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ABSTRACT

The aims of this study were to investigate the associations between impairments and imbalances in children's mental state talk, attachment security and abuse/neglect experiences, and to study how much of the variance in internalizing and externalizing problems was explained by mentalization problems. The sample included 100 Turkish children (M Age = 7.00 ($SD = 2.01$), 38% girls) referred to a outpatient psychotherapy clinic. Children were administered an attachment-based story stem task in order to code attachment security and different categories of mental state talk, including the extent of their direction (self vs other), balance, and appropriateness. Parents and teachers filled out socio-behavioral function scales. Findings indicated a significant positive association between externalizing problems and impaired mentalization. Internalizing problems were associated with mentalizing the other at the expense of one's own mental states and underusing emotions. Attachment insecurity and adverse experiences were associated with mentalization impairments and imbalances. Finally, underuse of emotions and self-focused mental state talk predicted internalizing problems and impaired mental state talk predicted externalizing problems at trend level of significance. Qualitative analyses supported the results, which suggest that whereas children with externalizing problems suffer from severe mentalization deficits, children with internalizing problems undermentalize about themselves and emotions.

Mentalization has been defined as the attempt to infer mental states in one's self and others, and the ability to accurately – but tentatively- interpret behaviors and interpersonal interactions as motivated by underlying mental states (i.e., feelings, needs, wishes, beliefs and/or purposes; P. Fonagy et al., 1998). Mentalization is a developmental achievement, which is affected by the quality of attachment relationships. The child's interaction with a sensitive caregiver, who is able to see his/her child as a mental being and practice optimal affective mirroring and containment is crucial for the development of child's mentalization skills (P. Fonagy et al., 2002).

Mentalization is not a static capacity but is affected by stress or arousal, especially in the context of attachment relationships (P. Fonagy et al., 2002). Moreover, adverse childhood experiences such as parental abuse and neglect may undermine the development of mentalization in children (Allen et al., 2008; Fonagy & Luyten, 2009). Types and degrees of mentalization impairments have been widely studied through semi-structured interviews such as the Adult Attachment Interview (Steele & Steele, 2008); yet, studies of mentalization in childhood lag behind. In the most recent years,

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researchers have started to evaluate the mentalization construct more closely, differentiating among its various components such as the type of mental state talk, e.g., emotions, thoughts, and perceptions); and the direction of mental state talk, self or significant other (Luyten et al., 2012). Overreliance on one type of mental state and neglect of the other is potentially problematic for one's understanding of the self and the world in a coherent manner (Allen et al., 2008). Secondly, impairments in mental state talk, a term that we use here adapted from the "negative Reflective Function (RF)" criteria in the Reflective Function Manual developed for scoring Adult Attachment Interviews (P. Fonagy et al., 1998), constitutes shutting down thought processes about mental states and/or making inappropriately hostile and improbable attributions, making transparently self-serving yet distorted attributions, or making overly general attributions. These have been associated with psychopathology in children and adults (see Allen et al., 2008; Sharp & Venta, 2012 for a review of adult and child mentalization impairments respectively); as well, deficits in mentalization have been demonstrated in children with insecure attachment and children suffering abuse (e.g., Ensink, Begin, Normandin, Godbaout & Fonagy, 2016).

However, research on the associations between specific mentalization deficits and children's socio-behavioral functioning lags behind the wealth of studies in adulthood. Children with internalizing and externalizing problems may differ in their mentalization strategies, who they are inclined to mentalize and which mental states they are more comfortable mentalizing. Such differences in mental state talk have not been systematically studied with respect to internalizing and externalizing problems. The aim of this study was to investigate the mental state talk use of a group of children with internalizing and externalizing problems, specifically focusing on the imbalances and impairments. Moreover, because mentalization deficits can best be evaluated in the context of attachment organizations and adverse experiences, particularly abuse and neglect (J. G. Allen, 2013), we also studied these variables. There is preliminary evidence that suggests that mentalization may be a potential mediator of risk for depressive symptoms and externalizing difficulties in the context of abuse (Ensink et al., 2016a), therefore we also investigated whether children's mentalization impairments and imbalances predicted internalizing and externalizing problems after accounting for children's attachment security, abuse and neglect histories.

Mental state talk types, directions and internalizing and externalizing problems

Children with internalizing and externalizing problems use less emotion words as problem behaviors increase. Higher levels of externalizing problems were associated with less ability to provide examples of past emotional experiences, less appropriate examples of feelings and a higher reliance on perception and action words (Cook et al., 1994; Rumpf et al., 2012). Bohnert et al. (2003) reported that higher levels of aggressive behaviors were associated with less ability to identify emotions, and Kranzler et al. (2016) noted that low emotional awareness, that is the ability to identify and label internal emotional states, predicted both depressive and anxiety symptoms among children and adolescents. In a cross-sectional sample of children with internalizing and externalizing problems, Halfon, Bekar, Ababay and Dorlach (2017) found that children with internalizing and externalizing problems used high frequency of perception and action words as opposed to emotions. These studies suggest that children with internalizing and externalizing problems may suffer from underuse of emotion focused mental states.

There is very limited research regarding the direction of mentalization in children with internalizing and externalizing problems. Bizzi et al. (2018) theorized that children with internalizing disorders may not have impaired mentalizing capacities with respect to others' minds but that their mentalizing problems may primarily reside with respect to their own mental states. From another perspective, Banerjee (2008) suggested that children with anxiety are more focused and hypervigilant regarding the minds of others.

Mentalization impairments and internalizing and externalizing problems

Some research has found that children with externalizing problems are more likely to use distorted mentalization. They tend to misinterpret others' mental states (O'Connor & Hirsch, 1999) and make inappropriate attributions to self and others (Happé & Frith, 1996). In particular, they attribute aggressive intentions to others in ambiguous situations and respond aggressively because of unsubstantiated hostile expectations (Crick & Dodge, 1994). They also tend to blame others and deny responsibility for the consequences of their actions (Sutton et al., 2000). Research also showed that they make overly positive (self-serving) attributions to themselves (Ha et al., 2011; Sharp et al., 2007, 2006). In terms of internalizing disorders, Banerjee (2008) suggested that children with anxiety are hypervigilant regarding the minds of others and anticipate negative evaluations and threat without substantial evidence (thus adhering to an inappropriate mentalizing stance).

Secure attachment facilitates mentalization as these children can turn to internalized attachment figures in times of distress, regulate their own affects and continue to be curious about the mental states of self and others (P. Fonagy et al., 1998). Children with insecure and disorganized attachment patterns, particularly in the context of abuse and neglect, can show persisting breakdowns and shut-downs in mentalizing (Midgley et al., 2017). Children who have experienced attachment trauma, and grew up in the context of abuse and neglect, have an underdeveloped mentalizing capacity and focus mainly on aggressive behaviors possibly to detect threat instead of engaging in more hopeful secure reflective style (Ensink et al., 2016b; Ostler et al., 2010). They may also actively avoid mentalizing the minds of their caregivers, whom children have credible reasons to believe harbor malevolent intentions, in order to preserve their attachment relationships (P. Fonagy et al., 2002; J. G. Allen, 2013). Maltreated children show significant difficulty in thinking about themselves and others in mental state terms (Ensink et al., 2015), make fewer references to mental states (Shipman & Zeman, 1999), show poor discrimination of emotions (Edwards et al., 2005; Pollak et al., 2000) and emotion understanding (Rogosch et al., 1995; Shipman & Zeman, 1999). Moreover, child mentalization mediates the relationship between abuse and depression (Ensink et al., 2016a) and externalizing problems (Taubner & Curth, 2013), suggesting that moderate to high mentalization could be a protective factor against internalizing and externalizing problems in the context of abuse.

Assessment of attachment and mentalization

The measurement of attachment in middle childhood is complex, and there is an absence of a widely agreed "gold standard" measure. Findings increasingly support the use of interview-based measures of attachment for adolescents such as the Child Attachment Interview (CAI; Target et al., 2003); however, this measure cannot be used for children under eight and compared to older children, there are more concerns that young children could be somewhat limited in their capacity to reflect on their relationships as is required by attachment autobiographical interviews. A small number of self-report measures of attachment for children have been developed, however there are validity concerns related to hypothesized difficulties in consciously accessing internal working models through self-report, and related risks for response bias and social desirability (see Bosmans & Kerns, 2015 for a review). A solution has been story-stem measures using an adaptation of Bretherton et al. (1990) story stem procedure to school-age children (e.g., Granot & Mayseless, 2001). Children who tell secure stories show better adaptation at school and with peers (Granot & Mayseless, 2001), are more successful at regulating their emotions (Brumariu, 2015), and experience fewer internalizing problems (Kerns et al., 2011). Moreover, narrative story-stems with maltreated children showed that they had more aggressive and disorganized emotional themes in their stems if their adoptive parents had insecure attachment patterns (Steele et al., 2003).

One method for measuring multiple dimensions of mentalization is assessing children's mental state talk. Mental state talk is the starting point of explicit mentalization, which is the act of attributing mental states to self and others (J.G. Allen, 2006). Children's mental state talk and

their capacity for representing and reasoning with mental states are strongly associated (for reviews, see Carpendale & Lewis, 2004; Symons, 2004). Assessing mentalization in the context of attachment is arguably the best indicator of an individual's mentalization capacities (Ensink et al., 2015). Accordingly, in behavioral studies, children who have deficits in portraying characters in attachment-related narratives as subjects whose behaviors are determined by mental states are more likely to develop conduct disorder (Hill et al., 2007). Moreover, attachment related mentalization mediates the prospective link for at-risk children between insecure attachment in infancy and increased risk of externalizing symptoms at preschool age (Hill et al., 2008). However, children with behavioral problems do not have problems in less challenging theory of mind (ToM) tasks (Sutton et al., 2000). This lends further support to the relevance of attachment-related mentalizing deficits to increases in behavioral problems. Relatedly, a global measure of Child Reflective Functioning (CRF) has been developed for use with responses to the Child Attachment Interview (CAI; Shmueli-Goetz et al., 2008). However, the CRF and RF Scale (P. Fonagy et al., 1998) has been criticized since it generates a single global score, which cannot capture the different facets of mentalization (Choi-Kain & Gunderson, 2008; Katznelson, 2014). Instead, considering that mentalization develops in parent-child play (P. Fonagy et al., 2002), play-based measurement techniques provide ample opportunities for mentalization and correlate strongly with children's mentalization skills (Meins et al., 2006). Therefore, in this study we used an attachment-based story stem play task to measure mentalization via the Coding System for Mental State Talk (CS-MST; Bekar et al., 2014) to assess different categories of mental state talk (i.e., affect, cognition, action) and their direction (self or other oriented).

In addition, the coding system was expanded in order to capture children's use of impaired mental state talk. In order to operationalize mentalization impairments, we used criteria specified in the RF scale to code negative RF, which corresponds to an anti-reflective stance and has the following features: (1) It must be hostile, involving perceptions of an assault or attack, or actively evasive, shutting down genuine thought about mental states. (2) It must be bizarre (impossible to understand without making the assumption of irrationality on the part of the subject; P. Fonagy et al., 1998). Imbalances, on the other hand, reflected over-focus or overreliance on one type of mental state category at the expense of others, such as mentalizing the self and neglecting to understand the mental states of others or overusing cognition words in comparison to emotions.

Aims

The aims of this study were to assess imbalances in children's use of mental state talk in terms of their types (i.e., overreliance on cognitive and action-based mental states in proportion to emotions), focus (i.e., excessive focus on others' mental states in proportion to one's own) and finally the use of impaired mentalization with a group of children with internalizing and externalizing problems in the context of their attachment security and adverse childhood experiences. We hypothesized that (1) internalizing and externalizing problems would be associated with impaired forms of mentalizing; (2) internalizing problems would be associated with a bias toward others' mental states in proportion to their own; (3) internalizing and externalizing problems would correlate with the use of more cognition and action based mental state talk in proportion to emotion based mental state talk; (4) children's level of attachment security would be inversely and children's abuse and neglect histories would be positively associated with mentalization imbalances and impairments; (5) mentalization impairments and imbalances would predict internalizing and externalizing problems after accounting for children's attachment security and abuse and neglect histories. In order to have a more in depth understanding of the kinds of mentalization deficits that children with internalizing and externalizing problems suffer from, we conducted a qualitative thematic analysis of ASCT narratives from 12 randomly selected children (four internalizing, four externalizing and four comorbid problem category).

Method

Data

The source of data used for this study comes from Istanbul Bilgi University Psychotherapy Research Laboratory, which provides low-cost outpatient psychodynamic psychotherapy. Referrals were made by parents themselves or outside professionals. The parents and the children were screened by a licensed doctoral level clinical psychologist, with over 10 years of clinical experience, and trained in developmental psychopathology and psychiatric interviewing techniques, in order to determine whether the patients fit the study protocol inclusion criteria: ages between 4–10 years old, no psychotic symptoms, no significant developmental delays, no significant risk of suicide attempts and no drug abuse. A group of consecutively admitted patients from the fall of 2016 to the spring of 2018, and who met inclusion criteria, were approached for data collection purposes. The patients and their parents were extensively informed before commencing therapy about research procedures; the parents provided written informed consent; and the children provided oral assent concerning use of their data, including questionnaires, video-recordings, and transcripts of sessions for research purposes. This research was approved by the Istanbul Bilgi University Ethics Committee.¹

The final sample included 100 patients. The children were from Istanbul, the largest metropolitan center in Turkey, from low to middle income backgrounds, and mostly intact families (89 %). The demographic characteristics of the sample are presented in [Table 1](#).

Measures

Background information

Demographic information such as age, education and socioeconomic status were obtained using a standard intake form and from information obtained in the initial intake interview.

Adverse childhood experiences

In order to measure children's trauma history, we used an adapted version of the Adverse Childhood Experiences (ACE) questionnaire (Dube et al., 2003; Murphy et al., 2007) to assess retrospectively forms of abuse, neglect, and household dysfunction (i.e., witnessing domestic violence, separation and mental illness in the family) in the current study. Scores range from 0–10 on the ACE, with the latter representing full exposure at some point in the first 18 years of life, to all forms of household dysfunction and abuse detailed in the questionnaire. ACE responses were internally consistent (Cronbach's $\alpha = .88$; Murphy et al., 2007). Dube et al. (2003) found that the retrospective reports of ACEs had good-to-excellent test-retest reliability. In addition, the measures used to assess ACEs were highly interrelated, and greater exposure to ACEs has been repeatedly correlated with adverse adult health outcomes (Dong et al., 2003; Dube et al., 2003). 40% of the children were endorsed to have experienced physical abuse and 15% experienced emotional neglect. Because sexual abuse had a variance of 0.04, indicating that very few patients endorsed this item, we only used physical abuse and emotional neglect variables in this study. The physical abuse and emotional neglect subscales had alphas of 0.62 and 0.78.

Problem assessment measure

The Child Behavior Checklist (CBCL; Achenbach, 1991) is a widely used method of identifying problematic behaviors in children with two separate versions for ages 1.5–5 and 6–18. CBCL indicates how true a series of 112 problem behavior items are for the child on a three-point scale (0 = "not true", 1 = "somewhat or sometimes true", and 2 = "very true or often true"). Outcomes can be determined for significant problems for internalizing (e.g., depression, anxiety), externalizing (e.g., aggression, violence) or total problems. This scale has high levels of internal consistency (CBCL 1.5–5 and 6–18: $\alpha = 0.97$) and one-week test-retest reliability (CBCL 1.5–5: $r = 0.90$; CBCL 6–18:

Table 1. Demographics (N = 100).

Age (years): <i>N</i> (%)	
4–5 years old	22 (22)
6–7 years old	33 (33)
8–10 years old	45 (45)
Mean (<i>SD</i>)	7.00 (2.01)
Median	7.00
Sex: <i>N</i> (%)	
Female	38 (38)
Male	62 (62)
Referral Reason: <i>N</i> (%)	
Rule-breaking and aggressive acts	43 (43)
Anxiety and depressive complaints	36 (36)
School problems	18 (18)
Social problems	3 (3)
Clinical Characteristics: <i>N</i> (%)	
CBCL ^a	
Internalizing – Borderline	8 (8)
Internalizing – Clinical	10 (10)
Externalizing – Borderline	4 (4)
Externalizing – Clinical	4 (4)
Comorbid	48 (48)
No diagnosis	26 (26)
ACE	
Physical abuse	40 (40)
Emotional neglect	15 (15)
Sexual abuse	4 (4)
Monthly Gross Income ^b : <i>N</i> (%)	
Less than 100 USD	17 (17)
100–350 USD	67 (67)
More than 350 USD	16 (16)
Mean (<i>SD</i>)	229.20 (78.47)
Median	260
Parents' Education Level: <i>N</i> (%)	
Primary/middle school	25 (25)
High school	33 (33)
Bachelor's degree or higher	42 (42)

CBCL = The Child Behavior Checklist. ACE = Adverse Childhood Experiences. Sex was dummy coded as (0 = female, 1 = male).

^aCutoff criteria for CBCL = T score \leq 60: No diagnosis, $61 \leq T$ score \leq 63: Borderline, T Score \geq 64 Clinical (Achenbach, 1991).

^bConverted to US

$r = 0.94$; Achenbach & Rescorla, 2000). The scale has been adapted to Turkish with good internal consistency and test-retest reliability for the internalizing ($\alpha = 0.87$, $r = 0.93$), externalizing ($\alpha = 0.90$, $r = 0.93$) and total problems scales ($\alpha = 0.94$, $r = 0.93$; Erol & Simsek, 2010). In the current study, all three subscales showed good to high degrees of internal consistency (CBCL 1.5–5: $\alpha = 0.82$, 0.85, 0.93; CBCL 6–18: $\alpha = 0.88$, 0.89, 0.94 for internalizing, externalizing and total problems, respectively).

Teacher Rating Form (TRF; Achenbach, 1991) includes 118 items, 93 of which have counterparts on the CBCL. This scale has high levels of internal consistency (TRF 1.5–5 and 6–18: $\alpha = 0.97$) and one-week test-retest reliability (TRF 1.5–5: $r = 0.88$; TRF 6–18: $r = 0.95$; Achenbach & Rescorla, 2000). The scale has been adapted to Turkish with good internal consistency and test-retest reliability for internalizing ($\alpha = 0.89$, $r = 0.85$), externalizing ($\alpha = 0.93$, $r = 0.89$) and total problems scales ($\alpha = 0.96$, $r = 0.91$; Erol & Simsek, 2010). In the current study, all three subscales showed good to high degrees of internal consistency (TRF 1.5–5: $\alpha = 0.90$, 0.96, 0.95; TRF 6–18: $\alpha = 0.87$, 0.94, 0.96 for internalizing, externalizing and total problems, respectively).

Attachment measure

An adapted version of the Attachment Doll Story Completion Task (ASCT; Bretherton et al., 1990) was used to assess the quality and the security of attachment-related representations of children's relationships with their caregivers. ASCT was originally designed for three-year-olds and later adapted to school age children by Granot and Mayseless (2001). ASCT comprises of five story-stems that aim to elicit stories from children on attachment-related day-to-day issues. A set of family figure dolls and related props are used to prime children and invite them to complete unfinished stories. The attachment stories are as follows: (1) Spilled juice: while the family is seated at dinner table, the child accidentally spills juice on the floor. (2) Hurt knee: the child falls off a high rock and hurts his/her knee. (3) Monster in the bedroom: the child is sent to bed and cries out that there is a monster in his/her bedroom. (4) Departure story: the mother and father leave for a one day trip and a babysitter stays with the children. (5) Reunion story: the babysitter sees the parents as they return the following morning and announces their return to the children. The original classification system (Bretherton et al., 1990) with minor adaptations to school-age group by Granot and Mayseless (2001) includes separate criteria for secure and insecure responses, based on content and structure analysis for each story. An answer is classified as secure if the narrative suggests that the child acknowledged the distressing situation, approached the adults for support, and if the caregiver/s responded promptly and appropriately to the child's distress and the child was able to go back to his/her activities before the distressing situation took place. The child is classified as secure if this occurred for all five stories. If the children showed insecure responses on one or two stories they are classified as fairly secure. Subjects who displayed insecure responses over three or more stories are classified as insecure.

The prior studies have shown satisfactory inter-rater reliability with 80% agreement ($\kappa = 0.68$) regarding the classifications of the children into the three attachment security categories (secure, fairly secure and insecure; Granot & Mayseless, 2001). The scale was adapted to Turkish by Uluç (2005) and has shown good inter-rater reliability ($ICC(2,1) = 0.83$). In the current study, six master's level research assistants who were trained by Sait Uluç and the first author independently rated 25% of the randomly selected data and $ICC(2,1)$ were found to be 0.87, suggesting good reliability. Disagreements were resolved with consultation with the first author. The remaining transcripts were coded by one of the reliable raters.

Mentalization measure

The Coding System for Mental State Talk in Narratives (CS-MST; Bekar et al., 2014) was originally developed in English in order to assess the use of mental state talk among mothers and their preschool aged children while looking at a wordless picture book, "Frog, Where are You?" (Mayer, 1969; see Bekar et al., 2018). These narratives were transcribed verbatim and coded for the frequency and direction of mental state words (mental state words about the characters, self or the listener). CS-MST categorized mental states into five major groups: emotions (e.g., happy, sad), cognitions (e.g., think, believe), perceptions (e.g., smell, see), physiological mental states (e.g., hungry, sleepy), and action-based mental state words, which depict explicit actions that imply mental states (e.g., hiding, looking for something or laughing). The ASCT stories were first coded for the basic mental state talk categories of the CS-MST. The working mechanism of projective measures relies on the assumption that children project their own mental states onto the main child character in the stories and indirectly talk about their psychic reality. Thus, we operationalized children's attributions to the main (child) characters' mental states as self-oriented mental state talk. Children representations of the "other" in their stories, such as their narratives about family members' mental states, comprised the other-directed mental state talk.

In addition to these categories, CS-MST was further revised in order to capture certain types of impaired mental state talk that appeared in children's narratives. Coding criteria were developed in line with the Reflective Functioning (RF) Scoring System (P. Fonagy et al., 1998) for negative RF subtypes (e.g., hostile, bizarre RF and disavowal of RF). The coding criteria for negative RF

subtypes is as such: “An anti-reflective passage expresses hostility or active evasion in response to an opportunity for reflection.” (P. Fonagy et al., 1998, p. 28). “Bizarre explanations of behavior unequivocally invoke mental states in self or other which are beyond the bounds of common-sense psychology or even poorly-applied theory-driven insight. To be rated negative the passage must be impossible to understand without making the assumption of ‘irrationality’ on the part of the interviewee” (P. Fonagy et al., 1998, p. 28). Following these criteria, mental state words were coded as impaired mentalization if any one of the following criteria were met: (1) overly hostile mental state attributions (e.g., physical violence, extreme aggression and violence toward others such as hitting, slapping, killing, beheading), (2) bizarre mental state attributions (e.g., feelings involving bizarre attributions that do not comprise an emotional states such as feeling gravestone, feeling death) and (3) mental state shutdowns (e.g., sleeping or dying abruptly; the child uses these words to cut the story off).

The scale has shown good convergent and divergent validity in predicting children’s socio-behavioral functioning (Bekar et al., 2018), play styles (Halfon et al., 2017a) and psychotherapy progress (Halfon et al., 2017b). The CS-MST was adapted to the Turkish language first by Bekar and Corapçı (2016) through narratives of Turkish mothers and their preschool children. The study group for the development of the new category of impaired mentalization consisted of six master’s level students and led by Özlem Bekar, Ph.D., one of the authors of the CS-MST (Bekar et al., 2014). 30 story stem narratives were coded by this team in order to operationalize the new category and establish reliability. The ICC among the group members ranged from good to excellent ($ICC(2,6) = 0.74$ to 0.95) for each transcript. Disagreements were resolved in consultation with Author 3. 25% of the randomly selected data were coded by two independent raters on each of the CS-MST categories, and $ICC(2,1)$ were found to be between 0.83 and 0.99, suggesting good reliability. If there was a difference of three or more counts in any of the mental state word categories, the raters revised their coding and came to an agreement. The remaining transcripts were coded by one of the reliable raters.

Expressive language

Turkish Expressive and Receptive Language Test (TİFALDI; Berument & Güven, 2010) was used to measure expressive language skills of children. Cards with a black-white picture are shown one by one and the child is asked to name the picture on the card, similar to the widely used Peabody Picture Vocabulary Test (Dunn & Dunn, 1981). The test was administered adaptively, progression depending on performance. The vocabulary knowledge scores were calculated with three-parameter item response theory, which yields latent language ability scores by taking into account the relative difficulty of each question, the probability of giving a correct response just by guessing, and the discrimination of each item in determining the rate of success on the test. This scale has previously been found to be a valid and reliable tool to assess the receptive vocabulary skills of 2- to 12-year-old children (Baydar et al., 2014; Berument & Güven, 2010).

Procedures

The parents and children were invited for a meeting to administer the research protocol by four master’s level research assistants. The parents filled out the Background Questionnaire, the ACE and the CBCL. The TRF was sent to the teachers after the initial meeting with the family. The children were administered the ASCT and TIFALDI in a silent room in which only the child and research assistant were present. Assessment of the ASCT lasted about 20, and TIFALDI took approximately 10 minutes for each child. All the assessments were videotaped, transcribed and coded for ASCT security ratings and CS-MST by trained coders.

Data analytic strategy

Quantitative analyses

The total number of words in children's stories ranged between 61 and 1550 ($M = 437$, $SD = 286$). In order to ensure that mental state talk categories were not affected by overall verbosity, we controlled for word count by dividing each child's mental state talk frequencies by the total word count. In order to create imbalance ratios in children's use of mental state talk, mental state talk frequencies were proportioned accordingly: other/self for hypothesis 2, cognition/emotion and action/emotion for hypothesis 3.

Prior to main analyses, exploratory analyses were conducted to assess associations with age, sex and linguistic aptitude. In case of significant associations, these variables were controlled for in the main analyses. For the main analyses, partial correlation analyses were conducted to assess associations between mental state talk imbalances, impairments, parent and teacher report internalizing and externalizing problems as well as children's attachment and adverse experiences (i.e., abuse and neglect). Finally, in order to examine the role of mentalization deficits in the context of children's attachment and adverse experiences (i.e., abuse and neglect), we conducted hierarchical regression analyses, where demographic control variables (sex and age-scaled TIFALDI Expressive Language scores) were entered in the first step, attachment security and adverse experiences were entered in the second step, and mentalization deficits in the third step to predict the unique effect of mentalization deficits on internalizing and externalizing problems.

Qualitative analyses

Thematic analysis was used by following the phases put forward by Braun and Clarke (2006) to analyze the verbatim transcribed ASCT transcripts from randomly selected 12 children (four internalizing, four externalizing and four comorbid category). The process of thematic analysis entailed generating semantic codes staying close to the language of children while keeping the research question in mind. After the identification of these codes, they were clustered into themes that organized repeated patterns of observations. These themes were then defined, described and illustrated with reference to the transcripts.

Results

Preliminary analyses

Descriptive statistics and inter-correlations of the demographic variables (age, gender, TIFALDI Expressive Language Scale), ASCT attachment security, ACE physical abuse and emotional neglect variables, CBCL and TRF internalizing and externalizing scores, mental state talk categories, imbalance ratios and impairments are presented in [Table 2](#).

Because we found some associations with age, sex and our main variables, we controlled for these variables in all ensuing analyses. Even though we have not found any significant associations with verbal ability, we chose to control this in our analyses due to prior research that has found significant associations between verbal ability and internal state talk (e.g., Slade & Ruffman, 2005). Therefore, we controlled for sex and age-scaled TIFALDI Expressive Language Scale scores.

Relationship between Mental State Talk Impairments, Imbalances, Behavior Problems, Attachment Security and Adverse Experiences

Partial correlations (see [Table 3](#)) indicated significant positive associations between impaired mental state talk and externalizing problems (parent and teacher report); however, no significant associations were found with internalizing problems. Moreover, as internalizing problems (parent report) increased, children used more other-directed mental state talk in proportion to self-directed mental state talk. As internalizing problems (parent report) increased, cognitive based mental state talk and action based mental state talk in proportion to emotion based mental state talk also increased. However, none of the imbalance ratios were significant for externalizing problems and



Table 2. Descriptive statistics and intercorrelations between demographic, socio-behavioral function and mental state talk variables (N = 100).

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
(1) Age	6.99	2.02	-															
(2) Sex	0.62	0.49	-0.04	-														
(3) TIFALDI Expressive Language	112.38	18.25	0.03	0.07	-													
(4) ASCT Attachment Security	1.52	0.68	0.37**	-0.16	0.16	-												
(5) ACE Emotional Neglect	0.25	0.68	-0.08	-0.14	-0.11	0.02	-											
(6) ACE Physical Abuse	0.53	0.72	-0.05	0.12	0.09	-0.07	0.12	-										
(7) CBCL Internalizing Problems	14.88	9.34	-0.17	-0.04	-0.08	-0.17	0.14	0.12	-									
(8) CBCL Externalizing Problems	16.46	10.26	-0.31**	0.20*	-0.08	-0.26**	0.08	0.31**	0.52**	-								
(9) TRF Internalizing Problems	10.63	8.37	-0.11	0.10	-0.10	-0.14	0.10	0.10	0.25*	0.08	-							
(10) TRF Externalizing Problems	13.67	12.85	-0.29**	0.46**	-0.09	-0.24*	0.01	0.20*	0.15	0.45**	0.36**	-						
(11) Emotion based MST	0.02	0.01	0.32**	-0.06	0.08	0.17	-0.16	-0.21*	-0.08	-0.12	-0.07	-0.20*	-					
(12) Cognition based MST	0.01	0.01	0.37**	-0.09	0.11	0.25*	-0.22*	-0.03	0.13	-0.07	0.04	-0.22*	0.24*	-				
(13) Action based MST	0.02	0.01	0.42**	0.05	-0.01	0.04	-0.11	0.03	0.08	0.04	0.16	-0.03	0.04	0.29**	-			
(14) Self-directed MST	0.05	0.02	0.43**	-0.01	0.02	0.27**	-0.33**	-0.05	-0.11	-0.15	0.05	-0.08	0.62**	0.58**	0.32**	-		
(15) Other-directed MST	0.02	0.01	0.21*	-0.11	0.10	0.01	-0.01	-0.08	0.20	-0.05	-0.06	-0.23*	-0.27**	0.22*	0.40**	0.06	-	
(16) Impaired MST	0.01	0.01	-0.29**	0.33**	-0.03	-0.36**	0.18	0.00	0.05	0.26**	0.10	0.44**	-0.25*	-0.32**	-0.25*	-0.27**	-0.27**	-

TIFALDI = Turkish Expressive and Receptive Language Test; ASCT = Attachment Doll Story Completion Task; ACE = Adverse Childhood Experiences; CBCL = The Child Behavior Checklist; TRF = Teacher Report Form; MST = Mental State Talk. Sex was dummy coded as (0 = female, 1 = male).

*p < 0.05. **p < 0.01.

Table 3. Partial correlations controlling for sex and TIFALDI expressive language age-scaled score.

	M	SD	1	2	3	4	5	6	7	8	9	10	11
(1) CBCL Internalizing Problems	14.88	9.34	-										
(2) CBCL Externalizing Problems	16.46	10.26	0.58**	-									
(3) TRF Internalizing Problems	10.63	8.37	0.26*	0.12	-								
(4) TRF Externalizing Problems	13.67	12.85	0.18	0.43**	0.35**	-							
(5) ASCT Attachment Security	1.52	0.68	-0.18	-0.24*	-0.19	-0.20	-						
(6) ACE Emotional Neglect	0.25	0.68	0.15	0.05	0.21	0.09	-0.05	-					
(7) ACE Physical Abuse	0.53	0.72	0.10	0.29**	0.03	0.19	-0.07	0.07	-				
(8) Other/Self	0.58	0.70	0.30**	0.08	0.06	-0.05	-0.12	0.25*	-0.04	-			
(9) Cognition/Emotion	1.22	1.61	0.29**	0.13	0.12	-0.02	-0.05	0.05	0.27*	0.12	-		
(10) Action/Emotion	1.61	1.68	0.28*	0.16	0.19	0.15	-0.21	0.18	0.23*	0.34**	0.52**	-	
(11) Impaired MST	0.01	0.01	0.05	0.25*	0.11	0.37**	-0.35**	0.28*	-0.06	0.08	0.03	0.05	-

CBCL = The Child Behavior Checklist; TRF = Teacher Report Form; ASCT = Attachment Doll Story Completion Task; ACE = Adverse Childhood Experiences; Other/Self = Other directed mental state talk in proportion to self-directed mental state talk; Cognition/Emotion = Cognition based mental state talk in proportion to emotion based mental state talk; Perception/Emotion = Perception based mental state talk in proportion to emotion based mental state talk; Action/Emotion = Action based mental state talk in proportion to emotion based mental state talk; MST = Mental State Talk.

* $p < 0.05$.

** $p < 0.01$.

the associations were significant for only parent report internalizing problems. We found a negative association between ASCT attachment security and impaired mental state talk; however, the imbalance ratios were not significantly associated with children's attachment security. Emotional neglect was positively associated with other/self imbalance and impaired mentalization and physical abuse was positively associated with cognition/emotion and action/emotion imbalances.

Hierarchical regression analyses

In order to explore the unique effects of mentalization impairments and imbalances in the context of children's attachment security and abuse and neglect histories, two models were tested. Since we found that mentalization imbalances were significantly associated with internalizing problems (parent report), we tested their unique contribution to internalizing problems after accounting for the effect of children's attachment security and abuse and neglect histories as well as sex and age-scaled TIFALDI Expressive Language scores. Due to the high number of predictor variables, we only included self/other and cognition/emotion imbalances, which were strongly associated with internalizing problems in the correlation analyses. In a similar vein, due to the significant relationship between mentalization impairments and externalizing problems, we tested their unique contribution to externalizing problems after accounting for the aforementioned variables. In the first model predicting internalizing problems, sex and age-scaled TIFALDI Expressive Language Scale scores were entered first, followed by abuse, neglect and attachment security, none of which significantly contributed to outcome in the first and second steps. However, when other/self and cognition/emotion imbalances were added to the model, the model was significant and there was a significant R^2 change ($\Delta R^2 = 0.10$, $F(2, 85) = 4.96$, $p < .01$) accounting for 10% of the unique variance and cognition/emotion imbalance was a significant predictor (see Table 4). In the second model predicting externalizing problems, sex and age-scaled TIFALDI Expressive Language Scale scores did not significantly contribute to outcome, however, with the addition of the abuse, neglect and attachment variables, the model was significant and there was a significant R^2 change ($\Delta R^2 = 0.14$, $F(3, 91) = 5.29$, $p < .01$), accounting for 14% of the unique variance, and both physical abuse and attachment security were significant predictors. With the

Table 4. Summary of hierarchical regression analysis for variables predicting children's internalizing and externalizing problems (N = 100).

CBCL Internalizing Problems	Step 1			Step 2			Step 3		
	B	SE B	β	B	SE B	β	B	SE B	β
Sex	-0.88	2.07	-0.05	-1.47	2.08	-0.08	-1.16	2.01	-0.06
TİFALDİ Expressive Language	-0.04	0.05	-0.08	-0.02	0.06	-0.04	-0.04	0.05	-0.07
ACE Physical Abuse				1.22	1.47	0.09	0.13	1.47	0.01
ACE Emotional Neglect				2.19	1.62	0.14	1.69	1.58	0.11
ASCT Attachment Security				-2.41	1.46	-0.18	-1.92	1.41	-0.14
Other/Self							2.16	1.40	0.16
Cognition/Emotion							1.80	0.69	0.28*
R2	0.01			0.07			0.17		
Model F	0.36			1.29			2.42*		
CBCL Externalizing Problems	Step 1			Step 2			Step 3		
	B	SE B	β	B	SE B	β	B	SE B	β
Sex	4.63	2.12	0.22*	3.52	2.04	0.17	2.23	2.15	0.11
TİFALDİ Expressive Language	-0.05	0.06	-0.08	-0.04	0.06	-0.07	-0.04	0.05	-0.08
ACE Physical Abuse				4.47	1.43	0.30**	4.88	1.43	0.33**
ACE Emotional Neglect				0.97	1.44	0.07	0.30	1.47	0.02
ASCT Attachment Security				-2.89	1.45	-0.19*	-1.96	1.52	-0.13
Impaired MST							155.28	88.48	0.19†
R2	0.05			0.19			0.22		
Model F	2.64			4.38**			4.24**		

CBCL = The Child Behavior Checklist; TİFALDİ = Turkish Expressive and Receptive Language Test; ACE = Adverse Childhood Experiences; ASCT = Attachment Doll Story Completion Task; Other/Self = Other directed mental state talk in proportion to self-directed mental state talk; Cognition/Emotion = Cognition based mental state talk in proportion to emotion based mental state talk; MST = Mental State Talk.

† $p < 0.08$.

* $p < 0.05$.

** $p < 0.01$.

addition of impaired mental state talk, the R^2 change was at trend level significance in the third step ($\Delta R^2 = 0.03$, $F(1, 90) = 3.08$, $p = .08$.) accounting for an additional 3% of the unique variance (see Table 4). Therefore, hypothesis 5 was partially confirmed.

Thematic analysis

Internalizing problems

Three main themes emerged for children with internalizing problems, which were “avoiding negative emotions”, “abandonment anxiety” and “great fear”.

Avoiding negative emotions

Children used a variety of strategies to avoid negative emotions such as wanting to have fun and naming fun activities when asked what the child felt after distressing situation. For example, in the spilled juice story, after the parents punished the child, one child said “He is just thinking fun. Feeling fun fun fuuun ...” Another child, in the same story said “She thinks her mother will scold her”. When the RA asked what the child character felt, the child responded “Painting! Let's paint!”.

Abandonment anxiety

In the stories, children mostly were scared that parents would not return. For example, in the separation story, one child said “They (the parents) will never come back ... They are gone forever”. In the spilled juice story one child said “The child goes to his room crying and goes to sleep. When he wakes up, he finds that the parents are gone. They grew wings and flew away. He was all alone and had to take care of himself.” When the RA asked what the child felt, he said “They (the parents) don't trust him (the child) anymore. They abandoned him”.

Great fear

Most children, when they were able to talk about their emotions, named intense fearful states. For example, in the monster story, when asked what the child felt, one child responded: “Fear. I will die.” In the monster story, one child responded “The monster ate the girl. She is terrified. It was a nightmare, so dreadful.”

Externalizing and comorbid problems

Children with externalizing and comorbid problems shared most of the themes that emerged in the ASCT narratives, which were “physical violence from parents and attribution of hostile intentions” and “massive withdrawal and shut-down after distressing situations”, “repeated provocative behaviors and self-harm” and “role reversals between the parent and the child”. For children with comorbid problems, catastrophic ending to stories was a unique theme.

Repeated provocative behaviors and self-harm

These narratives were quite provocative, repeating aggressive behaviors despite parents’ reprimands. For example, in the spilled juice story, one child said “The child puts the glass back. Then he stands up and knocks the plates. He puts them back, then he hits the table. He apologizes. Mother brings another plate. He drops that again.” Children continued to repeat self-harming behaviors in the ASCT narratives. For example, in the monster story, one child responded, “They took the child to the doctor. The doctor said the child’s knee is split. Then, they went to the park, again. The child climbed up the rock and got hurt, again. They went back to the doctor. His foot was disabled. He climbed up again. He fell. He broke his head.”

Role reversals between the parent and the child

In the narratives, the parents started to act just like the child and suffered the same consequences. For example, in the hurt knee story, one child said after the child character fell and was taken to the hospital “The father also fell. We took him to the hospital. His knee was disabled. Then he fell again and hit his head. He was shattered into pieces.” In the spilled juice story, one child said “The father also spilled the juice and said “I am a bit clumsy”. Then the mother came and said ‘What happened to you?’ and she spilled the juice as well.” We also saw that the child became parentified and started to take care of the impaired parents. For example, in the hurt knee story, after the parents took the child to the doctor, the child said “The father also fell. The mother also fell. He tried to carry both parents but he couldn’t and dropped them. He got in the truck and drove the truck and took them home. Then, he also fell.”

Massive withdrawal and shut-down after distressing situations

Children tried to cope with the distressing situations via withdrawing into sleep or death. For example, in the separation story, after the parents left, one child said “The child went to sleep. Then, the grandmother started to read him a book and she also went to sleep. The parents returned while they were sleeping.” In the “hurt knee” story, after the child character falls, a child completed the story by saying: “He lies down on the rock. He goes to sleep. The father picks him up and they all go home. He sleeps. (Research Assistant asks: “What did he feel?”) He is sleeping.” In the “spilled juice” story, a child responded “He doesn’t feel a thing ... ‘What did you feel?’ (child shouts at the character) Nothing. I think he died.” In the separation story, after the parents left, one child responded “They died. He felt gravestones. The end.” After the parents returned, the child responded “They all went to sleep. The end.”

Physical violence from parents and attribution of hostile intentions

We saw that the parents were physically abusive toward the children in the stories. For example, in the spilled juice story, one child responded “The child cries ‘Please don’t get angry at me.’ The father comes and slaps the child. Mother comes to clean up and scolds the child. She head butts the child.”

We also saw that the children attributed extreme hostile intentions to the parents. For example, in the hurt knee story, after the father punishes the child, one child responded “The child jumps on the rock again and just before falling into the abyss, he holds onto the rock but the father hits the child and throws a rock at him. Then, he is sent to jail. He is an assassinator. He doesn’t hesitate to kill his child.” In the separation story, another child responded “The grandmother and the child play. When it is time to come back home, the child refuses to return. The grandmother slaps him. He continues to be naughty. The grandmother throws him toward the abyss. Then she slaps him again, and again, and again.”

Catastrophic ending to stories

These stories involved annihilation of self, others and the environment. For example, in the monster story, one child said: “The monster came and ate them up (parents and the child). They all turned into bones and there was blood. They all died and thought of grave stones.” In another story, “His mother came and cleaned the table. Then she slapped him and said ‘you will be punished, I will not give you any breakfast’. Then the child ran away from home. Afterward, a thief came and bombed their house, which killed the child. But then the child escaped and the thief killed his family, cutting off their heads and hanging them. (RA asks: What did the child feel?) He felt death.”

Discussion

The aim of this study was to investigate the imbalances and impairments in mental state talk of a group of children with internalizing and externalizing problems. 40% of the children experienced physical abuse and 15% experienced emotional neglect. As expected there was a positive association between externalizing problems and impaired mental state talk (parent and teacher report), however no significant associations were found with internalizing problems, which partially supported the first hypothesis. Children with internalizing problems (parent report) showed imbalances with respect to whom they mentalized in that they paid significantly more attention to others’ mental states compared to their own providing support for the second hypothesis. The third hypothesis was partially supported in that as internalizing problems (parent report) increased, children relied on cognitive and action based mental state talk in proportion to emotions. However, none of the imbalance ratios were significant for externalizing problems. The fourth hypothesis was also partially supported in that attachment security was inversely associated with impaired mental state talk. Impaired mental state talk and focusing on others’ mental states at the expense of one’s own were positively associated with emotional neglect and underusing emotions in proportions to cognition. Action-based mental states were positively associated with physical abuse. Finally, the fifth hypothesis was partially supported in that imbalances (other/self and cognition/emotion) accounted for a significant proportion of variance in internalizing problems. Similarly, impaired mental state talk predicted externalizing problems, however only at trend level of significance. These findings will be discussed taking into account the results of the qualitative analyses of ASCT narratives.

As expected, impaired mental state talk was associated with externalizing problems. This supports prior research that has found that children with externalizing problems attribute aggressive intent to others, which further generates aggressive responses (Crick & Dodge, 1994; Schultz et al., 2000). In addition, the words “die” and “sleep” were at times used with the intention to shut down thinking about mental states. These responses contained no overt hostility but an avoidance of active mentalization. We also found that in the narratives of children with comorbid problems, the aforementioned aggressive mental state words were used toward producing narratives with catastrophic endings. In such stories, we saw equation of internal and external reality: aggression and fear of getting hurt led to actual destruction (psychic equivalence) and bizarre negative mental states (feeling death). This may be associated with the fact that externalizing and comorbid problems were found to be strongly associated with attachment trauma (Fearon et al., 2010). In effect, we found in our data that attachment security was inversely associated with both externalizing problems and

impaired mental state talk. Our qualitative analyses also indicated role-reversals between the parents and the children as well as extremely hostile parental attitudes in the ASCT narratives of children with externalizing and comorbid problems. These two polarized types of parental behavioral representations are strongly associated with attachment disorganization (Lyons-Ruth et al., 1999). These findings indicate that children with externalizing and comorbid problems may have more pervasive mentalization deficits in attachment context. Prior research has also found that children with externalizing problems, especially conduct problems appear to have more marked mentalizing difficulties (Bizzi et al., 2018; Ha et al., 2011; Sharp et al., 2011).

Internalizing problems may be less impaired in their mentalization strategies and experience specific difficulties with reference to certain mental states, particularly underuse of emotions. This has also been suggested in prior research (Bizzi et al., 2018). Our qualitative analyses indicated that children with internalizing problems particularly avoided talking about negative emotions. These findings are in line with a number of studies that assert that higher affective knowledge, labeling and perspective taking are associated with less internalizing problems (Trentacosta & Fine, 2010) and that children with clinical problems use less emotion words and rely on action-oriented mental state words more frequently (Halfon et al., 2017a). Continuing with our qualitative analyses, we found that when these children were able to name emotion based mental state talk, they expressed great fear and abandonment anxiety. It is possible that the level of anxiety and fear that these children experience at times becomes intolerable causing them to avoid such emotions. We also found that children with internalizing problems focused significantly more on the mental states of others in proportion to themselves. Bizzi et al. (2018) found that children with internalizing problems do not show problems mentalizing others' minds but have lower CRF regarding self-focused mentalization. Due to intense anxiety experienced by these children, they may have avoided thinking about their internal states. We were able to find significant associations with mental state talk imbalances for only parent reported internalizing problems. Externalizing problems are easier to detect, and show higher compatibility correlations between parents and teachers (Huang, 2017), whereas internalizing problems may be more difficult to identify for teachers in a large classroom context.

We also found that emotional neglect was associated with impaired mentalization as well as focusing excessively on others' minds. Children who have experienced attachment trauma, and grew up in the context of abuse and neglect may hypermentalize about the minds of their caregivers and also focus on their aggressive behaviors to detect threat instead of engaging in more reflective styles (Ensink et al., 2016b; Ostler et al., 2010). Physical abuse was associated with underuse of emotions in proportion to cognitions and actions. This is consistent with research that shows significant delay in emotion use in maltreated children (i.e., Edwards et al., 2005; Pollak et al., 2000).

When we tested the effect of mentalization impairments and imbalances in the context of children's attachment security, abuse and neglect histories, impaired mentalization made a trend level contribution to externalizing problems and focusing on cognitions at the expense of emotions predicted internalizing problems. These findings are in accord with previous studies that showed that child and adolescent mentalization mediates the relationship between abuse and depression (Ensink et al., 2016a) and externalizing problems (Ensink et al., 2016a; Taubner & Curth, 2013), suggesting that mentalization could be a protective factor against internalizing and externalizing problems in the context of abuse.

Clinical implications

These findings, if replicated, have significant implications for clinical interventions. A. W. Bateman and Fonagy (2006) introduced the idea of a spectrum of interventions in the context of Mentalization-Based Treatment for adults (MBT) which ranged in complexity, as well as their depth and emotional intensity. A similar spectrum would be indicated based on the results of this study. For children with externalizing problems, who suffer from mentalization impairments, therapeutic interventions should aim at building a trusting relationship with the therapist,

stimulating contact by working on affective attunement, marked mirroring and contingent coordination, regulating feelings by exaggerating or slowing down and giving reality value to affect states through their labeling. Such interventions are the initial steps of Mentalization-Based Treatment for Children (MBT-C; Midgley et al., 2017). These can help these children to attend to and modulate their emotions, before developing the capacity for higher order mentalizing interventions that involve reflecting on the minds of self and others.

For children with internalizing problems, it may be necessary to use techniques aimed at cultivating more implicit mentalization-based interventions such as “stimulating the play narrative” by inquiring and asking for more detail about the characters, particularly with reference to their own emotions (see Midgley et al., 2017 for detailed examples of such interventions in MBT-C). The therapist can also mentalize the characters and relationships in the play context with the aim of helping the child tolerate different feelings and their connections with behaviors. As the child develops a better vocabulary and more of a capacity to tolerate different feelings in self and others, it may be possible to use more interpretative techniques aimed at understanding the ways in which an excessive focus on others’ mental states and other categories of mental state talk may serve to defensively avoid negative emotions. Another strategy could be therapist’s modeling of self-mentalization for the child through verbalizing his/her own mental states in a contained manner, thus liberating the child from the “burden” and habit of mentalizing the other.

Research implications and recommendations for future research

This was one of the first studies to show that it is important to assess different facets of mentalization (different types of mental state talk and their direction), in order to specifically understand the mentalization strategies and deficits of children with internalizing and externalizing problems. Future research can breakdown the impaired mentalization category used in this study into its subcomponents (i.e., shutdown of mentalization, attribution of hostile intentions, and bizarre feeling states connoting psychic equivalence) in order to further analyze the mentalization deficits found in this study. It would be important in future research to assess specifically depression and anxiety problems, who may be inclined to show different imbalances in their use of mental state talk.

Although the current study has several strengths, such as the inclusion of children with a clinical condition, as well as the use of observer-based assessments of mentalization, several caveats and limitations of these results are important to mention. First, the small sample size and the lack of control group restrict the generalizability of the results. The findings are correlational in nature, and therefore the causal direction of these relationships cannot be determined. Due to the sample size limitations, we were not able to break up the sample into more homogeneous age groups to conduct our analyses, which can be done in future research. Moreover, the impaired mental state talk variable needs to be validated in future studies. It is possible that due to the nature of the semi-structured play situation, participants may be using more action words than emotion words which may increase in the context of storytelling. In addition, we have assessed children’ self and other focused mentalization indirectly, using a representational play based task. It is possible that children may show different characteristics on an interview-based assessment of RF in terms of self and other focus. We also relied on CBCL and TRF reported data in this study; however, we were not able to make an assessment of childhood psychopathology with structured psychiatric assessment tools, which should be studied in future research. Moreover, even though we assessed children’s attachment security and adverse experiences, further research is needed to examine links with other potential factors such as parenting characteristics, cumulative socioeconomic risks, as well child characteristics.

In conclusion, these findings indicate that children with internalizing and externalizing problems may benefit from different levels of mentalizing interventions. Moreover, using a multi-faceted measurement of mentalization in the attachment context can help elucidate the mentalization deficits that need to be restored, and nurtured, in treatment.

Note

1. The data reported in this manuscript was collected as part of a larger data collection at Istanbul Bilgi University Psychotherapy Center from a group of 195 consecutively admitted patients from fall 2014 to 2019, who met inclusion criteria and consented to research. Depending on data availability and research questions, subsamples of patients have been used to investigate different variables and published in separate manuscripts. Please see <http://psikoterapiarastirmalari.bilgi.org.tr/> for a list of publications from our lab.

Disclosure statement

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