** $p \leq .001$; ** $p \leq .01$; * $p \leq .05$. ET, epistemic trust; RF, reflective functioning.

In females, positive associations were found between RF and all variables of ET. More specifically, a positive association was found between RF and internalization, and a negative association was found between RF and externalization. Finally, negative associations were found between ET and mental health problems (see Figure 3 for direct associations).

Moreover, considering ET_M as a mediator, the total effect of the association between RF and internalizing problems ($\beta = .08$, 95% bootstrap CI [-0.17 to 0.32]) was not significant, and the indirect effect through ET_M to internalization ($\beta = -.15$, 95% bootstrap CI [-1.40 to -0.26]) was significant. Moreover, the total effect of the association between RF and externalizing problems ($\beta = .10$, 95% bootstrap CI [-0.16 to 0.36]) was not significant, and the indirect effect through ET_M to externalizing problems ($\beta = -.12$, 95% bootstrap CI [-0.39 to -0.02]) was significant.

Also, considering ET_P as a mediator, the total effect of the association between RF and internalizing problems ($\beta = .14$, 95% bootstrap CI [-0.09 to 0.37]) was not significant, and the indirect effect through ET_P to internalizing problems ($\beta = -.05$, 95% bootstrap CI [-0.05 to 0.11]) was significant.

The model explained a total variance of 38% of internalizing problems and 34% of externalizing problems.

In males, positive associations were found between RF and ET_M, RF and ET_P. More, a positive association was found between RF and internalization. No direct associations were found between RF and externalization. Finally, negative associations were found between ET_M and ET_P and mental health problems (see Figure 4 for direct associations). No indirect associations were found.

The model explained a total variance of 34% of internalizing problems and 23% of externalizing problems.

4 | DISCUSSION

This study aimed to present a comprehensive empirical contribution exploring the associations of mentalization, epistemic trust, and mental health problems in adolescence, accounting for gender-specific relations within this framework. The study broke new ground in several ways.

First, we developed a model for RF and ET associated with adolescents' psychopathology. In line with our initial hypothesis, the model accounted for the concurrent association of RF and ET and their mutual interactions, suggesting a

Associations of RF, ET, and latent variables of mental health problems in males

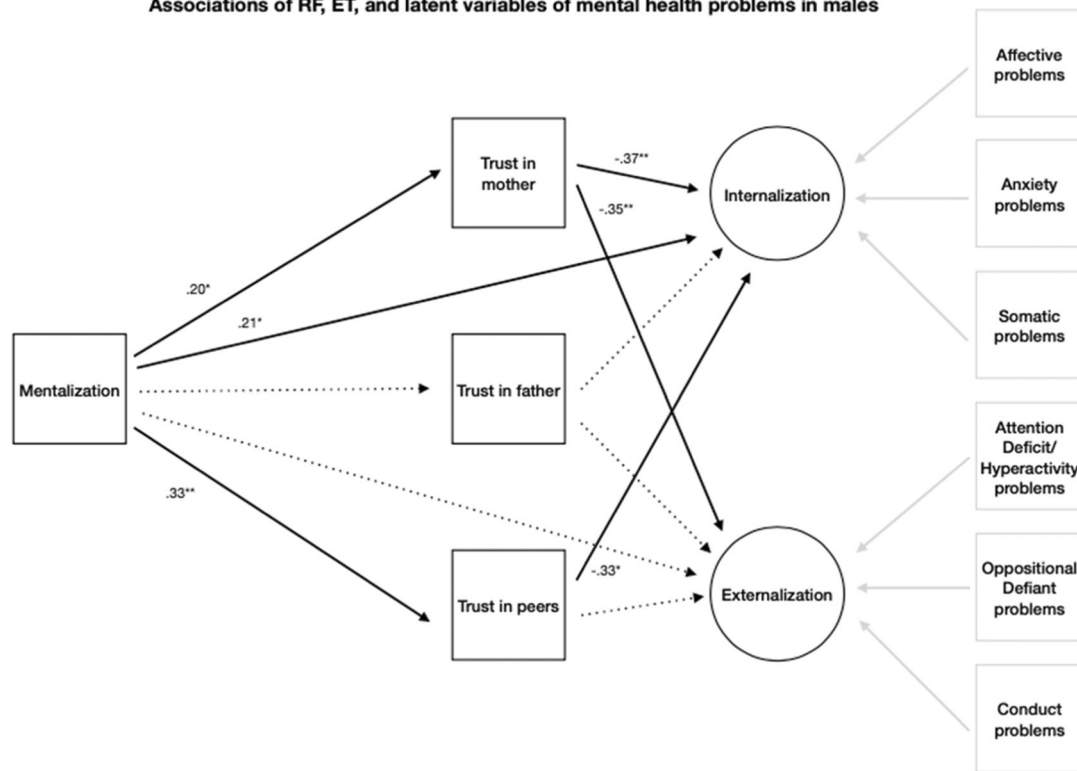


FIGURE 4 Model for the associations of mentalization, epistemic trust, and latent variables of internalizing and externalizing problems using structural equation modeling (SEM) in males. To improve the clarity of the figure, factor loadings were not included. Age was included in the model as a covariate for Mentalization. Solid lines represent statistically significant direct associations, and dashed lines represent nonsignificant associations. Only statistically significant standardized estimates are provided in the model. *** $p \leq .001$; ** $p \leq .01$; * $p \leq .05$. ET, epistemic trust; RF, reflective functioning.

complex framework for females and males linking these parameters to mental health problems. This model might align with the theoretical and clinical considerations that when adolescents are curious about their and others' minds, it opens up the possibility of gathering meaningful and useful knowledge from others (Fonagy & Allison, 2014).

The comprehensive model highlighted how RF is associated with psychopathology (see Figure 2). More specifically, RF is positively associated with internalizing psychopathology (affective, anxiety, and somatic disorders) and negatively associated with externalizing problems (ADHD, oppositional, and conduct disorders). The latter is understandable since a lower ability to reflect on one's mental state is associated with greater uncontrolled behavior. On the other hand, in line with recent contributions, it seems that in adolescents prone to internalizing, greater awareness of one's mental states might be associated with higher anxious/depressive features (Benzi et al., 2023). Moreover, in line with the literature, in the theoretical model, RF and ET (toward father, mother, and peers) are positively linked (Fonagy & Allison, 2014). These associations raise further questions. Indeed, descriptive data align with previous studies that found no associations between the ability to reflect on self and others' mental states and internalizing problems (Duval et al., 2018; Lind et al., 2020); reflective functioning was not associated with internalizing problems per se. However, when accounting for adolescents' capacity to trust that information from others is reliable and valuable, the contribution of their ability to interpret their experiences through the lens of intentional mental states emerged. Indeed, the model highlighted the specific association between ET in mother and peers and internalizing problems: moreover, the negative relationship between RF and internalizing problems is transformed via adolescents' trust towards the social communicative environment with mother and peers. This finding might highlight, in line with Fonagy and Allison's conceptualization, the close interplay between RF and ET; ET, in adolescents who are particularly aware of their and others' mental states, might act as a mechanism that allows them to open up to the interpersonal world as a source of helpful information and growth, thus leading to lower internalizing symptomatology.

Moreover, the present model is even more informative when gender differences are considered. Indeed, we explored the specificities of this framework in females and males. Previous literature revealed that females have an advantage in mentalizing abilities (Baron-Cohen et al., 2005; Lai et al., 2015). However, our findings do not support these studies, as no differences in mentalizing between males and females were found. This might be related to having measured a more cognitive aspect of mentalizing (Sharp et al., 2022).

However, when considering the specific associations for our model, a meaningful difference for females emerged in the role of RF in the association with ET. Indeed, findings supported the positive relationship of RF with ET in father, mother, and peers. Also, higher RF showed a direct positive association with internalizing problems and a direct negative association with externalizing problems. On the one hand, the findings suggest that a greater propensity to reflection is associated with a greater propensity to manifest an anxious phenotype (Benzi et al., 2022). Conversely, in line with previous contributions, a greater ability to reflect on mental states is associated with a decrease in externalizing aspects (Manders et al., 2013; Talia et al., 2021).

Moreover, data for females showed specific associations between RF and mental health problems through ET. Indeed, ET in the mother negatively mediated the inverse association of RF and psychopathology. Furthermore, ET in peers negatively mediated the direct association of RF and internalizing problems.

These findings are in line with the comprehensive model discussed above. The findings suggest that ET, as expected, plays a bridging role between RF and mental health problems. Indeed, the possibility for girls to reflect, combined with a trusting communication channel with significant others, is associated with lower internalizing and externalizing problems. In particular, the role of ET toward the mother is associated with lower affective, anxious, and somatic symptoms and externalizing behaviors. At the same time, the higher ET in peers, the lower internalizing problems.

As discussed above, nuances of the association between RF and psychopathology emerged in the findings. On the one hand, in line with the existing literature, a lower ability to understand the self and others in terms of mental states corresponds to higher behavioral dysregulation (Chow et al., 2017; Bizzi et al., 2019). In addition, when ET is considered, lower RF is associated with greater difficulty in trusting maternal communication, which is in turn associated with greater difficulties in managing impulsive behaviors.

On the other hand, the association between RF and internalizing problems emerges only when ET is considered, highlighting the need for further longitudinal studies to disentangle these apparently contradictory associations (Duval et al., 2018; Fonagy & Luyten, 2009; Lind et al., 2020; Luyten & Fonagy, 2018; Luyten et al., 2019).

These findings suggest the possibility of hypothesizing a dimensional effect, where adolescents good at mentalizing may be paradoxically more vulnerable to overthinking (Sharp et al., 2013). ET mediates this effect by providing a different perspective that can support regulating overthinking. In this direction, mentalizing may describe adaptive processing in close association with other forms of social information (Fonagy et al., 2019).

A different scenario emerged for males where only direct associations of RF and ET on mental health problems emerged, and no specific links through ET.

Indeed, RF was directly associated only with trust in the mother and peers and no direct association with trust in the father. The former, as pointed out, seems related to males' significant investment in peers as a place to receive meaningful and valuable information. In comparison, females may reveal a more balanced investment in families and peers' trust. Moreover, similarly to girls, higher RF showed a positive association with anxiety problems and a negative association with externalizing problems for adolescent boys. Again, data indicate that a stronger disposition to reflect on mental states was associated with a higher susceptibility to anxiety features.

Interestingly, as no specific pathways from RF to emotional/mental health problems through ET were found in males, ET alone appears to play a role in contrasting psychopathological risks for adolescent boys (i.e., the higher ET in the mother, the lower internalizing, and externalizing symptoms; the higher trust in peers, the lower internalizing problems).

In conclusion, in females, RF and ET co-occur in various dynamics that associate with psychopathology. Females modulate or reinforce their reflective functioning with the ability to trust social communication in a reflective stance oriented to gather useful information from the interpersonal world. Moreover, trust in the mother, father, and peers in females impacts internalizing and externalizing problems.

For male adolescents, RF and ET seem to define a parallel process associated with psychopathology. Trust in the mother plays a wide role in lowering mental health problems, while trust in the father displays no association with the level of boys' psychopathology. Globally, compared to females, male adolescents might activate trust as a protective factor in relation to psychopathology in a more selective way, focusing mainly on peers but not on both parents. In our findings, the absence of an indirect association of RF with psychopathology through ET might reveal a less integrated dynamic of resilience factors.

These findings suggest that ET might be considered a transdiagnostic factor (Fonagy et al., 2019; Wickham et al., 2019) that plays a multifaceted role in the association between RF and adolescent psychopathology. Moreover, data allow for a developmentally sensitive model for emerging psychopathology showing that RF and ET are differently associated in males and females (Benzi et al., 2022; Sharp & Wall, 2018). As greater RF implies an ability for verbal self-reflection, particularly in the RFQY-5 formulation, ET might implicitly allow considering (or not considering) information coming from meaningful interpersonal relationships (family and peers).

Our findings should be interpreted in the context of the study's limitations. The main limitation is that the data collection is cross-sectional; thus, no causal inference can be made, only associations: future studies should collect longitudinal data to test the developmental trajectories of the interaction between RF, ET, and psychopathology. Moreover, despite the sample size allowing for sufficient power for the study, it is important to replicate our results in a larger sample to further confirm the

validity of our findings. Third, the IPPA is a self-report measure developed to assess adolescent attachment styles and is not specifically designed to measure epistemic trust. Previous studies included the IPPA Trust subscale as a preliminary measure of epistemic Trust assessment (Locati et al., 2022; Orme et al., 2019). Although the ETMCQ (Campbell et al., 2021) for assessing epistemic trust in adults has subsequently been developed, no such measure is yet available for adolescents. Fourth, the present study applied only self-report measures; future research should employ clinical interviews to assess mentalizing and psychopathology more in-depth. More specifically, the measure of mentalizing (RFQ-Y5) might capture only an explicit and verbal polarity of mentalizing, hiding an implicit understanding of this construct. Finally, the current results need to be replicated in clinical samples and in larger and culturally diverse populations of adolescents to determine whether the findings can be generalized to these populations.

5 | CONCLUSION

In conclusion, this study adds further evidence to the debate on the relationship between mentalization and psychopathology in adolescents, adding critical information on the role of epistemic trust in females and males. First, it offers a comprehensive approach that encompasses the concurrent associations of RF and ET to mental health problems in adolescence while acknowledging gender-related features. Second, it suggests that higher RF alone might be associated with higher internalizing problems, while lower level of RF might be associated with externalizing problems in both females and males. Third, findings suggest that, in females, RF and ET “work together”, as girls might be more open to reflect on communication from the social context and are able to “use” trustworthy information as a protective factor for internalizing and externalizing symptoms. On the other, in males, RF and ET “work in parallel”, following independent associations with psychopathology.

Ultimately, these findings support further reflections for clinical practice and intervention, highlighting the possibility of working on fostering mentalization and epistemic trust to lower psychopathological risk, while tailoring interventions for females and males. More specifically, working in decelerating mentalizing might help internalize problems, while increasing mentalization may be more beneficial for externalizing disorders. Finally, while epistemic trust works as a protective factor in girls in different ways, focusing on peer dynamics might be more efficient for treatment planning with boys.

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CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request. Data have not been shared on a repository, but they can be requested to the corresponding author.

ETHICS STATEMENT

The study was approved by the local ethical committee. Participants were treated in accordance with the ethical principles stated in the Declaration of Helsinki and given their written consent before the study participation.

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REFERENCES

- Abate, A., Marshall, K., Sharp, C., & Venta, A. (2017). Trauma and aggression: Investigating the mediating role of mentalizing in female and male inpatient adolescents. *Child Psychiatry and Human Development, 48*(6), 881–890.
- Achenbach, T. M., & Rescorla, L. A. (2001). Manual for the ASEBA school-age forms & profiles. *Burling: University of Vermont (Research Center for Children, Youth and Families)*.
- Akça, Ö. F., Wall, K., & Sharp, C. (2021). Divergent mentalization types in adolescent borderline personality disorder and attention deficit/hyperactivity disorder. *Nordic Journal of Psychiatry, 75*(7), 479–486.
- Allen, J. G. (2018). *Mentalizing in the development and treatment of attachment trauma*. Routledge.
- APA. (2013). *Diagnostic and statistical manual of mental disorders* (Vol. 21, 5th ed., pp. 591–643). American Psychiatric Association.
- Armsden, G. C., & Greenberg, M. T. (1989). *Inventory of parent and peer attachment (IPPA)*. University of Washington Seattle.
- Baron-Cohen, S., Knickmeyer, R. C., & Belmonte, M. K. (2005). Sex differences in the brain: Implications for explaining autism. *Science, 310*(5749), 819–823.
- Bateman, A., & Fonagy, P. (2016). *Mentalization based treatment for personality disorders: A practical guide*. Oxford University Press.
- Bateman, A. W., & Fonagy, P. E. (2012). *Handbook of mentalizing in mental health practice*. American Psychiatric Publishing, Inc.

- Benzi, I. M. A., Fontana, A., Barone, L., Preti, E., Parolin, L., & Ensink, K. (2023). Emerging personality in adolescence: Developmental trajectories, internalizing and externalizing problems, and the role of mentalizing abilities. *Journal of Adolescence*, 95(3), 537–552.
- Benzi, I. M. A., Fontana, A., Di Pierro, R., Perugini, M., Cipresso, P., Madeddu, F., Clarkin, J. F., & Preti, E. (2022). Assessment of personality functioning in adolescence: Development of the adolescent personality structure questionnaire. *Assessment*, 29(4), 668–685.
- Bizzi, F., Ensink, K., Borelli, J. L., Mora, S. C., & Cavanna, D. (2019). Attachment and reflective functioning in children with somatic symptom disorders and disruptive behavior disorders. *European Child & Adolescent Psychiatry*, 28(5), 705–717.
- Blakemore, S.-J., & Mills, K. L. (2014). Is adolescence a sensitive period for sociocultural processing? *Annual Review of Psychology*, 65, 187–207.
- De Bolle, M., Beyers, W., De Clercq, B., & De Fruyt, F. (2012). General personality and psychopathology in referred and nonreferred children and adolescents: An investigation of continuity, pathoplasty, and complication models. *Journal of Abnormal Psychology*, 121(4), 958–970.
- Bollen, K. A. (1989). A new incremental fit index for general structural equation models. *Sociological methods & research*, 17(3), 303–316.
- van den Bos, W., van Dijk, E., Westenberg, M., Rombouts, S. A. R. B., & Crone, E. A. (2011). Changing brains, changing perspectives: The neurocognitive development of reciprocity. *Psychological Science*, 22(1), 60–70.
- Campbell, C., Tanzer, M., Saunders, R., Booker, T., Allison, E., Li, E., O'Dowda, C., Luyten, P., & Fonagy, P. (2021). Development and validation of a self-report measure of epistemic trust. *PLoS One*, 16(4), e0250264.
- Casey, B. J., Getz, S., & Galvan, A. (2008). The adolescent brain. *Developmental Review*, 28(1), 62–77.
- Chow, C.-C., Nolte, T., Cohen, D., Fearon, R. M. P., & Shmueli-Goetz, Y. (2017). Reflective functioning and adolescent psychological adaptation: The validity of the Reflective Functioning Scale–Adolescent version. *Psychoanalytic Psychology*, 34(4), 404–413.
- Chung, Y. S., Barch, D., & Strube, M. (2014). A meta-analysis of mentalizing impairments in adults with schizophrenia and autism spectrum disorder. *Schizophrenia Bulletin*, 40(3), 602–616.
- Ciccarelli, M., Nigro, G., D'Olimpio, F., Griffiths, M. D., & Cosenza, M. (2021). Mentalizing failures, emotional dysregulation, and cognitive distortions among adolescent problem gamblers. *Journal of Gambling Studies*, 37(1), 283–298.
- Ciccarelli, M., Nigro, G., D'Olimpio, F., Griffiths, M. D., Sacco, M., Pizzini, B., & Cosenza, M. (2022). The associations between loneliness, anxiety, and problematic gaming behavior during the COVID-19 pandemic: The mediating role of mentalization. *Mediterranean Journal of Clinical Psychology*, 10(1).
- Cosenza, M., Ciccarelli, M., & Nigro, G. (2019). The steamy mirror of adolescent gamblers: Mentalization, impulsivity, and time horizon. *Addictive Behaviors*, 89, 156–162.
- Duval, J., Ensink, K., Normandin, L., Sharp, C., & Fonagy, P. (2018). Measuring reflective functioning in adolescents: Relations to personality disorders and psychological difficulties. *Adolescent Psychiatry*, 8(1), 5–20.
- Dziobek, I., Fleck, S., Kalbe, E., Rogers, K., Hassenstab, J., Brand, M., Kessler, J., Woike, J. K., Wolf, O. T., & Convit, A. (2006). Introducing MASC: A movie for the assessment of social cognition. *Journal of autism and developmental disorders*, 36, 623–636.
- Fischer-Kern, M., & Tmej, A. (2019). *Mentalization and depression: Theoretical concepts, treatment approaches and empirical studies—An overview. Zeitschrift für Psychosomatische Medizin und Psychotherapie*, 65(2), 162–177.
- Fonagy, P. (2003). The developmental roots of violence in the failure of mentalization. *Matter of Security: The Application of Attachment Theory to Forensic Psychiatry and Psychotherapy*, 13, 56.
- Fonagy, P., & Allison, E. (2014). The role of mentalizing and epistemic trust in the therapeutic relationship. *Psychotherapy*, 51(3), 372–380.
- Fonagy, P., Allison, E., & Campbell, C. (2019). Mentalizing, resilience, and epistemic trust. In A. Bateman & P. Fonagy (Eds.), *Handbook of mentalizing in mental health practice* (2nd ed., pp. 63–77). American Psychiatric Association Publishing.
- Fonagy, P., Gergely, G., Jurist, E. L., & Target, M. (2018). *Affect regulation, mentalization, and the development of the self*. Routledge.
- Fonagy, P., & Luyten, P. (2009). A developmental, mentalization-based approach to the understanding and treatment of borderline personality disorder. *Development and Psychopathology*, 21(4), 1355–1381.
- Fonagy, P., & Luyten, P. (2018). Conduct problems in youth and the RDoC approach: A developmental, evolutionary-based view. *Clinical Psychology Review*, 64, 57–76.
- Fonagy, P., Luyten, P., & Allison, E. (2015). Epistemic petrification and the restoration of epistemic trust: A new conceptualization of borderline personality disorder and its psychosocial treatment. *Journal of Personality Disorders*, 29(5), 575–609.
- Fonagy, P., Luyten, P., Allison, E., & Campbell, C. (2017). What we have changed our minds about: Part 2. Borderline personality disorder, epistemic trust and the developmental significance of social communication. *Borderline Personality Disorder and Emotion Dysregulation*, 4(1), 9.
- Fossati, A., Borroni, S., Dziobek, I., Fonagy, P., & Somma, A. (2018). Thinking about assessment: Further evidence of the validity of the movie for the assessment of social cognition as a measure of mentalistic abilities. *Psychoanalytic Psychology*, 35(1), 127–141.
- Gergely, G. (2013). Ostensive communication and cultural learning: The natural pedagogy hypothesis. In J. Metcalfe & H. S. Terrace (Eds.), *Agency and Joint Attention* (pp. 139–151). Oxford Academic.
- Guarnieri, S., Ponti, L., & Tani, F. (2010). The Inventory of Parent and Peer Attachment (IPPA): A study on the validity of styles of adolescent attachment to parents and peers in an Italian sample. *TPM-Testing, Psychometrics, Methodology in Applied Psychology*, 17(3), 103–130.
- Ha, C., Sharp, C., Ensink, K., Fonagy, P., & Cirino, P. (2013). The measurement of reflective function in adolescents with and without borderline traits. *Journal of Adolescence*, 36(6), 1215–1223. <https://doi.org/10.1016/j.adolescence.2013.09.008>
- Jaffrani, A. A., Sunley, T., & Midgley, N. (2020). The building of epistemic trust: An adoptive family's experience of mentalization-based therapy. *Journal of Infant, Child, and Adolescent Psychotherapy*, 19(3), 271–282.
- Krach, S., Blümel, I., Marjoram, D., Lataster, T., Krabbendam, L., Weber, J., van Os, J., & Kircher, T. (2009). Are women better mindreaders? Sex differences in neural correlates of mentalizing detected with functional MRI. *BMC Neuroscience*, 10(1), 9.
- Lai, M.-C., Lombardo, M. V., Auyeung, B., Chakrabarti, B., & Baron-Cohen, S. (2015). Sex/gender differences and autism: Setting the scene for future research. *Journal of the American Academy of Child and Adolescent Psychiatry*, 54(1), 11–24.
- Lee, N. C., Jolles, J., & Krabbendam, L. (2016). Social information influences trust behaviour in adolescents. *Journal of Adolescence*, 46, 66–75.
- Li, C. H. (2016). The performance of ML, DWLS, and ULS estimation with robust corrections in structural equation models with ordinal variables. *Psychological methods*, 21(3), 369.
- Li, E. T., Midgley, N., Luyten, P., Sprecher, E. A., & Campbell, C. (2022). Mapping the journey from epistemic mistrust in depressed adolescents receiving psychotherapy. *Journal of Counseling Psychology*, 69, 678–690.
- Lind, M., Vanwoerden, S., Penner, F., & Sharp, C. (2020). Narrative coherence in adolescence: Relations with attachment, mentalization, and psychopathology. *Journal of Personality Assessment*, 102(3), 380–389.

- Locati, F., Milesi, A., Conte, F., Campbell, C., Fonagy, P., Ensink, K., & Parolin, L. (2022). Adolescence in lockdown: The protective role of mentalizing and epistemic trust. *Journal of Clinical Psychology, 79*(4), 969–984.
- Luyten, P., Campbell, C., & Fonagy, P. (2020). Borderline personality disorder, complex trauma, and problems with self and identity: A social-communicative approach. *Journal of Personality, 88*(1), 88–105.
- Luyten, P., & Fonagy, P. (2018). The stress–reward–mentalizing model of depression: An integrative developmental cascade approach to child and adolescent depressive disorder based on the Research Domain Criteria (RDoC) approach. *Clinical Psychology Review, 64*, 87–98.
- Luyten, P., Fonagy, P., Lowyck, B., & Vermote, R. (2012). *Assessment of mentalization*.
- Luyten, P., De Meulemeester, C., & Fonagy, P. (2019). Psychodynamic therapy in patients with somatic symptom disorder. In *Contemporary psychodynamic psychotherapy* (pp. 191–206). Elsevier.
- MacKinnon, D. P., & Fairchild, A. J. (2009). Current directions in mediation analysis. *Current Directions in Psychological Science, 18*(1), 16–20.
- Manders, W. A., Deković, M., Asscher, J. J., van der Laan, P. H., & Prins, P. J. M. (2013). Psychopathy as predictor and moderator of multisystemic therapy outcomes among adolescents treated for antisocial behavior. *Journal of Abnormal Child Psychology, 41*(7), 1121–1132.
- Mascaro, O., & Kovács, Á. M. (2022). The origins of trust: Humans' reliance on communicative cues supersedes firsthand experience during the second year of life. *Developmental Science, 25*(4), e13223.
- Möller, C., Falkenström, F., Holmqvist Larsson, M., & Holmqvist, R. (2014). Mentalizing in young offenders. *Psychoanalytic Psychology, 31*(1), 84–99.
- Newlove-Delgado, T., Williams, T., Robertson, K., McManus, S., Sadler, K., Vizard, T., Cartwright, C., Mathews, F., Norman, S., & Marcheselli, F. (2021). *Mental health of children and young people in England 2021-wave 2 follow up to the 2017 survey*.
- Nolte, T., Campbell, C., & Fonagy, P. (2019). A mentalization-based and neuroscience-informed model of severe and persistent psychopathology. *The Neurobiology Psychotherapy-Pharmacology Intervention Triangle: The Need for Common Sense in 21st Century Mental Health*, p. 61.
- Orme, W., Bowersox, L., Vanwoerden, S., Fonagy, P., & Sharp, C. (2019). The relation between epistemic trust and borderline pathology in an adolescent inpatient sample. *Borderline Personality Disorder and Emotion Dysregulation, 6*(1), 13. <https://doi.org/10.1186/s40479-019-0110-7>
- Pierro, A., & Kruglanski, A. W. (2008). “Seizing and freezing” on a significant-person schema: Need for closure and the transference effect in social judgment. *Personality and Social Psychology Bulletin, 34*(11), 1492–1503.
- Poznyak, E., Morosan, L., Perrone, N., Speranza, M., Badoud, D., & Debbané, M. (2019). Roles of age, gender and psychological difficulties in adolescent mentalizing. *Journal of Adolescence, 74*, 120–129.
- Ramires, V. R. R., Carvalho, C., Polli, R. G., Goodman, G., & Midgley, N. (2020). The therapeutic process in psychodynamic therapy with children with different capacities for mentalizing. *Journal of Infant, Child & Adolescent Psychotherapy, 19*, 358–370. <https://doi.org/10.1080/15289168.2020.1812323>
- Revelle, W. (2022). Psych: procedures for psychological, psychometric, and personality research. 2020. *R package version, 2*(7).
- Rosseel, Y. (2012). Lavaan: An R package for structural equation modeling. *Journal of statistical software, 48*, 1–36.
- Schattner, E., Shahar, G., & Abu-Shakra, M. (2008). “I used to dream of lupus as some sort of creature”: Chronic illness as an internal object. *American Journal of Orthopsychiatry, 78*(4), 466–472.
- Shai, D., & Belsky, J. (2011). When words just won't do: Introducing parental embodied mentalizing. *Child Development Perspectives, 5*(3), 173–180.
- Sharp, C., Ha, C., Carbone, C., Kim, S., Perry, K., Williams, L., & Fonagy, P. (2013). Hypermentalizing in adolescent inpatients: Treatment effects and association with borderline traits. *Journal of Personality Disorders, 27*(1), 3–18.
- Sharp, C., Steinberg, L., McLaren, V., Weir, S., Ha, C., & Fonagy, P. (2022). Refinement of the Reflective Function Questionnaire for Youth (RFQY) Scale B using item response theory. *Assessment, 29*(6), 1204–1215.
- Sharp, C., & Venta, A. (2013). Mentalizing problems in children and adolescents. In *Minding the Child* (pp. 49–67). Routledge.
- Sharp, C., & Wall, K. (2018). Personality pathology grows up: Adolescence as a sensitive period. *Current Opinion in Psychology, 21*, 111–116. <https://doi.org/10.1016/j.copsyc.2017.11.010>
- Sharp, C., Williams, L. L., Ha, C., Baumgardner, J., Michonski, J., Seals, R., Patel, A. B., Bleiberg, E., & Fonagy, P. (2009). The development of a mentalization-based outcomes and research protocol for an adolescent inpatient unit. *Bulletin of the Menninger Clinic, 73*(4), 311–338.
- Spada, M. M., Nikčević, A. V., Moneta, G. B., & Wells, A. (2008). Metacognition, perceived stress, and negative emotion. *Personality and Individual Differences, 44*(5), 1172–1181.
- Sperber, D., Clément, F., Heintz, C., Mascaro, O., Mercier, H., Origg, G., & Wilson, D. (2010). Epistemic vigilance. *Mind & Language, 25*(4), 359–393.
- Suchman, N. E., DeCoste, C., Borelli, J. L., & McMahon, T. J. (2018). Does improvement in maternal attachment representations predict greater maternal sensitivity, child attachment security and lower rates of relapse to substance use? A second test of mothering from the inside out treatment mechanisms. *Journal of Substance Abuse Treatment, 85*, 21–30.
- Talia, A., Duschinsky, R., Mazzarella, D., Hauschild, S., & Taubner, S. (2021). Epistemic trust and the emergence of conduct problems: Aggression in the service of communication. *Frontiers in Psychiatry, 12*, 710011.
- Taubner, S., Gablonski, T. C., & Fonagy, P. (2019). Conduct disorder. In *Handbook of mentalizing in mental health practice* (pp. 301–322). American Psychiatric Publishing, Inc.
- Team, R. (2022). *RStudio: Integrated development environment for R*. Boston, MA: RStudio, PBC 2020.
- Ullman, J. B., & Bentler, P. M. (2012). Structural equation modeling. In *Handbook of psychology* (Vol. 2, 2nd ed.). Guilford Press.
- Watson, J. S., Futo, J., Fonagy, P., & Gergely, G. (2011). Gender and relational differences in sensitivity to internal and external cues at 12 months. *Bulletin of the Menninger Clinic, 75*(1), 64–93.
- Wickham, A. L. (2019). *The role of epistemic trust in the treatment of major depressive disorder* [Doctoral dissertation, UCL (University College London)].

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