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A SINGLE-CASE STUDY ON THE DYNAMIC ASSOCIATIONS BETWEEN MENTALIZATION AND AFFECT REGULATION OF A CHILD WITH ASPERGER'S SYNDROME IN PSYCHODYNAMIC PSYCHOTHERAPY

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A Single Case Study on the Dynamic Associations Between Mentalization and Affect Regulation of a Child with Asperger's Syndrome In Psychodynamic Psychotherapy

Asperger Sendromu Tanılı Bir Çocuğun Mentalizasyon ve Duygu Regülasyonu Arasındaki Dinamik İlişkilerin Psikodinamik Psikoterapideki Vaka İncelemesi

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ABSTRACT

Mentalization based interventions have been found to be effective in development of mentalization and affect regulatory capacity of children. However, the relations between development of mentalization and affect regulatory processes in psychodynamic psychotherapy haven't been investigated with children with Asperger's syndrome. In this study we aimed to investigate temporal associations between mentalization process, child's mental state talk and capacity for affect regulation on a single case study of a child with Asperger's syndrome who underwent two years of mentalization based psychodynamic play therapy. 52 play therapy sessions were coded by Child Psychotherapy Q-Set (CPQ; Schneider & Jones, 2004) in order to obtain RF adherence score of the sessions reflecting mentalization process; by Children's Play Therapy Instrument (CPTI; Kernberg, Chazan, & Normandin, 1998) yielding a composite score of child's affect regulation capacity; and by the Coding System for Mental State Talk in Narratives (CSMST; Bekar, Steele, & Steele, 2014) to assess child's mental state narrative in play. Granger Causality Test was used to test causal relationships between mentalization process, child's mental state talk and affect regulation. The results indicated that RF adherence caused only child's use of play-related emotion and physiological mental state talk; and only child's use of play-related physiological and other-related emotion mental state talk predicted affect regulation in the subsequent session. However, there was no significant relationship between RF adherence and subsequent affect regulation. For clinical implications, qualitative analyses showed that affect regulation occurred only through understanding physiological and emotion mental states of another mind due to his early level of mentalization. These results showed support for development of mentalization and affect regulatory capacity of children with Asperger's syndrome after effective mentalizing interventions in psychodynamic play therapy.

Keywords: Asperger's syndrome, mentalization process, mental state talk, affect regulation, psychodynamic play therapy

ÖZET

Zihinselleştirme temelli müdehalelerinin çocukların zihinselleştirme ve duygu düzenleme kapasitelerini geliştirmede etkili olduğu bulunmuştur. Ancak, Asperger sendromlu çocuklarda zihinselleştirmenin ve duygu düzenleme sürecinin psikodinamik psikoterapideki gelişim ilişkisi incelenmemiştir. Bu vaka çalışmasında, Asperger sendromlu bir çocuğun iki yıl süren zihinselleştirme temelli psikodinamik psikoterapideki zihinselleştirme süreçleri, zihin durumlarına yönelik anlatıları ve duygu düzenleme kapasitesinin zamansal ilişkileri incelenmektedir. 52 oyun terapi seansı, seansların yansıtıcı işlev uyum puanlarını elde etmek amacıyla Child Psychotherapy Q-Set (CPQ; Schneider & Jones, 2004) ile; çocuğun duygu düzenleme kapasitesini anlamak için Children's Play Therapy Instrument (CPTI; Kernberg, Chazan, & Normandin, 1998) ile; ve çocuğun oyundaki zihin anlatılarını anlamak amacıyla the Coding System for Mental State Talk in Narratives (CSMST; Bekar, Steele, & Steele, 2014) ile kodlanmıştır. Zihinselleştirme süreci, çocuğun zihinsel anlatıları ve duygu düzenleme kapasitesi arasındaki nedensellik ilişkisine Granger Nedensellik Testi ile bakılmıştır. Bulgular, seansların yansıtıcı işlev uyumunun sadece çocuğun bir sonraki seansta oyuna ilişkin duygu ve fizyolojik zihinselleştirme kelimeleri kullanımına neden olduğunu; çocuğun sadece oyuna ilişkin fizyolojik zihinselleştime kelimelerinin ve ötekine ilişkin duygu zihinselleştirme kelimelerinin bir sonraki seansta duygu düzenlemeye neden olduğunu göstermiş; yansıtıcı işlev uyumu ve duygu düzenleme arasında bir ilişki bulunamamıştır. Nitel analizler, çocuğun erken dönem zihinselleştirme düzeyine bağlı olarak, duygu düzenlemenin diğerinin fizyolojik ve duygu zihin durumlarını anlayarak gerçekleştiğini göstermiştir. Sonuçlar psikodinamik oyun terapisinde yapılan etkili zihinselleştirme müdahalelerinin Asperger sendromlu çocukların zihinselleştirme ve duygu düzenleme kapasitelerinin gelişimine katkıda bulunduğunu desteklemektedir.

Anahtar Kelimeler: Asperger sendromu, zihinselleştirme süreci, zihinsel anlatı, duygu regülasyonu, psikodinamik oyun terapisi

CHAPTER 1
INTRODUCTION

Mentalization has been conceptualized as the conscious and unconscious attempts in reflecting on mental states of one's self and others (Fonagy, Gergely, Jurist, & Target, 2002). Play has been an important area where the therapists offer a safe environment for the child to express his/her emotions. Like the primary caregiver's function in the development of mentalization, the therapist's emphatic stance and reflection on the child's thoughts, feelings and desires enables the child to investigate self and others' mental states in the therapeutic relationship (Brent, 2009). Therefore, it was stated that mentalizing interventions in mentalization based psychotherapy for children enhance children's emotion regulatory capacities in here-and-now experiences and activates symbolization capacities (Verheugt-Pleiter, Zevalkink & Schmeets, 2008). However, the interrelations between therapist's mentalizing interventions and the children's development of emotion regulatory capacities have been investigated in very few empirical studies (i.e. Halfon, Bekar & Gurleyen, 2017a).

Asperger's syndrome (DSM-5, American Psychiatric Association; APA, 2013) is defined as impairments in reciprocal social interaction and presenting restricted, repetitive behaviors and interests. People with Asperger's syndrome have difficulty in functioning especially in social areas regardless of the individual's developmental level. The individual experiences difficulty in attributing mental states to others' behaviors and intentions (Lobar, 2016; Goodman, Reed & Athey-Lloyd, 2015). As children with Asperger's syndrome have difficulties in understanding emotional states, expressing them in appropriate ways and have deficits in Theory of Mind (ToM; Premack & Woodruff, 1978), it was suggested that they might encounter some challenges in developing affect regulatory capacities (Klin & Volkmar, 2003). Regarding the characteristics of mentalization-based therapy, mentalizating interventions were seen as good mediums to enhance social understanding and affect regulation abilities in children with Asperger's syndrome. Goodman and colleagues (2015) conducted the first

study of MBT with a 6-year-old boy diagnosed with Asperger's syndrome (DSM-IV-TR; APA, 2000). They found implicit therapeutic changes where the therapists put more emphasis on affective states of the child which contributed enhanced mentalization skills (Goodman, Reed, & Athye-Lloyd, 2015). However, there is more empirical evidence needed to suggest mentalization process as crucial in psychotherapy with children with Asperger's syndrome (Goodman, Reed, & Athye-Lloyd, 2015).

In this current study, we aimed at moving forward the case study conducted by Goodman and colleagues (2015) with the 6-year-old boy with Asperger's syndrome. The temporal associations between mentalization process and the use of mental state talk of the child and child's capacity to regulate affect will be studied. This is a single case study of a child with Asperger's syndrome who underwent 54 sessions of psychodynamic play therapy with two different training doctoral clinical psychology students. Each session will be coded for therapists' adherence to the Reflective Function prototype by the Child Psychotherapy Q-Set (CPQ; Schneider & Jones, 2004), child's use of mental state talk by The Coding Manual for Mental State Talk in Narratives (CSMST; Bekar, Steele, & Steele, 2014) and affect regulation by The Children's Play Therapy Instrument (CPTI; Kernberg, Chazan, & Normandin, 1998).

Before presenting method and results of the current study, in the upcoming pages, a literature review is conducted starting with the development of mentalization and developmental stages in mentalizing children. Then the relationship between mentalization and play is discussed. After presenting literature on mentalizing interventions with children through play, we focused on empirical findings in mentalizing interventions, mentalization process and affect regulation. Later on we defined Asperger's syndrome and discussed Theory of Mind deficit and affect regulation deficit in Asperger's syndrome. Along with those, empirical studies conducted on mentalization process with a child with Asperger's syndrome is presented. Following these, the current study is described and discussed.

1.1. THE DEVELOPMENT OF MENTALIZATION IN CHILDREN

1.1.1. The Development of Mentalization

Bowlby (1982) developed his theory of attachment based on the ideas which emphasized the importance of early relationships and their effects on human beings through lifespan on cognitive and emotional development. Attachment system was conceptualized as an inborn and biological motivational system which promotes social and affective bonding in the early interactions between the caregiver and the infant (Bowlby, 1969). Bowlby (1980) proposed that infant's feelings of security and connectedness on the accessibility and responsiveness of attachment figures form the regulation and organization of the infant's emotional experience. With keeping sufficient proximity to an attachment figure, the most important function of attachment, which is survival and maintenance of affect regulation, is accomplished. The infant finds the needed confidence in engaging with the outside world with the sense of security only by repetition of proximity to an attachment figure (Bowlby, 1988; Bretherton, 1992). It was proposed that humans are motivated to maintain this proximity in order to keep the stress-reduced environment (Bretherton, 1992). However, it was stated that when the attachment figure is not responsive or available, children are not able to use their caregiver as a secure base and such separations put the infant in stress which signals the need for reunion and activates attachment system (Bowlby, 1971). Bowlby formulated that the quality of attachment is determined by the sensitive responses of the caregiver to the infant in times of emotional distress when separation from the caregiver happens. (Bowlby, 1980, p.137).

Following Bowlby, Mary Ainsworth developed a methodology in order to test Bowlby's ideas and her innovative works not only helped expand the theory itself but also gave new directions to the theory on the concept of maternal sensitivity and its role in the development of mother-infant attachment patterns (Bretherton, 1992). Although Ainsworth's work contributed to the understanding of behavioral patterns of attachment, foreground and outcomes of attachment

security, Main was able to explain attachment theory on representational level rather than behavioral approach. With her approach, Main was able to explain how secure attachment develops and how secure base is established by using Bowlby's concept of internal working models of attachment (Slade & Aber, 1992). Main's empirical shift from behavioral level to representational level in measuring attachment enabled the development of Adult Attachment Interview (AAI: Main, George & Kaplan, 1985). There became a chance to examine the concordance of infant-mother attachment patterns and after a significant level of consonance between infant's security and parental security found, the term Reflective Function was introduced in order to assess the parental capacity for understanding infant's mental states (Fonagy et al., 1991). They proposed that reflective function is a mental operation which enables person to make sense of both oneself's and others' behaviors in coherent mental state constructs (Fonagy & Target, 1997). It was pointed out that sensitive caregiving through observing and understanding child's mental states is the core element of secure attachment which in turn provides a basis for understanding one's and others' mind (Grossmann, Grossmann, Spangler, Suess & Unzner, 1985). Therefore, Fonagy & Target (1997) proposed that through capacity of reflective function, a ground can be built for a secure attachment.

Fonagy (1991) came up with the concept of mentalization after strong relationship between reflective function and attachment quality empirically presented (Fonagy et al., 1991). Mentalization has been conceptualized as being able to attribute mental states to self and others which is acquired over the course of development (Fonagy & Target, 1997). These attributions make people's behaviors, intentions, and affects predictable and meaningful (Fonagy, Gergely, Jurist & Target, 2002). This plays a crucial role in the development of impulse control, affect regulation, self-monitoring and flexible self-agency (Fonagy & Target, 1998).

Mentalization means making assumptions that others may also have their own internal worlds, thoughts and feelings as well as one's self (Fonagy, Gergely et al., 2002). This ability presumes intentionality and second-order representation (Verheugt-Pleiter, Zevalkink & Schmeets, 2008). To develop a mentalizing self,

children need a sensitive caregiver who can explore and mentalize an infant's mind and therefore child can construct a hypothetical representation of him or herself through the caregiver's mind to understand own behaviors, thoughts, feelings and intentions (Verheugt-Pleiter, et al., 2008). A child who can find an image in the caregiver's mind not only understands one is motivated by thought, intentions and feelings but also can think about others' motivations and learn that there might be some incorrect assumptions (Sharp, Fonagy & Goodyer, 2006). This, in turn, helps the child to develop a better sense of self which instills better coping skills with adversity and contributes psychological adjustment (Fonagy, Steele, Steele, Higgitt & Target, 1994). In children who have an omission in this process feel misunderstood, unheard or seen which would lead to develop a chaotic inner world (Verheugt-Pleiter, et al., 2008, p.3).

1.1.2. Developmental Stages of Mentalizing Self in Children

Fonagy and his colleagues (2002) argued that in order to become fully mentalizing self as an agent, the self goes through several stages named as physical, social, teleological, intentional and representational stages, which evolve through the first five years of life. In the physical stage, it was proposed that sensory data and child's own body is used as a source of knowledge. The self is able to differentiate what is self and what is not self through interactions between his/her body and the environment. Also, infants become to understand their impact on the behaviors and emotions of others via their physical existence and actions (Schemeets, 2008). Realizing that child's own physical actions has a meaning in the caregiver's mind and initiate actions in return constitutes the development of self as a social agent (Verheugt-Pleiter, et al., 2008).

After the first few months, the infant begins to generate some expectations about his/her caregiver's reactions, based on their earlier interactions. These expectations lead to prediction of behaviors of others (Fonagy et al., 2002). Understanding the relationship between physical existence and its consequences brings the child into the teleological position (Fonagy & Target, 1997). Gergely and

Csibra (1997) proposed that this stage takes its place during the second half of the first year. In teleological position, children make sense of the world around them based upon audible, tangible and visible stimuli. This refers their ability to think presymbolically and make an inference just upon physical and visible realities other than internal states (Gergely & Csibra, 1997). Therefore, child is not yet able to mentalize others' thoughts and feelings.

Around the second year of life, the child begins to realize the intentions and motivations that put others in action in certain different ways (Fonagy & Target, 1997). The conceptual shift from explaining the world from physical body to the mind which enables the child to understand others' intentions are decisive rather than physical actions is accounted as the first step in mentalization (Fonagy, Gergely et al., 2002).

Around the three or four years of age, after acknowledging others having intentions and mental states, the child begins to realize the possibility of mental causality. The child begins to attribute causation and predict behaviors based upon prior experiences and intentions (Fonagy, Gergely et al, 2002). This refers not only to a developmental shift from the physical world to the mental states, but also to a conceptual shift from physical level to a representational level. This gives way to abstract thinking. Thinking in representational level gives children the ability to communicate their actions considering their intentions, thoughts and feelings (Tessier, Normandin, Ersink & Fonagy, 2016). Developing sense of self as having mental states requires actual internal experiences along with understanding others' mental states with conceptual experiences of them. Therefore, the actual experiences are conceptualized as first order representations, the second order representations are conceptualized as second order representations (Fonagy, Gergely et al., 2002).

1.1.3. The Representational Loop: Parental Affect Mirroring

Within the first experiences of a caregiver with an infant, the caregiver approaches her child with an assumption that the child has his or her own intentions

within his/her behaviors (Fonagy, Gergely, et al., 2002). With this assumption, the caregiver verbalizes her infant's needs and in time, with the formation of relational representations, the child finds his/her image in the mind of the caregiver and develops his or her internal world based upon his/her caregiver (Fonagy, Gergely et al., 2002; Fonagy & Target, 1998).

Winnicott (1967) defined this process as "giving back to the baby the baby's own self", where mental states of the infant are contained. The caregiver not only mirrors the child's behaviors but also reflect the child's mental states, and this process contains the interchange of the affective states (Fonagy, Gergely et al., 2002). Fonagy and his colleagues (2002) used a specific term for this interchange of affects between the caregiver and the infant as representational loop. After the mother recognizes the primary affective state of the child and gives it back as a secondary representation to the child, the child recognizes him/herself in his mother's mind and then the primary experiences turn into secondary representations (Verheugt-Pleiter, et al., 2008). Schmeets (2008) proposed that the child bases his/her sense of self and self-organization upon this metabolized secondary representation.

In order to develop capacity to understand and regulate affect of one's self and others and to understand me and not me experiences, there should be 'reasonable congruency of mirroring' between the child and the mother (Gergely & Watson, 1999). This reasonable match refers to the congruence between child's internal mental states and how accurately the mother reflects upon them. This is an important factor for the development of mentalization capacity (Gergely & Watson, 1996). If the secondary representation from the mother and the child's primary effect is too similar, there may not be a space for the child to distinguish what is in his/her internal states and external reality and self and other become one and cannot be differentiated (Fonagy, Gergely, et al., 2002). If they are too different then he/she cannot make connections between primary experiences and secondary representations and then he/she cannot build accurate representations about self and others. There, Winnicott (1971) proposed a term called 'transitional space' in which child learns to mentalize and symbolize with accurate secondary representations

coming from the mother on his/her primary experiences. Then the child is able to differentiate self and other experiences.

It was pointed out that if the child's own primary experience is not reflected accurately enough in the mind of the caregiver, he/she cannot perceive his/her own mental experiences so an optimum distance to see the meaning behind others' behaviors can not be built, which in turn results in inflexible patterns of attribution (Fonagy, Gergely et al., 2002). As the attachment quality is strongly associated with the ability to mentalize for both the child and the caregiver, for a secure attachment, the sensitivity of the caregiver plays an important role through marked mirroring of affective states of the child. Secure attachment provides a psychosocial basis for understanding of mind (Fonayg & Target, 1997). Then the child is able to regulate his/her emotions (Fonagy, Gergely et al., 2002).

1.1.4. The Development of Mentalization in Play

The play provides a space where initial physicality that is provided by the caregiver becomes the floor and past and future is condensed in the present moment while the child is in play (Winnicott, 1971). This safe place which is between the impossible and probable gives the child the chance of distilling his/her experiences with a curiosity about the unusual with confidence (Moran, 1987). The play activity which necessitates sensations, perceptions and physicality acquires the use of symbols. (Chazan, 2002, p.23). There, the child gets a chance of extending his/her representations to manipulate past experience and enhance his /her coping skills.

Symbolic play and mentalization are related in terms of acquiring a secure attachment relationship which gives the child flexibility to explore internal mental states (Halfon & Bulut, 2017). Therefore, play enables us to assess the development and limitations of mentalizing capacity in child's development (Verheugt-Pleiter, et al., 2008). In order to propose play as a prototype for the development of mentalizing capacity, 3 phases of thinking, as actual mode, pretend mode and integration, were suggested. (Fonagy & Target, 1997). In the actual mode, the fantasies and realities cannot be distinguished where a boundary can be established

between them in the pretend mode. When there is a boundary between fantasies and reality, child securely explores the internal and external worlds of him/herself and others and this happens in the representational level where the child needs to develop mentalizing capacities (Fonagy & Target, 1997). Children engage in more sophisticated pretend plays when they have more shared dyadic mental state talk with their caregivers (Lillard & Kavanaugh, 2014). In the integration mode, the child distinguishes the difference between the actual mode and pretend mode (Fonagy & Target, 1997). The child realizes play as a medium where he/she actually pretends and gets aware of what is in his internal world.

Integration of reality with the awareness of pretending child's own feelings, thoughts, desires and intentions in the play, the child begins the form self as an agent (Verheuugt-Pleiter, et al., 2008). Through playfulness the child can experience interpersonal relationships with the causes and consequences of actions in a secure environment with confidence.

1.2. MENTALIZING INTERVENTIONS: ATTENTION REGULATION, AFFECT REGULATION AND MENTALIZATION

To the path of establishing more securely attached relationships, coherent self and other representations, developing more stable internal states and acquiring better emotion regulation capacities in the psychotherapy process, Bateman and Fonagy (2006) described mentalization based approach in adult psychotherapy. Along with the assumptions of play's role in development of mentalization, Vergheut-Pleiter and colleagues (2008) conceptualized mentalization interventions in psychotherapy for children where the therapists work with primary experiences in order to activate symbolization capacities of the child. In mentalizing interventions, therapists reflect upon child's inner world and affective quality of interaction in the here-and-now experiences to enhance child's skills in understanding different mental states. However, different important factors are stated while working with children.

Pozzi (2003) proposed that while it is important to realize child's experiences and emphasize affective states, it is more important to attend child's developmental level of functioning and work with the child in the same level. First, the child needs to feel understood and accepted by the therapist in the play. Early in the process, the therapist needs to attend child's mental states in the simplest forms and then child learns to attend more complex forms of mental states in the symbolic play (Josefi & Ryan, 2004). The therapist can use play as a medium of discovering unconscious processes, however, the child can learn looking for unconscious process mostly by the help of therapist who points out moment-to-moment changes in the mental states during the play (Fonagy & Target, 2009).

In order to suggest a structure for mentalizing interventions while working with children, Verheught-Pleiter and colleagues (2008) conceptualized different levels which are built on each other in the psychotherapy process. These are attention regulation, affect regulation and mentalization respectively. This assessment method has been used to assess mentalizing capacity of children for attention regulation, affect regulation and mentalization in mentalization based-child psychotherapy (Muller & Midgley, 2015).

Attention regulation is the first level where the therapist creates attention to child's inner world and provides primary cognitive function like in the early attachment relationship where the mother creates an atmosphere that the child internalizes the capacity to direct impulses via his/her mother (Verheugt-Pleiter et al., 2008). In order to evaluate attention regulation, they look whether therapist accepts the child's regulation profile and attunes to the same level, names or describes physical states of the child, works on the ability to contact, works on the basis for intentional behavior and gives reality value to preverbal interactions of the child (Verheugt-Pleiter et al., 2008). First of all, the therapist needs to realize child's regulation profile and attune to the same level. In this level, the therapist needs to pay attention to the content of the child's activity and offer structure in the play. In order to provide an attentive and understanding environment, the therapist needs to make points about physical states of the child so that the child can distinguish individual and environmental physical constructs and built a self as an independent

agent. Describing behaviors enables the therapist to aim at naming and describing cognitive and affective states. The child not only learns to define physical states, but also learns to look for the underlying cognitive and affective content in his/her inner world. The next step is naming/describing feelings of anxiety under threatened conditions where the child begins to learn how to cope with these anxious situations. When the therapist points out the behavior and creates a space to think on, the child begins to realize how he/she feels in that certain situation. An important step in developing coping mechanisms with anxiety provoking situation is therapist's tool of using own sense of anxious feeling in the threatened situation (Verheught-Pleiter et al., 2008).

Affect regulation is described by Fonagy, Gergely and colleagues (2002) as one's recognition of own's emotions in the presence of other and development of coping mechanisms to regulate emotions that emerge in self and mutual relationships. They offered 3 main criteria to evaluate affect regulation during mentalization-based child psychotherapy. They assess whether the therapist plays within boundaries, gives reality values to the affect states and deduces second-order affect representations (Verheugt-Pleiter et al., 2008). It is important to note that, the child can develop affect regulation capacity with the help of the 'other', where the other first recognizes and reflects upon child's affective states in the early attachment relationship. Then the child recognizes his/her self as an active agent and the primary intersubjectivity is formed in this mutual relationship. This dyadic relationship provides an organization where the caregiver facilitates as an ego function to regulate intense affective states to optimal levels. Like the dyadic relationship in the early years, the relationship between a child and a therapist carry pretty much the same function. The therapist first gives reality value to child's inner world, describes feelings, thoughts, desires and behaviors of the child during the play activity (Chazan, 2002). Play provides a safe environment for the child to share different affects and enables the child to realize underlying feelings behind the behaviors where the therapeutic boundaries give secure space for the child to investigate his/her inner world (Moran, 1987). The therapist helps the child to distinguish fantasy and reality in the pretend play through the use of symbols which

represent different affective states of the child (Verheugt-Pleiter et al., 2008). So in this relationship, the child begins to internalize the function of the therapist like he/she learns how to regulate emotions in the relationship with the caregiver. Therefore, in the development of affect regulation, it is very important to work on negative emotions in the therapeutic relationships where the child can master how to regulate him/herself by internalizing therapist's capacity to regulate unbearable emotions through affective relationship (Laurent & Robin, 2004). Here, play serves as a medium which offers an environment for expression of wide range of emotions through different symbolic characters which enables the negative material to be worked on in the development of affect regulation (Chazan, 2002). Then the child can have a chance to transform the negative experiences in this safe area. So it was stated that when the child is able to play with the awareness of difference between fantasy and reality and expresses different kinds of emotions in the therapeutic relationship, he/she becomes more aware of self and other experiences and gives better meaning to his/her inner world as well as external world which would lead to better self regulatory capacity (Fonagy &Target, 1996).

Verheught-Pleiter and colleagues (2008) offered mentalization as the final level in the hierarchical model of interventions in mentalization-based child therapy that they offered. In order to assess mentalization, they evaluate whether the therapist comments on mental states, while commenting on mental process of the child and comments on interactive mental process (Verheugt-Pleiter et al., 2008). Although a child can be on different levels during the course of the session, the most important component for the therapist is to recognize the child's level and needs. The therapist remarks not only child's needs but also his/her thoughts, fantasies and intentions through the use of play characters during the play. Then the child begins to understand his/her own mental states as well as others. It is important to note that the child develops mentalization capacities in the dyadic relationship with the therapist who works with the representational world where the child is enabled to organize these representations (Halfon et al., 2017a). First, the therapist serves his/her mentalizing capacity and then introduces the child his/her emotional states by naming and describing them. So it is important for the therapist

to introduce the child mental states of significant others in the development of mentalization. Only then the child is enabled to transform his/her representational world. When the therapist works with the child on his/her feelings, thoughts, and desires and accompanies in transforming his/her representational world, the child begins to adapt his/her environment in variety o ways (Slade, 1994).

1.2.1. Empirical Studies in Mentalizing Interventions, Mentalization Process and Affect Regulation in Psychodynamic Play Therapy

Although different evidence-based treatments offering different strategies for both children and parents were presented in child psychotherapy, the focus was limited to specific diagnoses or symptoms (Midgley, Ensink, Lindqvist, Malberg, & Muller, 2017, p.65). However, the necessary emphasis that should be put on affect regulation skills were not enough in those treatment models. Therefore, Midgley and colleagues (2017) created a treatment model called 'Mentalization Based Therapy for Children'. This treatment model was created for children between the ages of 5 and 12 to promote resilience in children with different presenting problems. It is a time-limited approach relying mostly on fundamental psychodynamic principles where mentalizing interventions are used to promote child's capacity for emotion regulation. It was proposed that MBT-C may be suitable for children who present affective and anxiety disorders, moderate behavioral problems, adjustment problems in life challenge and attachment difficulties (Midgley et al., 2017, p.65).

Although there isn't enough research to claim its effectiveness on specific diagnoses, it was proposed that MBT-C can be suitable for different diagnoses (Midgley et al., 2017, p.67). It was reported that MBT-C can be beneficial for children diagnosed with mild anxiety problems and mood disorders (Muller, & Midgley, 2015). Although there is more empirical research on the effectiveness of adult version of MBT for a broad range of diagnoses, it was shown that for children who experience severe disruptions in emotional bonds and diagnosed with depression, mentalization based treatment can be quite beneficial to develop affect

regulatory skills and develop more coherent sense of self (Ramires, Schwan, & Midgley, 2012). In another study, significant changes in mentalization within a psychodynamic psychotherapy in a sample of adolescents diagnosed with depression were reported (Belvederi Murri et al., 2017). Also, Muller and Midgley (2015) indicated that traumatized, adopted and foster care children can benefit from MBT-C. The most important factor that was defined for MBT-C is the process of labeling children's feelings in order to give them space to explore their feelings under the trustworthy nature of therapeutic relationship with a therapist. So it was suggested that even with neurodevelopmental disorders like autistic spectrum disorder (ASD), those children can benefit from MBT-C where they have a chance of developing mentalizing skills and learn to explore their feelings while they have a chance to accept their mentalization skills are different from others, which will serve to understand what they may be able to change and develop in order to deal with their difficulties in social areas. (Midgley et al., 2017, p.67).

Although mentalizing interventions can pinpoint therapist's treatment factors on the development of child's affect regulatory capacity, it is important to understand the role of reflective functioning and mentalization process in the psychotherapeutic relationship (Halfon & Bulut, 2017). Schneider and Jones (2004) developed the Child Psychotherapy Q-set, which is an adaptation of Psychotherapy Process Q-set (PQS; Jones, 1985, 2000), to assess psychotherapy process of children between ages 3-13 (Schneider, Midgley, & Pruetzel-Thomas, 2015). This coding system is used to assess reflective functioning adherence to understand mentalization process in child psychotherapy. In order to capture RF adherence, the loaded factors on PDT, CBT and RF prototypes in CPQ were investigated (Goodman, Midgley, & Schneider, 2016). The RF adherence score has been established to the extent to which each session is similar to the RF prototype. They found that most characteristic RF process prototypes are "*therapist's sensitivity to child's feelings, therapist's emphasis on verbalization of internal states and affects, therapist's accurate perception of the therapeutic process and making links between child's feelings and experience, shared vocabulary of event or feelings, therapist's interaction with the child regarding child's level of development,*

therapist's comments on changes in child's mood or affect, child's exploration of relationships with significant others and discussing about the interruptions, breaks in the treatment or termination of therapy" (Goodman, Midgley, & Schneider, 2016). After these results, RF adherence that is assessed by using CPQ has been used in different studies in order to understand the nature of the psychotherapeutic relationship (Goodman, Reed, & Athey-Lloyd, 2015; Ramires, Godinho, Carvalho, Gastaud, & Goodman, 2017; Halfon & Bulut, 2017).

In their research, where Goodman, Reed and Athey-Llyod (2015) worked on the therapeutic changes in the psychodynamic treatment of a child with Asperger syndrome with two different therapists, they found that RF process was more prominent in both treatments. The results showed that along with therapists' sensitivity for child's feelings, discussions of breaks in the treatment, therapists' accurate perceptions of the therapeutic process, which are among the characteristics of RF adherence, the child became more tolerant on therapeutic interventions and less impulsive (Goodman, Reed, & Athey-Lloyd, 2015). Ramires and colleagues (2017) studied on a single case of psychodynamic treatment of a seven-year-old child with internalizing and externalizing symptoms. They found strong associations between therapist's stance in relation to RF adherence and child's improvements in affective expression and interpersonal relationships. They argued that, therapist's comments on changes in the child's mood and affect and verbalization of child's internal states and affects, which has been stated by Goodman et al. (2016) as among the most characteristic items in RF adherence, helped the child to think on his behavior by linking his behavior and underlying intention when he displayed dysregulated emotions and behaviors (Ramires et al., 2017). Also they revealed that therapist's toleration of strong impulses and verbalization of unpleasant emotions, which have been stated as one of the most characteristics of RF adherence (Goodman et al., 2016), helped the child to understand his impulses were not so destructive that he had a chance to elaborate on his negative emotions and distruptive behaviors (Ramires et al., 2017).

To establish a more comprehensive approach in measuring children's ability to engage in pretend play and regulate affect in psychodynamic aspects, the

Children's Play Therapy Instrument (CPTI; Kernberg et al., 1998) was developed. CPTI has been used to assess affect regulation capacities of children with different diagnoses and children's affect loaded representations during the play (Halfon et al., 2017b). When we look deeper into the research area, we encounter different studies on affect regulation in children's psychotherapy process with different diagnoses (Halfon, Oktay, &Salah, 2016; Halfon, 2017; Halfon et al., 2017a; Halfon et al., 2017b, Halfon & Bulut, 2017). In their study where they compared affect component during the play between internalizing and externalizing children using CPTI, they found that externalizing children presented more negative affect and higher levels of anger during the play where internalizing children were also found to be associated with higher levels of negative affects and lower levels of arousal (Halfon, Oktay, & Salah, 2016). Also in another study, it was found that children with depressive symptoms exhibited constricted and limited affect in play (Halfon, 2017). In order to understand specific interrelations between both therapist and child's mental state word utterances and affect regulation within the psychodynamic psychotherapy process with two different single-case studies in which children were both diagnosed with separation anxiety disorder, it was found that both therapists and children's use of mental state talk within the play in the previous sessions significantly predict children's affect regulation in play for the next session (Halfon et al., 2017a). Another study that was conducted on the parent-child dyads during parent-child dyadic play sessions, association between parent's mental state talk usage and child's behavioral problems as well as characteristics of play was investigated. It was found that mother's mental state talk is positively correlated with children's capacity to regulate during the play (Halfon, Bekar, Ababay, & Dorlach, 2017b).

In order to understand the link between mentalization adherence and affect regulation, the experienced Regulation-Focused Psychotherapy for Children clinicians composed a prototype for RFP-C and compared it with CPQ prototype for RF adherence (Prout et al., 2015) They established an affect regulation composite where they put more emphasis on therapist's sensitivity and responsiveness to child's affects and feelings, therapist's implications on child's

unacceptable feelings, unconscious wishes and therapist's attempts in linking child's feelings and experiences where endings in the therapy process can be discussed while the child can show negative feelings and challenge the boundaries of the therapy hour. It was found that RPF-C prototype is strongly correlated with RF adherence profile, suggesting that reflective function show quite parallel qualities with aimed affect regulatory interventions (Prout et al., 2015). In the study, where the associations between RF adherence, symbolic play and affect regulation capacities of children with behavioral problems that went under psychodynamic treatment were assessed, RF adherence was measured by CPQ and the affect regulation capacities were measured by CPTI (Halfon & Bulut, 2017). RF adherence was found to be strongly associated with symbolic role play and affect regulation where higher RF adherence was predictive of a quadratic trend increase for affect regulation and symbolic play in later sessions (Halfon & Bulut, 2017). The authors found that although the children in their sample were not stable at expressing their affects, the therapists' RF adherence in sensitivity and attunement to children's affects provided children a context where the children gained the ability to regulate affect toward the end of the treatment (Halfon & Bulut, 2017). However, there is more research needed and there is no empirical research which investigates affect regulatory capacities considering mentalization process of psychodynamic child psychotherapy with children diagnosed with Asperger's syndrome.

1.3. ASPERGER'S SYNDROME

It was proposed that Asperger's syndrome characterized by the impairment in social interaction which impede functioning in social area and restricted and repetitive patterns of behaviors which are persistent from the early childhood (DSM-IV-TR; American Psychiatric Association; APA, 2000). Although Asperger's syndrome has common features with autism, there are domains that draw apart it from autism like the absence of cognitive and language delays (DSM-IV-TR; APA, 2000). However, people with Asperger's syndrome show difficulty

in organizing body movements and use of speech in social interactions (Lobar, Fritts, Arbide, & Russel, 2008). Asperger's syndrome has ben described in many ways since it was first proposed by Asperger in 1994, and it is now described with limited criteria in DSM-V (Lobar, 2016). After studies have been performed to assess the clarity of the criteria in distinguishing Asperger's syndrome from others, they found that Asperger's syndrome and pervasive developmental delay have so many criteria in common and it is hard to distinguish them from each other (Teitelbaum et al., 2004).

Asperger's syndrome is classified as a 'higher functioning' type of autism spectrum in DSM-IV (Lobar, 2016). Rather than classifying it as higher functioning autism, in DSM-V, more emphasis is put on impairments in reciprocal social interaction and restricted, repetitive behaviors and interests (DSM-5, American Psychiatric Association; APA, 2013). Also, when distinguishing Asperger's syndrome from high functioning autism, it was proposed that children with Asperger's disorder actually require social interaction and suffers from not developing relationships with peers while children on the spectrum show indifference in developing friendships with peers (Holloway, 2015, p.148). Asperger's syndrome is included in the spectrum of ASD (DSM-5, APA, 2013). These criteria require impede functioning especially in social areas regardless of the individual's developmental level and the individual experiences difficulty in attributing mental states to others' behaviors and intentions (Lobar, 2016; Goodman, Reed & Athey-Lloyd, 2015). Children with Asperger's syndrome may show impulsive, clumsy and dyspraxic behaviors and they may have difficulty in judgment of social interactions (Lobar, 2016). From the early years, they may lack in maintaining peer relationships because of difficulty in reciprocal speech with oddly toned speech and inability of using social space and difficulty in attributing others' mental states (Lobar, 2016). Because of these inabilities in reciprocal relationships, they may get bullied by peers and they encounter problems about self-esteem (Lobar et al., 2008).

1.3.1. Theory of Mind Deficit in Asperger's Syndrome

Theory of Mind is referred as the ability to assess one's own as well as others' mental states (Frith, & Happe´, 1994). It includes recognition of other people as experiencing feelings, thought, desires and intentions that are different from one's self (Adolphs, 2001). This cognitive ability enables people to understand and predict behaviors of others and it plays an important role in establishing and maintaining social interactions (Premack & Woodruff, 1978). Therefore, ToM can be referred as one of the core elements in establishing interpersonal relationships (Wellman, Cross, & Watson, 2001).

However, several studies have shown that children with autism or Asperger's syndrome have delayed cognitive development which lead to deficit in ToM (Baron-Cohen, Leslie, & Frith, 1985; Feng, 2001; Perner & Wimmer, 1985; Williams & Happe, 2009). The delay in the cognitive and language development leads to difficulties in understanding feelings, thoughts and intentions behind the behaviors of both one's self and others (Baron-Cohen, Leslie, & Frith, 1985). Therefore, children in the spectrum of autism show difficulties in recognition of different mental states. Impairment and delays in understanding different mental states have consequences on relational and communicational domains. The term of theory of mind deficit has been used to explain these communicational and social impairments in autism spectrum disorder (Duverger, Da Fonseca, Bailly, & Deruelle, 2007).

There have been measures in order to assess theory of mind. Although there was an agreement upon children who are in the spectrum of autism as encountering difficulties in Theory of Mind Tasks, there have been discussions about whether children diagnosed with autism and Asperger's syndrome could be said to have the same level of difficulty in understanding others' minds. It was suggested that as children with Asperger's syndrome have better language skills, they are better at Theory of Mind Tasks (Tine, & Lucariello, 2012). It was proposed that children diagnosed with autism mostly fail on first order false-belief ToM tasks where the child needs to understand the character acts on a false belief in Sally-Anne Story

(Wimmer & Perrner, 1983). However, children with higher functioning autism succeeded on this task. On the other hand, they had difficulty in more advanced type of ToM tasks where second-order false belief task requires understanding of one character may have feelings, thoughts and beliefs about another character's thought (Wimmer & Perner, 1983). Therefore, based on research, it was suggested that, from the theory of mind deficit perspective, children with Asperger's syndrome demonstrate difficulties in understanding intentions of others rather than understanding physical causality conditions (Duverger, Da Fonseca, Bailly, & Deruelle, 2007).

As ToM deficit may cause some difficulties in understanding beliefs, thoughts and intentions of both self and others, therefore difficulties in predicting others' behaviors, it was suggested that the same difficulty in understanding social interaction will be observed during the pretend play with children on autism spectrum (Premack, & Woodruff, 1978; Astington, 1993; Rutherford, Young, Hepburn, & Rogers, 2006). It was suggested that awareness of different mental states lead to meta-representation which is believed to be strongly related to the cognitive capacity which pretend play requires (Lee, Chan, Lin, Chen, Huang, & Chen, 2016). Lin and colleagues (2017) found that ToM played an important role in the quality of pretend play where children with autism demonstrated more simplistic, monotonous and inflexible features during the pretend play. Even though children with higher functioning autism might be better at ToM and pretend play, it was demonstrated that the quality of pretend play had features that are learned cognitively from others rather than spontaneous actions (Lin, Tsai, Li, Huang, & Chen, 2017).

1.3.2. Affect Regulation Deficit in Asperger's Syndrome

Affect regulation is one's ability, that is acquired along the continuum of development, which helps developing capacity to cope with different forms of emotion and arousal states (Laurent & Rubin, 2004). While it is worth to note the importance of one's social skill abilities in developing relationships, it is also

important that affect regulation capacity is an essential factor in the continuum of these relationships. Individuals, who show better emotional regulatory capacities, are better in communicating and maintaining social relationships (Prizant, Wetherby, Rubin, & Laurent, 2003). Emotional regulation can be based upon two different domains which develop thorough the course of life as self-regulation and mutual regulation (Tronick, 1989). While self-regulatory capacities refer to internal capacities to cope with emotions, mutual regulation refers to the capacities to regulate in the presence of other (Laurent & Rubin, 2004). To accomplish a well-regulated self, one needs to both use different mediums to regulate him/herself and attain social interaction in the optimal state of arousal regarding the social and environmental demands (Miller et al., 2004). However, children with Asperger's syndrome encounter some challenges in developing affect regulatory capacities (Klin & Volkmar, 2003).

It was proposed that deficit in Theory of Mind process may not only hold for others and one's own mental states, but also for emotional states (Samson, Huber, & Gross, 2012). Furthermore, with this assumption, it was suggested that lack in Theory of Mind might be related to difficulties in understanding and labeling one's own emotions (Samson, Huber, & Gross, 2012; Barrett, Gross, Conner, & Benvenuto, 2001). Therefore, it was suggested that as children with Asperger's syndrome experience deficits in Theory of Mind (ToM; Premack & Woodruff, 1978), based on their cognitive processes, they might experience difficulties in affect regulation strategies (Samson, Huber, & Gross, 2012). When a typically developing child encounters an emotion which increases the level of stress, the child uses different kinds of strategies to reduce the stress level or if the child enjoys the interaction, he/she shows more interest in remaining engaged in the relationship (Laurent & Rubin, 2004). As the child gets older, he/she begins to develop capacities in understanding the current emotions, expressing them in sophisticated ways or inhibiting emotional reactions considering the social and cultural norms (Miller, Robinson, & Moulton, 2004). When children cannot develop these affect regulatory skills, emotional dysregulation is likely to occur. As children with Asperger's syndrome have difficulties in understanding their emotional states,

expressing them in appropriate ways in social exchange and understanding social norms, they are more prone to extreme consequences of emotion dysregulation, therefore they are more prone to develop idiosyncratic or inappropriate self-regulatory capacities in order to cope with stress (Laurent & Rubin, 2004).

As the most important factors in the development of self-regulatory capacities include tolerating social and environmental experiences and reducing impulsive reactions, two important challenging factors have been proposed in emotion regulation for children with Asperger's syndrome (Laurent & Rubin, 2004). The first one is the limitation in interpreting one's own and others' emotional states, communicating these states and share in an appropriate social exchange (Tantum, 2000; Wetherby, Prizant, & Schuler, 2000). The second one is neurophysiological factors that imply atypical sensory sensitivities which obstruct determining the intensity of environmental information (Stewart, 2002; Whitman, 2004). It was proposed that children with Asperger's disorder show great difficulty in differentiating important and inconsequential environmental stimuli (Whitman, 2004). The second difficulty which is the sensitivity to the physiological arousal has been described as one of the most salient factors that exacerbate behavioral problems in children with Asperger's syndrome that would lead social withdrawal and anxiety (Kagan, Reznick, & Snidman, 1987). In order to regulate themselves, they are more likely to use maladaptive strategies like avoidance, suppression, and less likely to use adaptive emotion regulation strategies like reframing, problem solving (Samson, Hardan, Podell, Phillips, & Gross, 2015; Webb, Miles, & Sheeran, 2012). These maladaptive strategies are more likely to linked with negative affect and more clinical symptomatology (Aldao, Nolen-Hoeksema, & Schweizer, 2010).

Children with Asperger's syndrome mostly misinterpret the intentions of the caregiver's emotion regulation attempts and fail to model these regulatory strategies that would lead them to create idiosyncratic and socially inappropriate strategies, relying on their own early developed coping methods (Laurent & Rubin, 2004). They may use sensory motor based reactions in the presence of highly intense stimuli during emotion dysregulation (e.g., touching one's cloth or body,

sucking one's thumb, chewing on clothing, comforting one's self by touching soft objects, etc.) (Prizant et al., 2003). These withdrawn, idiosyncratic or sensory motor based strategies are the unconventional behavioral methods in emotion regulation.

Another component which plays a crucial role in the development of self-regulatory capacities is language. Children use inner language to down regulate themselves (Vygotsky, 1978). Although children with Asperger's syndrome develop relatively enhanced language skills, they encounter some difficulties in their usage of language like their inability to use words for emotional expression, their idiosyncratic use of language and regardless of other's attention, reactions and curiosity, talking about special interests in social exchange (Stewart, 2002). Rydell & Prizant (1995) proposed these language strategies as self-regulation attempts. When considering metacognitive self regulatory strategies, which require understanding one's own reactions in relation to others in socially appropriate ways and reflecting and talking about cognitive processes, children with Asperger's disorder fail to organize themselves due to executive functioning challenges and inabilities in understanding perspectives of others (Klin & Volkmar, 2003; Laurent & Rubin, 2004). These metacognitive strategies as understanding, reflecting and talking about the internal states in social exchange help children to be well-balanced and regulated when they face a challenging emotional state (Zeidner, Boekaerts, & Pintrich, 2000).

Apart from self-regulatory capacities, when considering mutual regulation, it is important to understand that this is a unique challenge for children with Asperger's syndrome as they especially have difficulty in social interactions. Normally developed children seek out assistance of others in order to cope with emotional experiences (López-Pérez, Ambrona, & Gummerum, M., 2018). Also well-balanced and regulated self actualizes itself in the presence of a caregiver or other (Laurent & Rubin, 2004). Children with Asperger's syndrome have difficulty in both communicative and sensory comfort reactions that would come from the other (e.g., having a hug, patting on the back, etc.). When this mismatch occurs, this effects their capacity in being engaged with the other and the other may interpret the child's reaction as off-putting and undesired in contrast to his/her

attempt to help in emotion regulation (Laurent & Rubin, 2004). This might lead the other to punish, ignore or abandon the child, which in turn, hinders supporting child's real need for support to down regulate him/herself in times of stress (Prizant et al., 2003). Therefore, the child might become the only source to rely on for affect regulation. Mutual regulatory abilities are required in order to develop more sophisticated social interactions but due to vulnerabilities in neurophysiology and communicational milestones, children with Asperger's syndrome develop a tendency to withdrawal, controlling and rigid self which displays repetitive patterns of behaviors, repetitive play themes or restricted interest (Myles, 2003).

1.3.3. Empirical Studies in Mentalization Process with Asperger's Syndrome

In order to understand and interpret the characteristics of psychotherapy process and mentalization process and their effects on the child and therapeutic relationship, it is important to consider interaction structures, the repetitive patterns of interaction between therapist and the patient in the dyadic relationship. Jones (2000) proceeded a research on interaction structures with PQS by distinguishing group of domains which are repetitive patterns of interaction that emerge over the sessions within specific patient-therapist dyads. It was found that interaction structures are influenced by the mutual interaction between the patient and the therapist where each parties effect each other in terms of behavior and experience (Goodman & Athey-Lloyd, 2011). Schneider et al. (2009) proposed that every interaction structure is specific to each therapist-patient dyad. Although there have been studies conducted on the interaction structures, the patient was the only one who changed over time, but the therapist remained same in earlier studies. There was no research on the constellation of interaction structures when the patient remains the same but the therapist changed over the course of treatment up until Goodman & Athey-Lloyd conducted their study on psychodynamic treatment of a child with Asperger's disorder in 2011. In their study, they aimed to understand and compare different interaction structures to understand what kind of interaction

patterns may be expected for certain diagnoses in clinical practice (Goodman & Athey-Lloyd, 2011).

The results on the two-year psychodynamic treatment of a child with Asperger's Syndrome with two different clinical doctoral students yielded four different interactions structures using CPQ (Goodman & Athey-Lloyd, 2011). The therapists were compared according to each interaction structures namely as *"reassuring, supportive, nondirective therapist with a compliant, curios child building insight and positive feelings", "helpful, mentalizing, confident therapist with expressive, comfortable and help seeking child"," judgmental, misattuned therapist with distant, emotionally disconnected, misunderstood child" and "accepting therapist with playful, competitive child"* (Goodman & Athey-Lloyd, 2011). This study showed the importance of independent contribution of the therapist and how the interaction structure is a dynamic component that may change within the same treatment. Different constellations of interaction structures were found for the two different therapists. The differences between characteristics of therapists might have influenced the nature of interaction structure. For instance, it was found the child felt more distant and misunderstood by the second therapist who is male and the authors discussed that therapists' characteristics like gender might have caused different set of feelings for the patient as the first therapist who is woman might have awaken more benign maternal transference rather than a paternal transference where the patient was known to have an emotionally disconnected father figure or child's diagnoses in Asperger's syndrome explains some difficulties in adapting to the changes in therapists (Goodman & Athey-Lloyd, 2011). Also it was found that interaction structures can change over the course of treatment as it changed over time for both of the therapists from being more reassuring and attuned to more judgmental and misattuned (Goodman & Athey-Lloyd, 2011). The authors interpreted this result as the child might not be responding to the therapists as in the expected level so this changed the attitudes of the therapists as a result negatively affected their therapeutic relationship (Goodman & Athey-Lloyd, 2011).

In the latter empirical study conducted on the same child; Goodman, Reed and Athey-Llyod (2015) aimed to show importance of RF process in psychodynamic treatment of a child with Asperger's syndrome and claimed that play therapy emphasizing RF process might be more beneficial in treating children with Asperger's syndrome (Goodman & Athey-Lloyd, 2011). They found that in both therapeutic processes, sessions were close to RF prototype where therapists' sensitivity and affective engagement, discussions of ending of the sessions and therapists' accurate perceptions of the therapeutic process were dominant. (Goodman, Reed, and Athey-Llyod, 2015). Also they found that RF process which indicates mentalization process was more dominant in both of the treatments where both therapists decreased their session adherences in PT prototype (Goodman & Athey-Lloyd, 2011). It was interpreted as therapists' reactions to the need of the patient, where they might have thought that the patient may benefit more from a mentalization-based process where the therapists pay more attention to the patient's affective states rather than behavioral observations (Goodman & Athey-Lloyd, 2011). The authors thought this need might be related with the diagnosis of the patient and the therapists continued practicing on mentalization approach as they might have noticed therapeutic changes within the child with Asperger's syndrome which might also point therapeutic changes with this population (Goodman & Athey-Lloyd, 2011). However, more research is needed to understand mentalization process factors in treating children with Asperger's Syndrome.

1.4 THE CURRENT STUDY

Play therapy has been used in the treatment of several emotional and social difficulties. It was suggested that children with Asperger's may benefit from interventions where therapists show unconditional positive regard, empathy and congruence with the developmental level of the child (Josefi & Ryan, 2004). Although there are approaches put emphasis on structured interventions that focus on the lack in social and cognitive functioning in children with Asperger's syndrome, Greenspan (2006, p.36) suggested that rather than learning some

expected behaviors, social interaction is learned through relationships where there is a meaningful emotional exchange occurs. It was suggested when interpreting the observable behaviors in the psychoanalytical work with children diagnosed with Asperger's syndrome, it is important to give the patient space to express him/herself, trace the patient in his/her pace and reflect his/her emotions rather than interpreting behaviors on theoretical constructs (Pozzi, 2003). When working with children with Asperger's syndrome psychodynamically, it was suggested that it is important to put emphasis on self-object experiences and consider the therapeutic relationship as organized around reciprocal relationship in the therapist-child dyad like mother-infant dyad (Topel & Lachman, 2008).

In their case study where they conducted non-directive play therapy, Josefi and Ryan (2004) suggested that the child with autism was able to maintain therapeutic relationship and demonstrated attachment behavior to therapist whereas there were improvements in child's autonomy and pretend play. Also, in their study where psychodynamic therapy conducted with child diagnosed with Asperger's syndrome, Topel and Lachman (2008) suggested that working on therapeutic relationship on both verbal and non-verbal level, child showed increased abilities in expressing his emotions as well as developed feelings of mutuality where he enjoyed the social interaction. Therefore, considering the non directive and unstructured environment of psychodynamic play therapy where it is important to track patient's material, psychodevelopmental level and put emphasis on affective states rather than observable behaviors, it can be suggested that it may work quite well for the children diagnosed with Asperger's syndrome who have difficulty in attributing mental states to one's self and others. However, more empirical research is needed to discuss the benefits of psychodynamic play therapy for children with Asperger's syndrome.

Mentalization process that put emphasis on affective states of the child in psychodynamic play therapy have been showed to play important role in enhancing mentalization skills of a child with Asperger's syndrome (Goodman, Reed, & Athey-Lloyd, 2015). Moreover, the development in mentalization skills predict better capacities in affect regulation during treatment (Halfon & Bulut, 2017;

Halfon et al., 2017a; Halfon et al., 2017b). However, although they found implicit therapeutic changes where the therapists put more emphasis on affective states of the child which contributed enhanced mentalization skills, it was proposed there is more evidence needed to offer mentalizing interventions as crucial in the psychotherapy process with children with Asperger's syndrome (Goodman, Reed, & Athye-Lloyd, 2015).

Therefore, in this study the dynamic relations between mentalization process, child's mental state talk and affect regulation will be investigated using the single case study of a child with Asperger's syndrome who was treated in long-term psychodynamic psychotherapy over the course of two years with two different doctoral clinical child psychologists. Time series analyses will be used the assess the relations between these constructs over the course of treatment.

The hypotheses are: (1) there will be a significant cross-correlation between mental state talk and the RF prototype (2) the RF prototype will predict the child's subsequent affect regulation (3) the child's use of mental state talk will predict the child's subsequent affect regulation.

CHAPTER 2
METHOD

2.1. CLIENT

The child S. received a DSM-IV-TR (APA, 2000) diagnosis of Asperger's disorder at the age of six by his first therapist and her clinical supervisor. He began therapy as a six-year-old in the first grade. S. was living with his biological parents and a typically developing biological brother who was 2 years younger than him. Both of his parents were upper-middle-income professionals who came together as a result of a loving relationship. It appeared that they loved both each other and their two sons (Goodman, Reed, & Athey-Lloyd, 2015). S. presented with behavioral and social difficulties. As behavioral difficulties, he presented problems in following directions and routines at school. As social difficulties, he presented failure in initiating contact or sustaining interactions with peers. S. also showed perseverative interests in certain TV shows and movies.

He had a history of developmental delay in speech and gross motor coordination. Although he had delays in those areas, it was found that he appeared to be a highly intelligent child who was capable of symbolic thinking and engaging spontaneously in non-directive fantasy play (Goodman, Reed, Athey-Llyod, 2015). Also it was stated that although he was capable of engaging in symbolic play, he often brought themes in connection with certain themes and characters from his perseverative interests (Goodman & Athey-Lloyd, 2011). Although S. was diagnosed with Asperger's disorder, it was found that S. was seemed to be suitable for mentalization-informed psychodynamic play therapy (Goodman & Athey-Lloyd, 2011; Goodman, Reed, & Athey-Lloyd, 2015).

2.2. THERAPISTS

The sessions took place in a university-based community mental health clinic. Throughout the psychodynamic play therapy process of the client, two

different therapists took part in. Both therapists were second-year clinical psychology doctoral students enrolled in the same doctoral program. They both participated psychodynamically oriented, mentalization-informed play therapy supervisions which were conducted weekly by the same experienced child clinical psychologist throughout the duration of both treatments. In this doctoral program, clinical doctoral students rotate at the end of the year so, after the first year of psychotherapy, the therapist changed. The first therapist who treated the client during the first year of treatment was female. However, the second therapist who treated the client during the second year was male. They had both European-American backgrounds. Also, both therapists consented for videos of their treatments to be viewed and coded for the study (Goodman, Reed, & Athey-Lloyd, 2015).

2.3. TREATMENT

The clinical psychology doctoral students, who annually rotating and participating weekly close supervision, work at this low-cost, university-based community mental health clinic which is located in a suburb of New York City. The treatments were conducted in the clinic playroom where there is a large number of toys that are suitable for psychodynamic play therapy, including dolls, doll houses, vehicles, art and building material and a sandbox (Goodman & Athey-Lloyd, 2011). S. participated in weekly 45-min. sessions across two-year time span.

After the two-year time span of treatment, his therapists' and supervisor's impressions of his treatment's therapeutic gains were discussed. It was stated that S.'s treatment outcome was moderately successful. They stated that S. became less impulsive and more tolerant of therapeutic interactions (Goodman, Reed, & Athey-Lloyd, 2015). Also, they stated that his storytelling and symbolic play became more flexible and less scripted (Goodman, Reed, & Athey-Lloyd, 2015). Moreover, it was stated that his play became less reliant on external sources like certain TV shows and characters which had been thought to serve as perseverative material (Goodman & Athey-Lloyd, 2011). Another important point that the authors stated

was that S. permitted himself to work on the termination process and feel the loss of both therapists at termination (Goodman & Athey-Lloyd, 2011). Although the authors pointed out that his treatment had advances in different areas, according to the information and observations that were made by his therapists, parents and school teacher, S. still continued to demonstrate social awkwardness and some affective restriction in and out of sessions at the end of this 2 years of treatment (Goodman, Reed, & Athey-Lloyd, 2015).

2.4. MEASURES

2.4.1. The Child Psychotherapy Q-Set (CPQ)

The Child Psychotherapy Q-set (CPQ) is a recently validated measure that is an adaptation of Psychotherapy Q-set (PQS; Jones, 1985, 2000) which is designed to assess adult psychotherapy process in order to produce findings generalizable to clinical conditions. CPQ is used to assess psychotherapy process of children between the ages of 3 to 13 of diverse symptomatology, ethnicity and socioeconomic status by using videotapes of children's psychotherapy sessions (Schneider, Midgley, & Pruetzel-Thomas, 2015). Apart from some items that are specific to treatment of children and child's play, most of the items are similar to adult oriented version and it has been evaluated as a reliable and valid measure in assessing child's psychotherapy process regardless of coders' theoretical orientations (Schneider, 2004; Schneider et al., 2010; Goodman & Athey-Lloyd, 2011). Like PQS, CPQ also captures the three domains in the psychotherapy process as *(1) "patient's attitudes, behaviors"; (2) "therapist's attitudes and behaviors"; and (3) "therapist-patient interaction and the atmosphere of the session"* (Jones, 2000).

To assess adult therapy sessions and define the characteristics of the sessions, the Q-sort technique is used which is based upon forced-choice normal distribution via ordering 100 items in nine different categories. The categories range form 'the most uncharacteristic' to 'the most characteristic'. Each item has its

characteristics and definitions with the examples of the situations that might be encountered during the sessions. The coder places the items not on any implied norms but in relation to the other 99 items to obtain the overall shape of the session where the profile of the session can be derived from the results (Goodman & Athey-Lloyd, 2011). Although Q-sort technique can be used in multiple case studies, it is specifically designed for single case studies to examine the profiles of the sessions over the course of treatment (Goodman & Athey-Lloyd, 2011).

Expert therapists who are registered to BAPT (The British Association of Play Therapists) were asked to rate each of the 100 CPQ items on a Likert-type scale ranging from most uncharacteristic to most characteristic of a prototypical play therapy session based on their theoretical orientation (Goodman, Reed, & Athey-Lloyd, 2015). In order to reduce subjectivity of items, the coders were asked to decide on observable behaviors and the items were designed in a way that would indicate variability across sessions and patients with the claim that no item overlaps with the other item (Goodman, Reed, & Athey-Llyod, 2015). The CPQ distinguished between the treatments where there were two different patients with the same therapist (Schneider, 2009) and same patient with two different therapists (Goodman & Athey-Lloyd, 2011). Also, Schneider, Pruetzel-Thomas, & Midgley (2009) investigated loaded factors on PDT and CBT approaches in CPQ and found there was a discriminant validity of these two types. The psychotherapy prototypes have been built on 12 PDT, 10 CBT and 9 RF expert child psychotherapists' codes by using CPQ (Goodman, 2015).

In the original study which the current study is built upon, the coders consisted of eight trained clinical psychology doctoral students who were blind to the diagnosis of the patient as well as hypotheses of the study (Goodman & Athey-Lloyd, 2011). The coders Q-sorted practice videos until the inter-rater reliability consistently reached an ICC of 0.70 (Goodman, Reed, & Athey-Lloyd, 2015). When this criterion was provided, the coders were paired into teams of two and they independently Q-sorted the sessions (N= 53) by watching videotapes of the sessions in a randomized order (Goodman, Reed, & Athey-Lloyd, 2015). The coders watched the videos of the sessions and then selected the most characteristic

and least characteristic processes of the sessions then they placed the items into a forced distribution of nine piles. The four coding teams achieved a mean inter-rater reliability of ICC= 0.77, ranging from ICC of 0.55 to 0.89 (Goodman, Reed, & Athey-Lloyd, 2015). With the benchmark of 0.70, the independent coders reached ICCs varying between 0.71 and 0.91 (M= 0.82, SD= 0.06). Two independent coders made CPQ ratings of each session and two sets of ratings were composited by adding and then dividing by 2 (Goodman, Reed, & Athey-Lloyd, 2015).

In this current study, we used composited CPQ ratings in order to obtain RF adherence score. In their study, Goodman, Reed and Athey-Lloyd (2015) found the most and the least characteristics of RF process prototype which are listed in the following table (see Table 2.1). The RF prototype used in this study was constituted by Goodman and colleagues (2016), where experts in RF rated each of the 100 CPQ items with regard to the hypothetical ideal session of their theoretical orientation where mentalization is promoted in the psychotherapy process (Halfon & Bulut, 2017). The degree of which each session is congruent to the prototype is called the adherence score. After they correlated each factor scores associated with the set of 100 CPQ items for RF prototype and corresponding Psychotherapy Process Q-set (PQS) ratings for each session, they generated one RF adherence score per session.

Table 2.1 Most and Least Characteristic CPQ Items for RF Process Prototype

CPQ #	CPQ Item	Mean Pile #
	Most Characteristic RF Prototype	
6	T is sensitive to the C's feelings	3.89
28	T accurately perceives the therapeutic process	3.67
97	T emphasizes verbalization of internal states and affects	3.67
77	T's interaction with C is sensitive to C's level of development	3.56

Table 2.1 (Cont'd)

CPQ #	CPQ Item	Mean Pile #
	Most Characteristic RF Prototype	
38	T and C demonstrate a shared vocabulary or understanding when referring to events or feelings	3.44
79	T comments on changes in C's mood or affect	3.44
63	C explores relationships with significant others	3.22
75	Interruptions, breaks in the treatment, or termination of therapy are discussed	3.22
76	T makes links between C's feelings and experience	3.22
	Least Characteristic RF Prototype	
18	T is judgmental and conveys lack of acceptance	-3.89
9	T is nonresponsive (vs. affectively engaged)	-3.78
24	T's emotional conflicts intrude in to the relationship	-3.56
56	C is distant from his or her feelings	-2.44
41	C does not feel understood by T	-2.33
40	C communicates without affect	-2.11
55	T directly rewards desirable behaviors	-2.00
5	C has difficulty understanding T's comments	-1.78
95	C's play lacks spontaneity	-1.56
66	T is directly reassuring	-1.56
44	C feels wary or suspicious	-1.56

Notes. T: therapist; C: child; CPQ: Child Psychotherapy Q-Set; RF: reflective functioning (Goodman, Reed and Athey-Lloyd, 2015).

2.4.2. Children's Play Therapy Instrument (CPTI)

Children's Play Therapy Instrument, (CPTI; Kernberg et al., 1999) which is a psychodynamic-oriented measure was developed to evaluate play activity in psychotherapy process of children. CPTI enables us to assess both structural and functional dimensions of children's play activity (Halfon, 2017). Different levels of play activity can be analyzed by using CPTI. CPTI has been found to be good measure which is sensitive to the changes in psychotherapy process (Chazan, 2000). Halfon (2017) found good convergent and predictive validity in relation to associations between play characteristics and behavioral problems whereas there has been found discriminant validity in differentiating normal play and traumatic play characteristics (Cohen, Chazan, Lerner, & Maimon, 2010)

While analyzing children's play activity by CPTI, the first level is the segmentation of the activity through the entire session. In this level, child's activity can be categorized into four as: non-play, pre-play, play or interruption. Non-play activity is any kind of activity or behavior of the child besides the domain of the play activity. Pre-play activity is defined as the child's activities for 'setting the stage' for the play. Play interruption is defined as any abscission in play activity such as going outside the therapy room. On the other hand, play activity is defined as initiative actions that involve intentionality and specific affects where the child is engaged in a play activity with a playful manner. Also, child's focused attention and use of objects as either toys or physical surroundings in play are the markers of play activity.

After the first step where segmentation of the entire session is done, only the play segments are coded in detail. As the second step, dimensional analysis of the play activity is done. In the dimensional analysis, there are several subscales to the CPTI (i.e., descriptive analysis as Category, Description and Sphere of the Play Activity; structural analysis as Affective, Cognitive and Narrative Components of the Play Activity; developmental analysis as Social Level of the Play Activity; functional analysis as Coping and Defensive Strategies and Child's Awareness of Himself as a Player). But in this study, we only used the affective dimensions in order to arrive at a composite score of affect regulation.

In order to assess child's capacity for affect regulation, only the items under the affective component were used by taking mean score for the following five affective items: (i) *Regulation and Modulation of Affects* which assesses how different intensities of affect are expressed within child's control, that is, from annoyance to irritability to anger to rage, scored in a range of 5 (Very Flexible) to 1 (Very Rigid); (ii) *Transition between Affective States* which assesses how the child organizes transitions from one affective state to another, that is, from abruptly to smooth, scored in a range of 5 (Always Smooth) to 1 (Always Abrupt); (iii) *Appropriateness of Affective Tone to the Content* which assesses the appropriateness of the emotions expressed by the child within the context of the play theme, scored from 5 (Always Appropriate) to 1 (Never Appropriate); (iv) *Spectrum of Affects* which assesses the range of emotions that are expressed by the child during the play activity, scored from 5 (Very Wide) to 1 (Constricted); (v) *Using Adaptive Coping Strategies in the Face of Disruptive Affects* assesses the degree to how conflicts or stress in play are dealt with by an effective accommodation to given circumstances such as adaptation, problem solving, humor or sublimation, scored from 5 (Most Characteristic) to 1 (No Evidence).

When we look at the reliability studies and results, Kernberg and colleagues (1998) found that the reliability rate for the Segmentation of Play Activity is 0.72 where the inter-rater reliability for the Dimensional Analysis ranged from ICC of 0.52 – 0.89. Also the reliability for the nominal variables which involve play categories and themes (Kappa = 0.42- 1.00) has been studied.

Sibel Halfon was trained by Saralea Chazan on the use and adaptation of CPTI. In this study, two master's level research assistants, who received 20 hours of training on CPTI by Sibel Halfon, rated 10 training sessions prior to this study. They were independent assessors who were not related with the treating clinician, patient or the diagnosis of the patient. During the training, they rated practice videos until their inter-rater reliability reached ICC of 0.70. In this study, two of the independent assessors coded all of the 52 sessions with good to excellent ICCs (0.79-0.97) (M = 0.91; SD= 0.04). Disagreements were resolved by consultation

with Sibel Halfon. The composite affect regulation scales showed good internal consistency ($\alpha = 0.75$).

2.4.3. The Coding System for Mental State Talk in Narratives (CS-MST)

The Coding System for Mental State Talk in Narrative (CS-MST; Bekar, Steele & Steele, 2014) was developed to assess the mentalization capacity of both children and their parents thorough mental state language (Bekar, Steele, & Steele, 2014; Hughes & Dunn, 1997; Meins et al., 2002; Yougblade & Dunn, 1995), where mentalization is thought to be strongly related to the usage and choice of the words when the are analyzed on the microlevel (Halfon, Bekar, & Gürleyen, 2017a). Mentalization capacity is assessed by looking at children's and their parents' mental state talk in narratives when they read a wordless picture book; 'Frog, Where are You?'. Mentalization process is activated by both child's own attributions about mental states of characters in the picture and child's ability to consider listener's perspective on the characters in the picture (Tager- Flusberg & Sullivan, 1995).

In the original protocol, the mother and the child are asked to tell a story just by looking at the pictures. This book provides readers to talk about the mental states of the characters in the story where the attachment system is activated by separation theme at the end of the story. After the stories are collected and transcribed, the researchers count the mental state words and analyze the results. This coding system has been used and validated with a high inter-rater reliability (α= 0.90; Bekar, 2014). Due to the differences in setting and practice, the original coding system needed to be modified in order to assess mental state narratives in the psychotherapy sessions where there is a child and a therapist. In 2016, Bekar and Çorapçı adapted CS-MST to play therapy narratives. In the adaptation, in order to assess mental state words in play narratives, play oriented mental state talk was used instead of story oriented mental state talk. Also, as the play activity requires expanded range of word diversity, there had been some subjunctions to the word list in the manual. Different studies have been done on mental state word usage of

therapists and children during psychotherapy process and reliable and valid results have been obtained (Halfon et al., 2017a; Halfon et al., 2017b).

In order to analyze the use of mental state talk, the manual provides five main categories of mental state words which are emotions (e.g. happy, thrilled), cognitions (e.g. want, believe), perceptions (e.g. hear, watch), physiological states (e.g. hurt, tired), and action based (e.g. search, follow). In the original Frog Story, there is also a six category which assesses the type of resolution for the story. These five major categories are coded in three clusters regarding to whom those mental states are attributed to. These mental state attributions can be to the story characters in the play, to the narrator itself and to the other (listener). The number of referrals to the mental states of characters during the play are counted as 'play-related mental state talk,' where as the number of referrals made by the child about him/herself are coded as 'self-related mental state talk' and referrals made for the therapist's (other) mind are coded as 'other related mental state talk'. Except from these counts, there is total count of words, count of unique mental state words and count of mental states related causal connections for each of the three categories mentioned above. Later on, in a revision, two new codes were added to the coding system as opacity (e.g. maybe, I guess) and inappropriateness (e.g. the child talking about her mother: 'I think she doesn't love me'). The opacity is defined as the space that the narrator allows listener to consider variety of mental states of others. On the other hand, inappropriateness is defined as the position where the narrator pseudo-mentalize the mental state and makes inaccurate attributions to the other's mind. In the following table (see Table 2.2), the examples are provided for coding structure of The Coding System for Mental State Talk in Narratives (CS-MST).

Table 2.2 Coding Structure of The Coding System for Mental State Talk in Narratives (CS-MST)

Story Related	Emotion	"He was greatly **surprised"**
	Cognition	"The kid **decided** to go to the park"

Table 2.2 (Cont'd)

Story Related	Perception	"The girl **smelled** something unpleasant"
	Physiological	"The boy got **hurt** when he was playing"
	Action-based	"The girl was **looking for** her doll"
Self Related	Emotion	"**I like** this game"
	Cognition	"**I think** the girl is going to leave"
	Perception	"**I heard** the sound of the ring"
	Physiological	"**I am hungry** now"
	Action-based	"**I am searching for** the paper"
Other Related	Emotion	"Did **you like** my picture?"
	Cognition	"Do **you understand** me?"
	Perception	"Did **you see** my box?"
	Physiological	"Are **you** going to fall **asleep**?"
	Action-based	"Did **you find** the mother doll?"
	Opacity	"**I guess** he doesn't feel happy"
	Inappropriateness	"The dear wants to **kill** the child"

In this study, as the original Frog Story was not used during the sessions, the resolution part was excluded. Only the narratives of the child which include mental states of the child for play characters, self and the listener (therapist), opacity and inappropriateness codes during the therapy sessions were coded by using verbatim transcriptions of the whole sessions.

The coders were three master level clinical psychology students who had 9 hours of training and reliability study with Özlem Bekar, PhD. After the students got reliabilities over the ICCs of 0.70 on psychotherapy session transcriptions in Turkish, they coded certain amount of psychotherapy session transcriptions in English and they reached an inter-rater reliability of 0.96 for all categories of

assessment. One student coded all of the mental state language data while the other two students coded 20 % of the data. The coder who coded the whole mental state language data reached an excellent ICCs ranging from 0.94 to 0.99 with the other two independent coders.

2.5. PROCEDURES

In the original study, child's assent and his parents' signed informed consent were provided before videotaping his sessions (Goodman, Reed, & Athey-Lloyd, 2015). 54 treatment sessions, which represented all of the sessions conducted during the two-year of treatment were videotaped. However, one session was needed to be eliminated because of the technical difficulties with the video recording procedure. The rest of the sessions, which are 53 of them, were all coded using the 100 CPQ items (Goodman, Reed, & Athey-Lloyd, 2015). The coders were paired into teams of two and they independently Q-sorted the sessions (N= 53) by watching videotapes of the sessions in a randomized order (Goodman, Reed, & Athey-Lloyd, 2015). The coders watched the videos of the sessions and then selected the most characteristic and least characteristic processes of the sessions then they placed the items into a forced distribution of nine. The Institutional review boards of Long Island University and the University of Roehampton, England approved the study (Goodman, Reed, & Athey-Lloyd, 2015).

In this current study, we had to eliminate one of the 53 videos because of the technical difficulties. 52 videos had been transcribed by a group of undergraduate assistants with the promise that they won't share any of the information about the therapy sessions. In the current sample (N= 52), the videotapes and transcriptions of the sessions were arranged in random order, and the entire sessions were watched and rated by judges independently. All of the 52 therapy sessions were both CS-MST and CPTI coded. Using the CPTI, all of the sessions were segmented and these segments were separated into four categories as *Pre-Play, Play Activity, Non-Play and Play Interruption*. All of the play segments were coded by using CPTI and all of the mental state words expressed by the child

during the sessions were coded by using CS-MST. In order to look for the relationship between mentalization process and child's use of mental state word, we used RF adherence score which was constituted in the study conducted by Goodman, Midgley, & Schneider in 2016. Also, in order to look for the relationship between child's affect regulatory capacity and child's use of mental state word, a composite score was established for affect regulation by using CPTI. For the analysis, because of the limitations in number of mental state talk of the child in opaqueness and inappropriateness codes, we only used child's use of mental state talk in play-related mental state words, mental state words that are attributed to child's own self and other's mind.

2.6. DATA ANALYTIC STRATEGY

2.6.1. Quantitative Analyses

To understand temporal associations between, RF adherence, mental state talk and affect regulation in psychodynamically oriented psychotherapy process, time-series analysis was conducted. Time-series analysis allows us to evaluate whether change in one variable tracks two or more variables during the course of treatment. For example, in order to understand and quantify dynamics between variables (Bollen & Curran, 2004), if one can find continuous changes on a variable (e.g. affect regulation) against another process variable (e.g. child's mental state talk), one can suggest temporal associations between those repeatedly measured variables. This type of multivariate time series analysis is called 'Vector Autoregression (VAR)'. It has been applied to psychotherapy research to evaluate temporal changes in multiple factors between sessions (Tschacher, Baur, & Grawe, 2000). When a variable has an output that shows this particular variable linearly depends on its own previous values, it is said to have 'auto-regressive components'. For example, when significant results are found in child's affect regulation capacity depending on affect regulation strategies that were used in the prior sessions, this variable is said to have auto-regression. However, when one needs to evaluate

multiple variables and change in one variable preceded change in another variable 'cross regressions' are needed to be done. For example, there might be an output that shows child's affect regulation capacity linearly depending on child's mental state talk in the prior session. However, these statistical results might be interpreted as a quasi-causal way as there is need to explain sequential associations that reflect how a variable is associated with subsequent values of the other variable (Halfon, Bekar, & Gurleyen, 2017a). Therefore, in order to explain sequential associations, 'Granger Causality' has been introduced into time-series literature. Granger Causality Test is used to predict whether one-time series is useful in predicting another and whether a certain variable can predict the future variables of another variable for a specified time lag. With Granger causality, one can derive causality from a systematic time-lagged associations between two or more variables (Granger, 1969).

In this study, we conducted vector autoregressive modeling (VAR) by using E-view 9.5. Before time-series analyses, one needs to reveal stationarity of the variables which is the common assumption of time-series analyses that the mean, variance and autocorrelation structure don't change over time. So in order to understand stationarity, a commonly used test which is called 'Augmented Dickey-Fuller' test (ADF, Dickey & Fuller, 1979), which reveals whether a variable has a unit root meaning if that variable has a unit root then that variable is not stationary, is used. Based on the theoretical assumption, as the length of the time lag increases the autocorrelation weakens statistically, we used the shortest time lag which is 'time-lag-1', indicating the correlation of each value with the immediately preceding observation (Jebb, Tay, Wang, & Huang, 2015). Lastly, we separately tested whether reflective function adherence of the session 'Granger cause' child's use of mental state words and whether child's play related, self-related or other related mental state talk and reflective function adherence of the session 'Granger cause' affect regulation in the psychotherapy process.

As we were concerned with cross correlation between RF prototype and child's mental state talk, as well as therapist's RF adherence and child's use of mental state talk in prediction of child's affect regulation, we only worked on

child's use of mental state words which are play-related, self related and other related mental state words. For the next analysis, we used the following categories in play-related, self-related and other related mental talk. Play-Related Mental State Narrative consisted of child's emotion, cognition, perception, physiological and action-based mental state words which are about the play characters. The child either talked about the characters as a third party or vocalized them as a first person. Self-Related Mental State Narrative consisted of child's emotion, cognition, perception, physiological and action-based mental state words which are about the child himself. Lastly, Other-Related Mental State Narrative consisted of child's emotion, cognition, perception, physiological and action-based mental state words about his therapists. Also we investigated the RF adherence and affect regulation composite for each session and their change over the course of treatment.

2.6.2. Clinical Analyses

In the clinical analysis, we divided the data into two therapy processes. The first twenty-eight session belongs to the first therapy process and the latter twenty-four session belongs to the second therapy process. In order to understand how RF adherence plays role in the prediction of child's mental state talk in the subsequent session, we determined two peak points of RF adherence for each therapy processes. Also, in order to understand how child's use of mental state talk causes affect regulation in the subsequent session, we chose two highest point of affect regulation for each therapy processes. To understand therapists' interventions in RF that causes child's use of mental state talk, we looked at child's usage of mental state talk in the following sessions in detail, in time lag 1. On the other hand, to understand what causes affect regulation in the subsequent session, we looked at the child's usage of mental state talk in prior sessions in detail, in time lag 1.

CHAPTER 3
RESULTS

3.1. QUANTITATIVE ANALYSIS

3.1.1. Data Analysis

Descriptive statistics for child's mental state words by time in treatment are indicated in Table 3.1 with means and standard deviations.

Table 3.1 Descriptive Statistics for Child's Use of Mental State Words by Time in Treatment

Play-Related	Mean	SD
Emotion Words	3.90	4.03
Cognition Words	13.94	13.31
Perception Words	5.56	7.21
Physiological Words	2.31	2.79
Action-Based Words	5.77	5.10
Self-Related	**Mean**	**SD**
Emotion Words	2.73	3.93
Cognition Words	17.02	12.05
Perception Words	1.77	1.90
Physiological Words	.56	.94
Action-Based Words	2.21	2.72
Other-Related	**Mean**	**SD**
Emotion Words	.17	.58
Cognition Words	5.54	5.06
Perception Words	2.65	3.48
Physiological Words	.09	.69
Action-Based Words	1.21	1.46

Descriptive statistics for RF adherence and affect regulation composite by time in treatment are indicated in Table 3.2 with means and standard deviations.

Table 3.2 Descriptive Statistics for RF Adherence and Affect Regulation by time in treatment

	Mean	SD
RF Adherence	.48	.12
Affect Regulation	3.52	.43

Notes. RF: reflective functioning; Affect Regulation: the sum of affect transition, spectrum of affects, appropriateness of affects, adaptive strategies

3.1.2 Granger Causality

Granger Causality tests were applied to RF adherence score of the sessions, affect regulation composite and lastly to the child's use of play-related, self-related and other-related mental state words during the sessions over the course of treatment. In order to obtain valid analysis, before we conducted Granger Causality tests, we first needed to reveal that all the variables that would be analyzed in the regression model are stationary or not. We conducted Unit Root Tests to all of the variables. Augmented Dickey-Fuller Tests yielded all variables do not have a unit root indicating that they are all stationary. The t-values and probability values of Unit Root Tests for the variables are shown in Table 3.3.

Table 3.3 Statistical Values of Unit Root Test

	t-Statistic	Prob.
Affect Regulation	-7.152962	0.0000
RF Adherence	-7.057882	0.0000

Table 3.3 (Cont'd)

	t-Statistic	Prob.
Play-Related Mental State Talk		
Emotion Words	-5.377404	0.0000
Cognition Words	-5.064526	0.0000
Perception Words	-4.631769	0.0000
Physiological Words	-6.014136	0.0000
Action-Based Words	-5.372781	0.0000
Self-Related Mental State Talk		
Emotion Words	-5.658319	0.0000
Cognition Words	-6.748656	0.0000
Perception Words	-5.675123	0.0000
Physiological Words	-6.920278	0.0000
Action-Based Words	-5.265989	0.0000
Other-Related Mental State Talk		
Emotion Words	-6.089101	0.0000
Cognition Words	-3.450066	0.0012
Perception Words	-6.582867	0.0000
Physiological Words	-7.141428	0.0000
Action-Based Words	-6.265346	0.0000

Notes. RF: reflective functioning

3.1.2.1. Test of Hypothesis 1

It was suggested that there would be significant cross-correlation between RF prototype and child's mental state talk. The results of Pairwise Granger Causality Test in time-lag 1 showed that RF adherence score of the session caused child's use of play-related emotion mental state words in the subsequent session ($F(7,45)=5.61$, $p < .05$). Also Pairwise Granger Causality Test showed that RF

adherence score of the session caused child's play-related physiological mental state word usage in the subsequent session ($F(7,45)=4.35$, $p <.05$).

After we found RF adherence significantly caused child's use of play-related emotion mental state words, we then tested whether RF adherence would cause child's use of self-related and other-related emotion mental state words in the subsequent session, too. It was found that RF adherence score did not cause neither child's use of self-related emotion mental state words ($F(7,45)=0.32$, $p >.05$), nor child's use of other-related emotion mental state words ($F(7,45)=0.79$, $p >.05$) in the subsequent session. Therefore, we can suggest that RF adherence of the session was not predictive of child's use of self or other-related emotion mental state words in the subsequent session but it was only predictive of child's use of play-related emotion mental state words in the subsequent session.

Also, after it was shown that RF adherence significantly caused child's use of play-related physiological mental state words in the subsequent session, we also tested whether RF adherence would cause child's use of self-related and other-related physiological mental state words. However, it was found that RF adherence score did not cause neither child's use of self-related physiological mental words ($F(7,45)=0.01$, $p >.05$), nor child's use of other-related physiological mental state words ($F(7,45)=0.17$, $p >.05$) in the subsequent session. Therefore, we can suggest that RF adherence of the session was not predictive of child's use of self or other-related physiological mental state words but it was only predictive of child's use of play-related physiological mental state words in the subsequent session.

Hypothesis 1 was partially confirmed in that RF adherence of the previous session caused child's use of mental state talk in the subsequent session. However, RF adherence of the session only caused child's use of play-related emotion and physiological mental state words but it did not cause child's use of other mental state words (i.e. *play-related cognition, perception or action-based mental state words; self or other related emotion, cognition, perception, physiological or action-based mental state words)*. The analysis in time lag 1 indicated that when the prototype of the session is close to RF prototype, this significantly causes child to

use more mental state words regarding emotional and physiological mental states of the play characters in the subsequent session.

3.1.2.2. Test of Hypothesis 2

We hypothesized that RF prototype will predict child's subsequent affect regulation. We then tested whether RF adherence caused affect regulation in the subsequent session. However, Granger Causality Test showed that RF adherence did not cause affect regulation in the subsequent session ($F(2,50)=0.67$, $p > .05$). Therefore, we couldn't find any causal relationship between RF adherence and affect regulation and we failed to show that RF prototype was predictive of subsequent affect regulation.

3.1.2.3. Test of Hypothesis 3

It was suggested that child's use of mental state talk will predict child's affect regulation in the subsequent session. Granger Causality Tests showed that child's use of other-related emotion mental state words predicted child's affect regulation in the subsequent session ($F(4,48)=1.74$, $p<.05$; $t(48) = 2.09$, $p = .04$) in time lag 1. Also Granger Causality Test showed that child's use of play-related physiological mental state words caused affect regulation in the subsequent session ($F(4,48)=2.41$, $p<.05$; $t(48) = 2.25$, $p = .03$) in time lag 1.

After we found child's use of other-related emotion mental words significantly predicted affect regulation in the subsequent session, we then tested whether child's use of play-related and self-related emotion mental state words would cause affect regulation in the subsequent session, too. It was shown that neither child's use of play-related emotion mental state words ($F(4,48)=1.74$, $p>.05$; $t(48) = 1.29$, $p = .20$) nor self-related emotion mental state words ($F(4,48)=1.74$, $p>.05$; $t(48) = 1.34$, $p = .19$) caused affect regulation. Therefore, we can suggest that only child's use of other-related emotion mental state words was predictive of affect regulation in the subsequent session.

Also, after we found significant results that child's use of play-related physiological mental state words caused affect regulation in the subsequent session, we also tested whether child's use of self-related and other-related physiological mental state words would cause affect regulation in the subsequent session, too. However it was shown that neither child's use of self-related physiological mental state words ($F(4,48)=2.41$, $p>.05$; $t(48) = 1.67$, $p = .10$) nor other-related physiological mental state words ($F(4,48)=2.41$, $p>.05$; $t(48) = 1.53$, $p = .13$) caused affect regulation. Therefore, we can suggest that only child's play related physiological mental state word was predictive of affect regulation in the subsequent session.

Hypothesis 3 was partially confirmed in that child's use of mental state word predicted affect regulation in the subsequent session. The analysis showed that child's play-related mental state talk in physiological words and child's other-related mental state talk in emotion words predicted affect regulation in the subsequent session in time lag 1. However, neither child's use of other subtypes of play-related mental state talk in emotion, cognition, perception or action-based mental state words; nor self-related mental state talk in emotion ,cognition, perception, physiological or action-based mental state words; or other-related mental state talk in cognition, perception, physiological or action-based mental state words did not cause affect regulation in the subsequent session.

In sum, we found that RF adherence of the session significantly caused child's use of play-related emotion and physiological mental state words in the subsequent session in time lag 1. Also, it was shown that child's usage of mental state words in play-related physiological words and other-related emotion words significantly predicted affect regulation in the next session in time lag 1. However, we failed to show that RF adherence of the session would predict affect regulation in the subsequent session in time lag 1.

3.2. QUALITATIVE ANALYSIS

For the clinical analysis, in order to see how RF adherence causes child's use of mental state talk in the subsequent session, what kind of interventions and interpretations that therapists make cause child to use play-related mental state talk in emotion and physiological words in the following session; as well as to understand the causality between child's use of play-related physiological mental state words and other-related emotion mental state talk cause affect regulation in the subsequent session, we analyzed sessions in detail. We analyzed only play segments of the sessions we chose. In order to decide which sessions to investigate in detail, we firstly divided the data into two therapy processes. Although in the quantitative analysis we looked for the changes in the child throughout the therapy process as a whole during two-year time span, in order to understand specifically which interventions cause the changes in psychotherapy process, we evaluated two therapy processes separately. We took into consideration differences between therapists as well as termination processes. Therefore, we divided the data into two as the first twenty-eight sessions that belong to the first therapy process and the latter twenty-four sessions that belong to the second therapy process. For the individual differences in significant variables, descriptive statistics were calculated (see table 3.4).

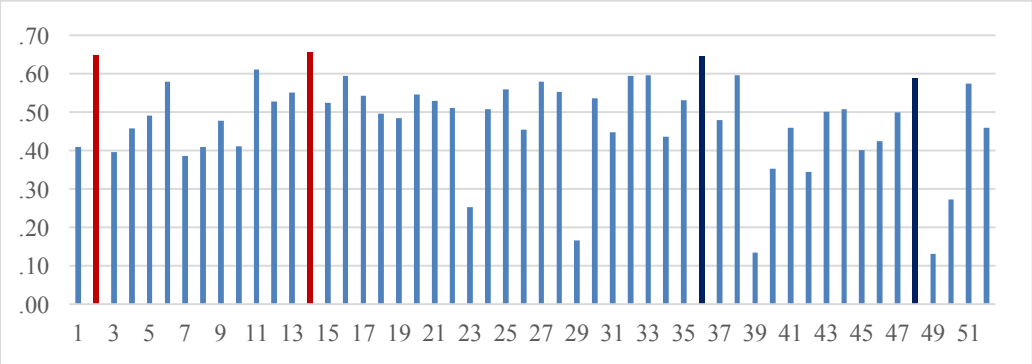
Table 3.4 Descriptive Statistics for Differences Between Two Psychotherapy Processes

	First therapy Process (N=28)		Second Therapy Process (N=24)	
	Mean	SD	Mean	SD
RF Adherence	.51	.09	.44	.15
Affect Regulation	3.51	.41	3.55	.47
Play-related MST in Emotion	2.57	2.85	5.46	4.66
Play-related MST in Physiology	1.32	1.49	3.46	3.48
Other-related MST in Emotion	.32	.77	.00	.00

Notes. RF: reflective functioning; MST: mental state talk

As mentioned above, we determined two highest points of RF adherence for each therapy processes (see Figure 3.1).

Figure 3.1. RF Adherence Scores by time in Treatment



Notes. RF: reflective functioning

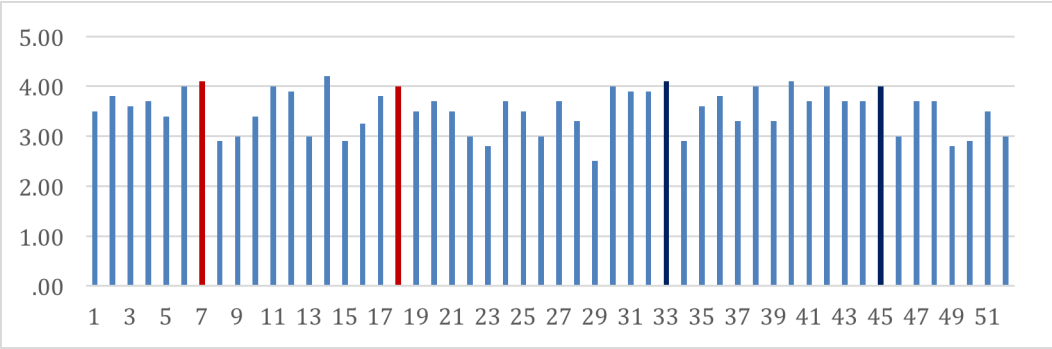
Highest scores of RF adherence in the first psychotherapy process

Highest scores of RF adherence in the second psychotherapy process

We examined session 2 and session 14 as the two of the highest points in RF adherence during the first therapy process Later on to understand the causality between RF adherence and mental state talk usage of child, we studied child's play-related emotion and physiological mental state talk usage in session 3 and session 15. For the second therapy process, we determined two highest points of RF adherence as session 36 and session 48. Therefore, later on we studied child's play-related emotion and physiological mental state talk usage in session 37 and session 49.

In order to understand what causes child's other-related mental state talk in emotion words and play-related physiological mental state words, firstly we determined two highest affect regulation scores for each psychotherapy processes (see Figure 3.2).

Figure 3.2 Affect Regulation Scores by time in Treatment



Notes. Highest scores of RF adherence in the first psychotherapy process

Highest scores of RF adherence in the second psychotherapy Process

Then, we examined session 7 and session 18 as the two of the highest points in affect regulation during the first therapy process. Later on, to understand the causality between child's use of mental state talk and affect regulation, we studied child's other-related emotion and play-related physiological mental state talk usage in session 6 and session 17. For the second therapy process, we determined two highest points in affect regulation as session 33 and session 45. Therefore, later on we studied child's other-related emotion and play-related physiological mental state talk usage in session 32 and session 44.

3.2.1. Play Segments for RF Adherence and Play-Related MST

3.2.1.1. First Psychotherapy Process

We looked deeper into the play segment in session 2, where the child plays in the pretend mode and the therapist accompanies him by listening him defining the game, and sometimes attending where the child requires. In the play, the child and his family are moving to a new world which is not so much different from the current one. When the therapist asks why they needed to move, the child says there was somebody evil to destroy their world so they needed to move.

Session 2

T: T: Oh no! Who's that? An evil person? *(therapist is affectively engaged in pretend mode)*

C: No, it's just like my big brother. He does not like the invisible worlds.

T: He's going to destroy the world?

C: Yeah.

T: We're flying!

C: They've arrived. Everything's going to be in a different place. They're going to use a very strong fire truck to get them in.

T: Oh so the fire truck will help them. *(therapist reframes child's communication)*

C: Yeah. Oh!

T: What's wrong? *(therapist is sensitive to changes in child's mood and affect)*

C: Where did the breakfast maker go? But anyway, I think that we'll make their breakfast in this.

T: How does the little boy feel about moving? *(therapist ask the child to elaborates on feelings about separation)*

C: He feels just a little afraid. *(child elaborates on feelings)*

T: Oh. What's he afraid about? *(therapist ask the child to elaborate on affect in pretend mode)*

C: He does not know if it's going to be scary. *(child elaborates on feelings)*

T: I wonder if his parents can help him. *(therapist emphasizes child's need in getting help)*

C: Don't worry, his mommy's going to be with him all the time.

T: Sometimes mommy can't be there all the time, and then it can get a bit scary. *(therapist rephrases child's communication and emphasizes feelings)*

C: But just the mom will have to go to work at the end, which will make the kid not scared.

In this play situation, where the child engages in make-believe play, the therapist tracks the child by clarifying and rephrasing child's communication. Also when the child shows sadness in non-verbal communication, the therapist suddenly

responds to the child's non-verbal reaction and asks him to talk about how the child felt about moving. When the therapist becomes sensitive to the feelings of the characters, then the child starts to label emotions and talk about them. Also, therapist is sensitive to child's needs in help which was not in his awareness before. After the therapist links the child's needs and unbearable feelings, the child then makes connection between them. However, rather than continuing the scared feeling of not getting help by his parents, he tries to calm himself and the therapist by rationalizing the situation. However, although the child can talk about the emotions of the character, he can not bring them to surface by himself alone but with the help of the therapist. Here, the therapist helps the child to understand and discover some emotions, needs and difficulties he might be experiencing in that current situation by verbalizing them. Also, as a characteristic of RF adherence, we see that the child explores relationship with the significant other who is his brother that will destroy their world. When we look at the next session, we see that the child is better able to talk about emotions and physiological states of the characters by himself.

Session 3

C: Well he looks a little sad. *(play-related emotion mental state word)*

T: He does look a little sad. I wonder what made him so sad?

C: Every engine left the island of Sodor.

T: They all left him behind?

C: Yeah. Because at the end of the magical wheel way, there is a dangerous side that will get them into a station filled with danger.

In the play segment of session 3, we again encounter a separation theme where there are two different planets and people need help in decision of choosing the right and safe direction in order to avoid dangerous environment that would prepare a scary end for them. Here we see that the child begins to talk about emotional mental states of the characters. He begins to give a reason for sadness and links it by being left in the island alone with dangers. Here he both emphasizes

how scary and sad being left alone and trying to cope with the difficulties by himself.

In the play segment of 14th session, there is a theme where a plane travels between the imaginary and the real world. Later, it transforms into a new plane which can see what happens in the planet and understands that unusual things happen around the world. The child and the therapist transforms this plane together and the therapist emphasizes how changes would be scary for him. While the child tries to express how difficult to understand incidents around him in the real world, he also expresses how he created an imaginary world for himself. The plane represents the therapy process where the therapist and the child travel between two planets within himself. However, looking for his feelings, thoughts and desires in the real world might be hard and scary for him. As a matter of fact, the plane crushes when it tries to land to the real world. However, when the plane crushes, the passengers don't get hurt, but the plane has to be reinvented from the beginning.

Through the end of the play segment we see that, this anxiety might also come from a separation where the therapist talks about last week when they talked about they would not see each other for the next week. In this session, the therapist brings this separation subject that they will have next week and talks about it. Talking about separation and end of the hour are characteristics of reflective functioning adherence. By talking about separation and wondering about his feelings, the therapist also points out the anxiety he might be experiencing because of the unusual change in the process.

Session 14

T: We have about five more minutes. *(therapist prepares child for separation)*

C: Maybe those five minutes, the plane show goes on and runs out of transforming plane tricks.

T: That would be cool. Oo but I have to tell you something. I was telling you last week that next week we are not going to see each other. *(therapist talks about break in the treatment)*

C: I remember (in a low voice). *(child communicates with affect)*

T: Because next week, I won't be here. A week after that, we will see each other again.

C: Okay.

T: What do you think about that? Or do you have any feelings? *(therapist wonders about child's feelings)*

C: Umm, I don't need feelings with things people say.

T: Okay.

C: Who cares about what people say?

T: Hmm you are saying who cares about what I say. *(therapist rephrases child's communication)*

C: Maybe…

T: Maybe you wish that you wouldn't care but you do care about it but it might be easier not to care. *(therapist verbalizes child's feelings and intentions)*

C: The only way to care is to be at home? I think.

T: Hmm…

C: You know what they say, miserable beings must find more miserable beings than itself.

T: When miserable beings find miserable beings, they are happy. *(therapist rephrases child's communication and emphasizes feelings)*

C: Hı hı.

In this play segment, we see that even though the child underemphasized his feelings about the separation and staying alone with his difficulties at home for a week, the therapist gives him a space for him to talk about those unwanted, maybe 'miserable' feelings for him and invites him to talk about them. Also, although the child has difficulty in accepting those hard feelings, the therapist points out this

difficulty in an understanding manner by not forcing him. In the next session, which is 15th session, we see that the child's uses of emotion and physiological mental state words.

Session 15

C: Okay. Today is train story. One day there was a train of cars. Suddenly the train started to move. They pulled and pushed until they got to the correct place. But, they were too afraid of big claw grabbed all the train cars. *(play-related emotion mental state word)*

T: What's going to happen to all those poor train cars?

C: They're going to get smashed. But the nicest one will be taken away. *(play-related physiological mental state word)*

T: Oh…so the car was rescued?

C: Yes, and the truck was sent to the factory and felt cranky. *(play- related emotion mental state word)*

T: Hmm

C: So, he was cranky and frustrated. *(play-related emotion mental state word)*

T: Cranky and frustrated. O my goodness…what did he do with all those feelings?

C: I did nothing. He just went to his home and got grounded by Thomas.

Before this vignette, the child wonders about how many minutes they have left and break for a week subject comes right after this vignette. Here we see the anxiety, fear, frustration and anger he went through during that week because of their separation by the slip of tongue he did as 'I did nothing'. He symbolically speaks about them through the characters during the play right after the week where therapist talked about negative feelings he might be experiencing because of the break in the psychotherapy process.

3.2.1.2 Second Psychotherapy Process

In the play segment of session 36, which is the sixth session of the second therapy process, the child includes therapist into the pretend play and wants him to verbalize the character he created as 'Kidster'. The 'Kidster' character is present in most of the play segments during the second therapy process. The child sometimes uses this character as a representation of himself and he projects his feelings, thoughts and desires on this character. With the help of this character, the child verbalizes his feelings. He sometimes asks therapist to verbalize the character's

feelings and thoughts. In the following vignette, we see that the child asks therapist to verbalize 'Kidster' character and the therapist accurately perceives the therapeutic process and responds the child in a manner of understanding his emotions and makes link between the character and the child.

Session 36

T: Hey, why do you feel like a robot Kidster? Why do you think he feels like a robot? *(therapist asks child to elaborate on affect of the play character in pretend mode)*

C: Umm I think sometimes he gets unfeeling like.

T: Ahh, sometimes he doesn't feel the way people feel? *(therapist rephrases child's communication)*

C: Mhmm.

T: And that makes him feel like a robot, cause he's not like the rest of the people?

C: Mhmm.

T: How does that make him feel? *(therapist invites child to elaborate on internal states of the play character)*

C: Well, ask him. Happy, sad or mad?

T: Well that does not make me feel happy. But, does it make me feel sad or mad? *(therapist is affectively engaged in pretend mode)*

C: Hmm, what do you think?

T: Hmm, I don't know. What do you think?

C: I think ummm sad.

T: I think so. I think it made me feel sad when I don't have the feelings and I feel like a robot. *(therapist verbalizes affects of the play character in pretend mode)*

C: Okay, so that's the picture of the first step.

T: Does it make you uncomfortable when Kidster says that he feels like a robot? *(therapist invites child to elaborate on the link between child's feelings and play character's feelings)*

C: Umm. Why?

T: Cause going to the board (the child walks away to the black board) means you don't have to think that much about it <C is standing near the board, half facing T> *(therapist makes link between child's feelings and experience)*

C: Mhmm, right.

In this example, we see that the therapist rephrases and reframes child's statements. When the child says the character 'gets unfeeling like', the therapist reframes it as he doesn't feel the way others feel and being different makes him sad. Here the therapist responds and names child's feelings and in the end, the therapist makes the connection between the child and the character. The therapist engages the child with the feeling of sadness and how this made him uncomfortable that he didn't want to stay in that feeling and how he tried to stay away from that feeling by walking away.

When we look at the subsequent session, we see that the child speaks of the emotional and physiological mental states of the characters by himself. In this play segment, the child brings the theme of sibling rivalry via characters. The child names the character who represents his brother as 'Kidster two' and himself as 'Kidster one'.

Session 37

C: Kidster two almost got unconscious. *(play-related physiological mental state word)*

T: Kidster two almost got unconscious? What did he do?

C: Well, he jumped all the way and ended up so high that he got sick to his stomach and fell back down. *(play-related physiological mental state word)*

T: Hmm…so, Kidster two fell?

C: Mhmm.

T: And he almost got unconscious. Did he get hurt?

C: Just a little bit.

T: Hmm…. How do you think Kidster feels about that?

C: Bad. *(play-related physiological mental state word)*

In this vignette, we see that while the child is able to express his anger and jealousy toward his brother as making him fall down and get hurt, at the same time he is able to talk about his guilty feelings that he felt right after by using the medium of pretend play. It is important to consider that right after the session where the therapist talked about unwanted and negative feelings and made connections between his feelings and the characters, the child became able to talk about the negative feelings and the physiological mental states of the characters that represent his inner world.

In session 48, which is the twentieth session of the second therapy process, we encounter a scene where the child plays with different characters in a classroom setting and includes therapist by talking about the play in the dyadic relationship. The children in the classroom fail and have difficulty in subjects. The therapist talks about the failure and how the children might not feel good about themselves in that situation. Later on, the therapist talks about child's feelings in the situation of inadequacy in real life. While the therapist mentalizes the children in the play, he also mentalizes the child in that current situation and makes connection between the feelings of the characters in the pretend play and child's own feelings.

Session 48

T: When they don't do well, it's something that makes them not like it. How do they feel about themselves when they are not good at it? *(therapist asks child to elaborate on feelings of the play characters)*

C: That makes them hate school.

T: Yeah, but when they are not good at something, how does that make them feel about themselves? *(therapist asks child to elaborate on feelings of the characters while making link between experiences of the play characters)*

C: Bad.

T: Yeah, because they're not good at something and that makes them feel bad about themselves. *(therapist reframes child's communication)*

C: Ahaa.

T: Do you ever feel bad about yourself when you are not good at doing something? *(therapist makes link between feelings of the characters and child's feelings)*
C: Mhmm.

In the subsequent session which is 49th session, we similarly see that the mentalized child in the prior session, becomes more aware of the emotional mental states of the characters in the pretend play. When the termination is discussed between the child and the therapist, the child brings his worries and sadness in play-related mental state talk where there is a separation in the classroom setting, the theme he played in the prior session.

Session 49

T: What?
C: I'm sad! *(play-related emotion mental state word)*
T: Why?
C: Because we're taking the test for next year and it's the summer and I'm going to miss you. Because I'm not going to be in your class anymore. (*play-related emotion mental state word)*

3.2.2. Play Segments for Play and Other-Related MST and Affect Regulation

3.2.2.1. First Psychotherapy Process

In the play segment of session 6, we looked whether the child used play-related physiological mental state word in order to understand affect regulation in the 7th session where we encounter one of the highest affect regulation. When we examined the play segment, the child brings a theme where there are two children, one is slower and the other one is faster, and how the slower one gets angry with the faster one. The slower one feels great about telling he is angry with the faster one. Then he brings two characters who love each other and live close to each other. The therapist asks what happens if one of them gets angry. Here the child comes up with the need of being clamed down and regulated by somebody else. Then the

therapist makes the link between the need of the character and the need of the child. We see how the child states his physiological needs for affect regulation. The therapist and the child define his physiological need in this vignette.

Session 6

C: They are saying that they always love each other.

T: Do they love each other always?

C: Yeah…

T: What happens if one of them gets angry with the other one.

C: Nothing happens it. Edward calms them down. *(play-related physiological mental state word)*

T: So, other people calm them down when they got angry.

C: Yeah .

T: Do you feel like you need a calm down when you get angry?

C: Yeah.

T: What helps you to calm down?

C: Somebody saying that.

In the subsequent session, when we examined the play segment, the child creates new characters who have different names that are made up by trying different combinations. Then the child creates a character calls 'Ads-trouble' and starts talking about this character.

Session 7

C: It's going to smash me.

T: It's going to smash you. What does that mean?

C: It means it's going to smash me into pieces in my imagination.

T: Wow, smash you into pieces.

C: Yeah, but just in my imagination. Well, anyway…*(child is able to differentiate fantasy and reality and then feels regulated)*

T: So, in your imagination but not in real life?

C: Yeah.

Here we see that a character who 'ads trouble', might be a scary and fearful character for the child. The child talks about the anxiety that would destroy the child and fall him apart. After he speaks about his anxiety, he stated that this is just in his imagination. Here the child is able to distinguish reality and imagination which serves as an affect regulation for the child in case of a great anxiety.

When we look at the session 17th, we examined the other-related emotion mental state words that are used by the child in order to understand affect regulation capacity in the subsequent session where we encounter one of the highest affect regulation capacity. In this vignette, the child talks about his disappointment about the group session before his therapy. After that, in deciding what to play, the child begins to ask what therapist wants to do and continues to ask her what she wants.

Session 17

C: I want to be fair to let you choose.

T: You think it would be fair if you let me choose?

C: Mhmm.

T: Do you think that I think it's not fair?

C: I don't know.

T: What does it feel like to not be fair?

C: Not so good.

T: It doesn't feel so good?

C: Doesn't feel so good…

T: Maybe you're worried that I really want to choose and my feelings are hurt?

C: Hmm. Your feelings hurt? *(other-related emotion mental state word)*

T: What do you think? <C continues to turn one page over the other><Silence for 8 seconds>

C: Mhmm.

T: You think my feelings might be hurt? Well…I actually like doing what I'm doing, which is letting you choose and then helping you figure out some of the feelings that you feel and help you figure some things out. I like that part.

Here we see that the child is worried about therapist's mind after he brings his negative feelings about the group therapy session and tries to understand therapist's (other's) mind and therapist's emotions in this situation. He tries to attribute emotion mental states to the therapist in order to understand how she feels in that situation when he brings his negative material. The therapist speaks out his worries and states her thoughts and desires about the situation, then the child calms down by learning therapist's emotions, thoughts and desires and continues to play on his choice.

When we look at the play segment in the subsequent session, which is session 18, the child brings a theme where there are scary and fearful animals that are about to attack both therapist and the child. We interpreted these scary animals as the difficulties that he encounters in the outside world which scare him and make him feel alone where he feels he needs to fight with those challenging and undomesticated feelings without getting any help. However, in this vignette, we see that the child accepts therapist's help and speaks out the importance of her existence in dealing with those difficult feelings. He also mentions, how he would be alone to deal with those feelings without his therapist and how it would be harder for him to cope with anxiety without her. Here we see, how successfully the child expresses his need for help and uses adaptive strategies to cope with stress. In the end, when the therapist helps the child press the button, we see that the child is physically relieved by laughing and making relaxation sounds.

Session 18

C: Animal is approaching us. Quick, press the animal sound button. Wrrahh! *(child requires and accepts therapist's help in dealing with anxious feelings)*

T: It's interesting that I help you scare them away. You put me in charge of pressing the buttons

C: Hurry, hurry. Quick, press it. Wrrahhh! Yaaay!

T: What if I didn't press the button?

C: Well, there's another way to scare them away.

T: What's that?

C: The wheel turns on a nature button and the button is this black one here. *(child is able to find an alternative way to cope with anxiety)*

T: Ohh, so there's another button. But, what if I wasn't here? Will there be no one to push the button?

C: Hmm, then I have to do it myself.

T: What would that be like?

C: Worse *(child emphasizes therapist's important role in dealing with anxious feelings)*

T: How come worse?

C: I don't know. But, let's hurry uup. Whuu…Thank goodness! *(child feels secure, relieved and regulated after therapist's help)*

3.2.2.2. Second Psychotherapy Process

When we look at the fourth session of the second therapy process which is session 32, we examined child's play-related emotion mental states in order to understand affect regulation capacity of the child in the subsequent session. In session 32, we see that the child brings a separation theme where the character 'Kidster' gets lost after his family moves into another city and his family looks for him but they can't find him.

Session 32

C: Okay everybody, wake up! It's time to start the day again. The emergency is over. We found Kidster. *(play-related physiological mental state word)*

T: Wow! You seem really happy. How do you feel that the Kidster is back?

C: Happy

T: You're happy? You seem like you're really excited.

C: Umm, Kidster. How did you get your mom?

T: I don't know.

C: Hmm maybe we should think back? Hmm, I remember when the Toystens went to bed. Kidster went in to his mom bed and his mom got him.

In this vignette, we see that the character feels great anxiety when he gets lost and his family can't find him. However, in the end we see that he is found where his tactile and physiological needs are fulfilled by his mother by sleeping together. In the subsequent session, which is 33, the child brings a theme where the character 'Kidster' is homeschooled as he got pushed by a classmate. Although he is the one who is hurt and bullied, he is the one who is punished and needs to get separated from others. Here we see that when the therapist expresses his need to go back to school, the child creates a character, a 'third one' who behaves like a parent who shows the problematic behavior and negotiates between the child and Kidster without ignoring Kidster's feelings.

Session 33

T: I miss my classmates at school.

C: Well, okay. I'll send you back to school.

T: But, they were pushing me!

C: Well, I'll tell the kid that pushed you, it's not nice to push. Hold it. Mr. Wonno. That's his name.

-Why did you push Kidster? *(child tries to mentalize play characters)*

-Ummm…I pushed him because I do not like him.

T: Wahh…that makes me sad.

C: -You should not do that.

–Okay. Kidster, I'm sorry. *(child emphasizes feelings of the play character)*

T: You hurt me.

C: -Umm

T: And it made me sad.

C: -How can I make you better Kidster?

T: I don't know.

C: -Hmm…Usually when someone says "I'm sorry" it makes me feel better and Wonno says that he is sorry. Well, Kidster feel better? *(child offers ways to cope with hurtful feelings and for affect regulation)*

T: Is he gonna push me again?

C: -Are you Wonno?

–No, no, no. Never.

Here we see that the child is able to speak the character's feelings and he is able to accept help from a parental figure in case of anxiety right after the session where the physiological needs of the characters were mentioned. He shows that he needs help in order to solve the problem and while requiring help, he doesn't ignore the character's thoughts and feelings. This adaptive way of coping with stress and frustration shows us, the child is able to use adaptive tools where he makes connections between character's feelings and his own feelings.

In this vignette from the play segment of session 44, which is the sixteenth session of the second therapy process, we see two characters' fight and in the end, one of them gets hurt. The therapist talks about those hurtful feelings and states and how hard it is for the child to talk about those fragile feelings. Although the child accepts that it is hard to elaborate on those feelings, he suddenly shuts himself down by making the characters 'asleep'. Here he attributes physiological mental state for the characters showing how it is hard to elaborate hurtful feelings and how soma plays a role in dealing with anxiety. However, the therapist makes the link between the need and the desire.

Session 44

T: Who? Who was the starter of the fight? Was it Fred or Thomas?

C: Thomas

T: Thomas. And he said something to Fred that made him very upset

C: Mhmm.

T: I forgot what it was.

C: Called him a dork

T: Oh, right. Called him a dork.

C: Yeah, right

T: He was a dork. And S (name of the child) didn't wanted to talk about it earlier too.

C: Mhmm. Yeah I didn't

T: It's hard to talk about it

C: Voom-vomm. Toystens are asleep. *(play-related physiological mental state word)*

In the subsequent session, which is session 45, where the child dealt with anxiety stating the physiological states of the characters, and the therapist talked about the feelings he tried to stay away, we see that the child is better able to define his coping mechanism and evaluate the situation with different perspectives where he gives a space to talk about his anxiety and accept his feelings. In this vignette, the child brings a theme where his brother hurt him in a fight. Here we see that, after the session he was only able to express his anger and frustration via characters who had fight, now he is able to relate those feelings with his real life situation. However, he states that it is hard to talk about those feelings and instead he wrote a book where two characters fought and one of them got hurt. Here we see that his adaptive strategy to express his emotion symbolically has strengthened. While he uses a strategy which serves not to remember an unwanted feeling, we see that the child is also able to mention it is a hard thing not to feel anything as it has some consequences as not feeling 'being alive or not'. Here we see that the child is able to speak those hurtful feelings without escaping from them by shutting himself down.

Session 45

C: He doesn't feel anything. He's hypnotized, remember?

T: Right. So, he doesn't have to feel bad about it?

C: Sometimes that can be a good thing and sometimes that can be a bad thing. *(child discusses the consequences of being detached from his feelings)*

T: Being hypnotized and not feeling things?

C: Not feeling anything. It's a good thing because something like hurt, mad, sad or worry can't be felt. *(child talks about his defense mechanism and how he deals with negative feelings)*

T: Right.

C: And what was that I don't want again? Oh yeah right hurt. *(child makes connection between the pretend mode and his actual primary experience)*

T: You forgot about that and not feeling good. So, you think when you don't feel, it's a good thing?

C: And it's a bad thing because without feeling you wouldn't know that you are about to die or anything like that. *(child emphasizes the importance of being in touch with his feelings)*

T: Knowing that you are about to die? That would be pretty bad.

C: Yeah.

T: Do you ever worry about that?

C: Sometimes yes, sometimes no.

To sum up, in both therapy processes, we see that being sensitive to separations and terminations; therapist's sensitive stance to child's feelings; speaking of child's unwanted and negative feelings, naming feelings and underlying reasons, needs and weaknesses; making connections between the characters in play and the child increased child's capacity to use play-related mental state talk in emotion and physiological mental state words. Also in return, child's own definition of physiological mental states of the characters and therapist's mind in emotion mental state words predict better affect regulation capacity in the following session. The differences between therapist's interpretations and their clinical implications on the child and therapeutic changes will be discussed.

CHAPTER 4
DISCUSSION

The first aim of this study was to examine the relationship between RF process and child's mental state talk in narrative, as well as their relations with child's affect regulation. Firstly, RF adherence of the session was hypothesized to cause child's use of mental state words. Secondly, it was expected to see a relationship between RF adherence and child's affect regulation. The last objective of the study was to investigate the relationship between child's use of mental state talk and affect regulation. When we looked at the treatment process, we found that RF adherence of the session partially caused child's play related mental state talk. It is important to note that not all subtypes of child's mental state words were significant. RF adherence of the session predicted only child's use of play-related emotion and physiological mental state words in the subsequent session. Child's use of play-related physiological mental state words and other-related emotion words predicted affect regulation in the subsequent session. However, we were not able to find that RF adherence of the session significantly predicted affect regulation.

The clinical implications and reasons for the use of specific types of mental state words in relation to child's diagnoses of Asperger's syndrome (DSM-IV-TR; APA, 2000) will be discussed later. In order to evaluate the results, we will first discuss the specific mentalizing intervention techniques that were done in both psychotherapy processes in order to understand which intervention techniques might have worked well on the child with diagnosis of Asperger's syndrome. Then, the relationship between RF process and child's use of mental state talk as well as specific reasons for certain subtypes of mental state words and their role in the prediction of affect regulation will be discussed.

Mentalizing Interventions in Treatment

Before the discussion of how RF prototype caused child's use of mental state talk, firstly we want to evaluate therapists' mentalizing interventions. In the earlier study, it was reported that therapists' specific mentalizing interventions in the clinical practice can not be detected by CPQ. (Goodman, Reed, & Athey-Lloyd, 2015). Verheught-Pleiter et al. (2008) offered mentalizing intervention techniques based on three levels and as we do not have a structured measure to evaluate therapists' intervention techniques in this study, we will abide by our clinical observations on therapist's interventions upon this model.

In both treatments, the therapists dominantly used attention and affect regulatory interventions. (Verheugt-Pleiter et al., 2008, p.167). In the beginning of the first therapy process, the child was hardly able to understand and mentalize his emotions as well as other's emotional mental states due to his developmental level and diagnosis (Shamay-Tsoory et al., 2002). Then the first therapist began to work on creating attention to his inner self where she tried to provide capacity of gaining control over impulses and giving priorities to S.'s mental states over concrete physical realities (Verheugt-Pleiter et al., 2008, p.196). For example, she was pointing out his excessive need in act or touching his own body to sooth himself, emphasizing his anxiety feelings. Then S. began to experience that his mental states are recognized and understood. When the child finds his/her image in the mind of a caregiver and realizes his/her physical actions has a meaning in the other's mind, then the child begins to build his/her internal world as a social agent (Fonagy, Gergely et al., 2002; Verheugt-Pleiter et al., 2008). With the help of interventions in attention regulation, where the first therapist put attention to S.'s mental states over physical reality, S.'s impulses were regulated where his needs and intentions were embraced.

The holding environment that was provided in the first psychotherapy process strengthened the child in terms of ability to cope with anxiety and excitation (Cluckers, 1986, p.23). The more his therapist talked about his intentions behind his behaviors, the more S. became able to mentalize himself as well as understand his therapist's attempts in emotion regulation. Within the improvements in S. in terms of making distance between reality and fantasy, the time he spent on art work

or pretend play mode increased. Fonagy and Target (1997) stated that when the differentiation between fantasy and reality is emphasized by the therapist, the child begins to play in the pretend mode where he/she feels less threatened by negative material. After this safe environment was established, S. began to perceive himself as an agent, which strengthened S.'s affective activity (Verheugt-Pleiter et al., 2008, p.196). Then the first therapist began to give importance to affective states regarding his level of development. (Verheugt-Pleiter et al., 2008, 199).

Towards the end of the first psychotherapy process, the first therapist began to invite S. to think about his feelings as well as his and others' intentions. However, in the first psychotherapy process, S. was not able to deduce second-order affect representations but was able to make micro level connections between his behaviors, feelings and consequences while representing them through the medium of play. When we consider the developments after the first psychotherapy process, we observed that S started to use mental state words to differentiate reality and fantasy as well as affective mental states for himself and others. He was more able to function in the pretend mode. Also we can say that his symbolization capacity has developed. Through mentalization and increased dyadic mental state talk, S. became able to explore internal mental states and therefore his symbolization capacity improved (Lillard & Kavanaugh, 2014; Halfon & Bulut, 2017). It was also stated that when therapists put more emphasis on affective states, this helps children with Asperger's syndrome to enhance mentalization skills (Goodman, Reed, & Athye-Lloyd, 2015). For example, when his therapist put emphasis on how anxious or angry he might have felt in the situation of termination or changes in his routines, he began to relate his feelings to his behaviors. He became able to process anxiety and frustration through the medium of play where children with Asperger's syndrome are thought to have difficulty understanding complex emotions like them (Shamay-Tsoory, 2007). Although the first therapist's mentalizating interventions in attention and affect regulation worked well on S.'s capacity in attributing affective states to play characters, we can not claim an integrative mode where he was able to associate his feelings and experiences.

When we looked deeper into mentalizing interventions that the second therapist did in order to understand which interventions work more on the diagnosis of Asperger's syndrome, unlike the first therapist who focused on attention and affect regulatory interventions as mentioned earlier, the second therapist mostly focused on higher levels of affect regulatory interventions and interventions aimed at mentalization (Verheugt-Pleiter et al., 2008, p.199). Rather than naming and describing affective states, the second therapist mostly focused on making sense of affective experiences (Fonagy, Gergely et al, 2002). Also he mostly focused on consequences of S.'s unwanted feelings in order to promote affect regulation (Bateman & Fonagy, 2004). Facilitation of the pretend mode, giving reality value to affective states of play characters and S., as well as asking S. the reasons of his feelings while making him consider the antecedents of the affects, inviting him to deduce second-order affect representations were the main tenets of the second psychotherapy interventions. It was observed that although S. was able to use affective states in play, he was not in a level where he was able to understand the meanings of those affective states yet. It is important to note that although S. used more mental state words regarding affective states and began to relate those affects to his inner world, we are not able to say he became able to deduce second-order affect representations.

Although we see improvements in child's capacity to mentalize or represent his inner world in a symbolic way in the second psychotherapy process, we suggest that he needed more attention and affect regulatory interventions rather than interventions aimed at mentalization where he is supposed to use mental representations for self-regulation and integration of self in relationships (Verheugt-Pleiter et al., 2008, p.223). Although the second therapist offered an area where he commented on affects of the play characters and relate them to S. with causal relations, he was too fast and direct to ask and wonder about S.'s feelings and other's intentions, giving a little gap between his own mind and S.'s mind. This symbolic space in the play provides the differentiation between the therapist as a one who mirrors and the client as the one whose affective states are mirrored which promote the differentiation of self and other (Goodman, 2009). Also, this

transitionary space of play provides an area where children can develop capacity to play the material symbolically where it doesn't become threatening (Levy, 2011). It was stated that children with Asperger's syndrome have difficulty in forming causal explanations about their personal narratives and characters in a story (Losh & Caps, 2003). Therefore, S. was observed to be overwhelmed with those anxiety feelings and tried to stay away from those feelings as well as their meanings between the therapeutic relationship by ending the game or changing the subject. Therefore, he had difficulty in staying with unwanted negative feelings and organizing his inner world in those situations.

Although in the first psychotherapy process, tentative listening helped S. to elaborate on his feelings at his pace, in the second psychotherapy process S. might have felt overwhelmed by the feelings which thus seemed like he felt misunderstood (Goodman, & Ayhet-Llyod, 2011). So it is important to understand, accept child's regulation profile where the therapist needs to be careful in attuning the child at the same level (Verheugt-Pleiter et al., 2008, p.169). It was stated that mentalizing interventions are only useful when the attention and affect regulation is first provided (Verheugt-Pleiter et al., 2008, p.223). In sum, S. began to play symbolically and talk about how the characters in play might have experienced different affective states as well as how he would feel and respond in that situation, however, he was not yet able to constitute a link between his mental states and why and how he played those states over play characters in the pretend play. Overall, S. became better able to play, organize fantasy and reality as well as self and other's mind and affective mental states by time after two years of treatment (Verheugt-Pleiter et al., 2008).

RF Adherence and Mental State Talk

Along with the mentalization process, we found that RF adherence predicted child's use of mental state talk. As it was stated earlier, therapist's affective engagement, sensitive interaction with the child upon child's developmental level, emphasis on child's mood and affects, making links between

child's feelings and experience help the child to construct his inner world and mental states of himself as well as mental states of others via therapist's mentalizing mind (Goodman, & Ayhet-Llyod, 2011; Verheugt-Pleiter et al., 2008; Brent, 2009). Therefore, the child starts the describe his/her inner states in play (Chazan, 2002). Also, child's active engagement in pretend play, child's exploration of relationships with significant others, child's spontaneous play, trust in therapist and responses with affective content contribute to reflective function (Fonagy & Target, 1997; Goodman, Reed, & Athey-Lloyd, 2015). Although in literature, it is clear that reflective functioning of therapist enhances child's capacity to play and describe his/her feelings through play characters, in this study, it is important to understand why reflective functioning process promoted child's use of play related mental state word usage rather than self or other mental state talk, as well as why it caused the specific use of play-related emotion and physiological mental state words.

Our results in enhanced mentalization capacity of the child as a result of RF adherence is in accordance with the earlier findings (Goodman, & Ayhet-Llyod, 2011; Goodman, Reed, & Athey-Lloyd, 2015). However, it is important to evaluate the function of RF prototype upon the use of play-related mental state talk in narrative of a child with Asperger's syndrome. For children with Asperger's syndrome, personal and other related narratives require more complicated and sophisticated ways of understanding subjective experiences (Bang, Burns, & Nadig, 2013). Losh and Capps (2003) found that children with Asperger's syndrome have more difficulty in narrating their personal experiences other than narrating and mentalizing characters in a story book and they found that they are more likely to be dependent on the other's prompt in narrating their personal experiences. It is important to see how children with Asperger's syndrome have difficulty in understanding and describing personal affective experiences without other's mind and help in discovering mental states. It was found that other's explanations of story characters' inner states and desires enables the child with Asperger's syndrome to associate emotions with experiences where children's frequency in description and usage of mental states as well as casual relations between experiences improve (Bang, Burns, & Nadig, 2013; Losh & Capss, 2003).

Therefore, RF process provided the required dyadic relationship where his mental states were reflected and where he found a space to discover affective mental states.

Fonagy & Target (1997) proposed that children begin to understand their inner experiences through imagining mental states of the play characters during psychotherapy process. So, with his therapists' reflections on S.'s mental states and S.'s improved capacity in spontaneous and symbolic play, S. began to practice discovering internal states of himself as well as others through the medium of play characters (Bruner, 1990). Therefore, we suggest that other than mentalizing his personal or other's experiences which require a sophisticated way of communication, S., whose affective states have been reflected by his therapists, began to mentalize play characters where he began to practice understanding inner states of subjective experiences. His therapists' attempts in being sensitive to separations, terminations and child's negative feelings; naming feelings and underlying reasons, needs and weaknesses; making connections between the play characters and his experiences promoted child's capacity to investigate inner states of play characters upon play-related emotion and physiological mental state talk.

Play-related Emotion Mental State Words

It was stated that normally developed children advance capacities in understanding and expressing emotional states in sophisticated ways with the help of social exchange (Miller, Robinson, & Moulton, 2004). However, as children with Asperger's syndrome mostly have difficulty in verbal communication in the dyadic relationship (Schultz, 2005), they have deficit in developing considerable amount of understanding self and other's intentions, feelings and desires.

With the help of relational acquisition, reflective function improves tolerance in understanding emotions where people begin to develop capacity to elaborate on subjective affects (Bouchard et al., 2008). In discovering why RF promotes child's understanding of emotional states, in accordance with theory of mind (Fonagy & Target, 1997), it is important to consider the child who understands his/her caregiver's intentions and stance becomes more able to

elaborate on emotions and internalize other's mental states (Bouchard et al., 2008). Therefore, these internalized mental states needed a way to be expressed where the medium of symbolic play appeared as an effective tool for S. who needed to take a stance and make a space for himself in play to express his emotions. When we elaborated on sessions, we observed that he mostly used 'fear' and 'anxiety' words as emotional states. Therefore, those emotional states were more elaborated by his therapists where he began to realize them. It is important to consider that children with Asperger's syndrome require an area which is not overwhelming and anxiety provoking for them due to deficiencies in required tools to regulate themselves effectively (Laurent & Rubin, 2004; Aldao, Nolen-Hoeksema, & Schweizer, 2010). So, his therapists provided the required area for social exchange of mental states of both play character's and S.'s experiences through reflective function. This helped S. to recognize and understand emotion mental states in the dyadic relationship. He learned to reflect mental states to the third parties through the discourse with his therapists (Bruner 1990). Along with the increased capacity in pretend play, he then began to practice attributing those feelings to the characters in play. Therefore, he became able to express his emotions with an optimal psychic space which helped him to elaborate on affective states as well as kept him distant from facing overwhelming feelings directly.

Play-Related Physiological Mental State Words

When affective states can't be felt as subjective experiences and expressed verbally yet, mentalization starts on body first (Bouchard et al., 2008). Therefore, from the perspective of somatic modality, the body becomes the one who is able to express internal states and those affective states can only be understood by verbalization of physiological impressions on soma (Bouchard et al., 2008).

In accordance with the underlying reasons, the literature on children with Asperger's syndrome state that feelings are not able to be expressed by any instruments but just via bodily idiosyncratic actions like some rituals (Prizant et al., 2003). Physiological signals have been suggested as signals of affective states of

children with Asperger's syndrome (Ben Shalom et al., 2006; Groden et al., 2005). Therefore, when we try to understand S.'s use of physiological mental states, we saw that the more his therapists' reflected upon S.'s idiosyncratic gestures and his tactile defensiveness, stating that in times of anxiety he needed to touch himself more, S. became able to recognize them as internal states which are apart from physical realities. For example, when S. encountered anxiety provoking feelings, he was prone to touch himself or go to the bathroom. His therapists commented on his need to be soothed and stay away from those unwanted feelings by being outside the room. They made links between his feelings and behaviors. Although he started to realize them, he was not able to integrate those physical realities to his actual behaviors and before he consciously narrated them in personal narrative, and integrated them in the mentalized affectivity level, he used play characters to reflect on. He became better able to understand and began to symbolize physiological mental states instead of acting. So the more his therapists commented on his bodily soothing actions with underlying affective states, S. began to relate and understand physiological states with underlying emotions. Therefore, we suggested that the child with Asperger's syndrome whose mind is reflected by the therapist begins to understand affective states other than physical realities and begin to symbolize internal states through the medium of play characters.

To sum up, in this case study, we observed that after the sessions where his therapists' reflected on his bodily soothing actions with underlying need for emotion regulation, the separation anxiety about the end of the hour and termination processes as well as play characters' mental states and their relation to S., S. became more able to attribute emotional and physiological mental states to the play characters.

Mental State Talk and Affect Regulation

Another finding for S. was, S.'s use of other-related emotion mental state talk and play-related physiological mental state talk caused subsequent affect regulation which supported our hypothesis on child's mental state talk will predict

affect regulation. It was suggested that labeling one's own emotional states is an essential prerequisite for emotion regulation (Barrett, Gross, Conner, & Benvenuto, 2001). However, so far we have discussed the difficulties that children with Asperger's disorder encounter in labeling their emotions and affect regulation. Literature stated that they rely on strategies based on their early developed methods which are sensory motor reactions where they emotionally dysregulate themselves on idiosyncratic bodily movements (Laurent & Rubin, 2004; Volkmar & Klin, 2003). At this point it is important to understand how S.'s projections of his mental states upon another mind; his therapists or play characters rather than his personal narrative helped him to regulate himself.

The role of affective perspective taking has been defined as a process where someone tries to understand mental states over assessing other's emotional states. (Kurdek & Rodgon, 1975). This remarks the assumption that the child tries to understand how other would feel on the basis of how him/herself would affectively respond to that situation. Therefore, the important point in understanding S.'s need in elaborating affective states either through his therapists' mind or play characters is that, S. would be able to make inferences about how he would feel in that situation by imagining how others feel (Eisenberg et al., 1991).

Similar to literature in affective perspective taking, it was stated that emotion regulatory capacity of people with Asperger's syndrome is strongly affected by considering a situation or experience by taking other's mental state to understand and interpret its meaning (Samson, Gross, & Huber, 2012). In terms of our findings, it is meaningful that the child who saw his emotions in other's mind began to understand his emotions and then regulated himself. In the question of why other-related emotion mental state words promoted subsequent affect regulation, it is important to understand emotional states are triggered in reciprocal relationship. When S. began to use emotion mental state words for his therapists, he started to understand his feelings exist in other's mind, therefore, his feelings exist. S. first needed to discover how his emotional mental states exist in other's mind and then he became able to understand his emotions. Therefore, after S. became able to label emotion mental states in the other, then he began to understand

and label his emotion mental states which led to emotion regulation (Hoffmann, 2000; Vaish, Carpenter, & Tomasello, 2009).

As children with Asperger's syndrome have difficulty in communication, physiology becomes the only source to understand emotions as well as only strategy for self regulation (Ben Shalom et al., 2006). Children with Asperger's syndrome are likely to prolong the omnipotence in times of anxiety as they may become the only sources for affect regulation as a result of their inabilities in communicative patterns with the other where the attachment figure can't understand and meet the needs of the child (Laurent & Rubin, 2004). It was important in the sense that when the distinction between reality and fantasy became less clear, S. was more referencing to his own body, soothing himself by touching where he was not able to regulate himself appropriately. However, when the distinction between reality and fantasy got clearer, S. became able to take a distance from anxiety provoking material via play. Therefore, S. was better able to symbolize and mentalize his need to be comforted in play-related physiological mental state talk. The more S. used play-related physiological mental state talk, the more he realized physiological needs might have underlying emotions. Through a third party, which is identified play characters, S. began to realize physical realities have affective content. It is important to understand that S.'s only use of play-related physiological mental state words promoted affect regulation as he was mostly playing alone in play through an identified play character. After speechless soma found a way to be verbally expressed other than acting, S. found a way to understand his emotions. He began to realize the meanings of his physiological mental states by seeing and labeling them on play characters. Therefore, instead of acting, through the help of symbolization and verbalization of internal states of play characters, S. began to integrate his physiological experiences with emotional states (Kernberg, Chazaan, & Normandin, 1998), which led to appropriate affect regulation.

To sum up, the child who found his emotional mental states in other's mind as well as understood affective states behind physical realities through projection on play characters got emotionally regulated in the following session. The understood physiological needs which are the only expressions of emotion in

Asperger's syndrome and emotion mental states through other's mind helped the child with Asperger syndrome discovering his mental states which would generate affect regulation.

RF Adherence and Affect Regulation

Finally, we expected that RF adherence of the session will predict affect regulation of the child. However, we failed to find a significant association between these constructs. It has been stated that a child with better mentalization skills would be better at emotion regulation (Verheugt-Pleiter et al., 2008). Although we have discussed therapist's mentalizing interventions and their effects on the child, we were only able to state that child's use of other-related emotion and play-related physiological mental state words predicted affect regulation in this case. However, our results are parallel to literature. Laurent and Rubin (2004) stated that as children with Asperger's syndrome have difficulty in understanding emotions as well as their attachment's figures' emotion regulatory attempts in times of anxiety. They are prone to hold on their early developed strategies that are based upon bodily reactions and they may become the only sources for affect regulation. In this case, S.'s therapists were the ones who were expected to regulate him via reflecting his mental states. However, S. was able to regulate himself only using other-related mental state talk in emotion and play-related physiological mental state talk. As stated earlier, children with Asperger's syndrome first experience their emotions by physiological experiences (Ben Shalom et al., 2006). As they need other's mind to regulate themselves as well as understand the affective content under physiological experiences, they first need to recognize them in the other's mind. In this case, affect regulation occurred after S. mentalized his emotions in other's mind and his physiological experiences via play characters where he found an optimal space to symbolically reflect on.

To sum up, we suggested that when working with children with Asperger's syndrome, it is important to consider child's level of thought, therapist's mentalizing interventions and therapist's attunement to child's level and emotion

regulatory strategies (Verheugt-Pleiter et al., 2008). Although it was stated that therapist's reflective functioning contributes to child's mentalizing capacity and use of mental state talk, it is important to consider child's developmental level as well as his/her diagnoses. On the other hand, it is important to consider child's strategies for affect regulation. In our case, S. was not able to physical realities and affective states in the beginning of the psychotherapy process. With reflective functioning process and specific mentalizing interventions in attention and affect regulation, S. became able to differentiate fantasy and reality as well as understand his experiences with underlying emotional content. Play served as a transitional space for him to reflect his inner world. This transitional space provided him a symbolic experience where he could reflect his physiological and emotional mental states on to the characters (Winnicott, 1971). His therapists existed as containing good enough mothers (Winnicott, 1971) who reflected upon his affective states (Grolnick, 1986). Therefore, S. began to use more mental state words referring to physiological and emotional states. Also, through understanding his needs and expressing them either through his therapist or play characters, S. became better able to emotionally regulate himself.

4.1. IMPLICATIONS FOR CLINICAL PRACTICE

In this study, our results were similar to both earlier studies that were conducted on this case as well as literature. We found that mentalization process promoted mental state talk of the child as well as mental state talk usage of the child promoted affect regulation in play where children find an area to understand and discover their emotions (Hughes and Dunn, 1997; Youngblade & Dunn, 1995).

With the help of earlier findings conducted on this single case about reflective functioning process and interaction structures between therapists and the client (Goodman, & Ayhet-Llyod, 2011; Goodman, Reed, & Athye-Lloyd, 2015), in this study, we were able to understand the dynamic relations between mentalization process as well as mentalizing interventions of therapists on child's capacity to mentalize and affect regulation. Also we were able to see what kind of

mentalizing intervention techniques do work well on children with Asperger's syndrome regarding their level of thought. Finally, we were able to demonstrate how affect regulation happens in children with Asperger's syndrome in a mentalization-based psychodynamic psychotherapy.

This study has several clinical implications. First of all, we saw that reflective function adherence of the session contributed to child's usage of play-related mental state talk where he was able to mentalize play characters' mental states in emotion and physiological mental states. Therefore, reflective functioning promoted mentalization (Fonagy & Target, 1997). As stated above, physiological signals become the phenomenon of affective states in children with Asperger's syndrome. Therefore, therapists' reflections on child's physiological states played an important role for the child with Asperger's syndrome to link behavioral experiences with underlying emotional mental state. Also therapist's attempts in differentiating fantasy and reality, attunement to child's mental states with underlying affective content, naming and describing mental states of both play characters and the child and sensitiveness to child's separation anxiety promoted child's ability to differentiate self and other's mind as well as mental state talk usage in emotion and physiological mental state words through play characters.

Also, therapists' mentalizing interventions have been studied and it was found that it is important to attend child's level in development of thought (Verheught-Pleiter et al., 2008). It was formulated that children with Asperger's syndrome are thought to be not able to differentiate self and other's mind, so it was important to use mentalizing intervention techniques in attention and affect regulation other than mentalizing affectvitiy (Baron-Cohen, Leslie, & Frith, 1985; Verheught-Pleiter et al., 2008). When the therapists reflect upon child's mind during the play, they both differentiate child's and others' mind, as well as fantasy and reality (Fonagy, Gergely et al., 2002). The child, whose mental states have been recognized and given attention as well as the links between his behaviors and intentions emphasized in play, became better able to understand them. Giving reality value to child's inner experience help the child with Asperger's syndrome to understand both his and others' mental states and their meanings (Ben Shalom et

al., 2006). Therefore, this promoted child's mentalizing capacity in play where it is thought to be a safe place to reflect mental states on play characters (Fonagy, Gergely et al., 2002). However, therapist's mentalizing interventions and reflective function may not work directly with affect regulation but the children with Asperger's syndrome might need to internalize therapist's reflective function for affect regulation.

Mentalization of other's mind and play characters in play serve an important area where children may integrate their pretend and psychic equivalence modes (Verheught-Pleiter et al., 2008). Therapist's mind as mirror in the equivalence mode and pretend play facilitates the linking between child's emotions and behaviors where the child becomes better in affect regulation (Goodman et al., 2009; Verhueght-Pleiter et al., 2008). The child whose emotions are reflected upon physiological needs becomes better able to symbolize those affective states. Therefore, the child who understands his emotions via other's mind and physiological mental states via play characters become better able to regulate him/herself.

Therefore, when working with children who diagnosed with Asperger's syndrome in mentalization-based psychodynamic play therapy, therapist's interventions should aim at attention and affect regulation. It is important to attune child's developmental profile to promote mentalized affectivity in the upcoming stages in the psychotherapy process as well as understand associations between RF process, child's ability to mentalize and affect regulation in the clinical practice.

4.2. LIMITATIONS AND RECOMMENDATIONS FOR FURTHER RESEARCH

Although it is important to consider the longitudinal nature of this study for observations of mentalization process, mental state talk and affect regulation in diagnoses of Asperger's syndrome, it is important to note that our data was very limited in terms of its number. A study with more time points would be more preferable. Although case studies have been found useful in developing clinical and

assessment techniques (Kazdin, 2003) as well as accurate reflections on clinical work in psychotherapy process (Halfon & Bulut, 2017), more comparable results would be obtained from the analysis of treatment processes of different single case studies of children with Asperger's syndrome. Also without the change in psychotherapists and two termination time points, different clinical implications might have been obtained. It is important to consider the effects of termination process on the overall treatment.

Also, due to the small sample size, we were not able to divide the data into two as different psychotherapy processes with two different therapists. Therefore, we were not able to see whether significant results on the overall data would be significant individually in both psychotherapy processes. There might be different temporal associations between variables and significant results for the two different psychotherapy processes. With a different statistical strategy, our standardized measurements in mental state talk and affect regulation can be studied in further research.

In the data analytical strategy, we used Granger Causality test which doesn't refer an exact causal relationship but rather an approximate causality between variables when the analysis indicates a significant causal relationship (Granger,1969). Therefore, there might be unobserved variables in the causal relationship. Based on the literature, we defined an optimum time lag (Jebb, Tay, Wang, & Huang, 2015). However, other time lag associations might have brought different significant associations and results.

CPTI is used to understand play components as well as very specific affective states expressed by the child in play whereas CPQ assesses psychotherapy process in general, but there might be some overlapping items regarding affective expression (Halfon & Bulut, 2017). However, although mentalization process can be measured by CPQ, therapist's specific mentalizing interventions can not be measured by CPQ. Although researchers in the prior research (Goodman, Reed, & Athey-Lloyd, 2015) didn't find any difference between therapist in RF prototype, we observed differences between therapists in the qualitative analysis of mentalizing interventions.

For further research, more comprehensive and structured approach can be used to address therapist's specific mentalizing interventions in order to understand effectiveness of interventions regarding diagnoses of Asperger's syndrome. In this study, we used the items of CPQ that has been associated with RF prototype in previous research (i.e, Goodman et al., 2016). Like PQS (Ablon & Jones, 1998), component adherence scores that addresses the therapist-client interaction can be composed to understand the nature of relationship between a therapist and a child with Asperger's syndrome.

Although CPTI gave us a standardized measure of affective component and allowed us to understand affect regulation during the course of treatment, as it is based on observation, we should take into account that raters' clinical orientation and observations played role in subjective evaluation of CPTI. That might have played a part in interpretation of results. Although the inter-rater reliability was considerably high between two raters, we should consider that different pairs of raters might have observed different aspects in the subjective evaluation process. Also in this study, we were able to see the strengths and limitations of CPTI on a child with Asperger's syndrome who was treated in psychodynamic play therapy. To move forward our results, more research is needed to be done on assessment of affect regulation of children with Asperger's syndrome.

CS-MST gave us a prosperous way of looking various forms of mental state narratives where we were able to differentiate play-related, self-related and other-related mental state narrative. We were able to differentiate different structures of mental states as emotion, cognition, perception, physiological and action-based. It was important for us to understand how mental state narrative develops in children with Asperger's syndrome and what kind of mental state words are dominantly used by them. However, we had some limitations. First of all, as it is an objective judgment, it leaves a little space for subjectivity where some references to mental states are referred in narrative but can not be coded according to this system. There is no place for clinical judgment where sometimes it is needed to be done. With another coding system which considers non-verbal interaction, eye-to-eye contact, changes in facial expression where micro coding in clinical practice could be done

to assess mentalization capacity of the child, different observations could be obtained as non-verbal interaction is an important aspect in the diagnosis of Asperger's syndrome.

Also, the child in our case had language impairment so some words he pronounced couldn't be transcribed, therefore couldn't be coded. We might have omitted some mental state words due to this difficulty. Also we didn't code the mental state narratives of psychotherapists. Although mentalizing interventions can not be based solely upon mental state talk narrative of therapists, a stronger causality would be derived from mental state talk narrative of the therapists in understanding their interventions and effects on child's use of mental state talk and affect regulation. For further research, it is recommended to look for therapists' mental state talk narrative in the role of affect regulation of children with Asperger's syndrome.

For a more coherent study where we would be able to evaluate results and clinical changes in the end of the treatment, an improved design can be recommended. First of all, in terms of symptomatology and clinical changes, it would be important to collect data in both pre and post treatment from child's parents and teachers to identify problematic behavioral problems and difficulties child was experiencing via The Child Behavior Checklist (CBCL; Achenbach, 1991). Another important aspect in this study was, although we claimed child's developmental level of thought, those were based upon our clinical judgments. In order to be more accurate, it would be better to conduct pre and posttest designs for child's level of thought, executive functioning, emotion regulation profile and attachment style as well as understand developmental history for more detailed evaluation of the results.

Although it has been stated that children with Asperger's syndrome may have difficulty in tasks requiring language and personal narrative, in order to assess child's executive functioning and level of thought, Wisconsin Card Sorting Task (WCSTI; Heaton et al., 1993) or a standardized Theory of Mind tests like Sally-Ann Task (Wimmer & Perner, 1983) could be conducted. Also in order to understand child's capacity in cognitive domains as well as affective labeling and

taking other's perspectives The Affect Task (AT; Fonagy, Target, & Ensink, 2000) could be conducted. In order to understand his reflective functioning capacity and attachment style, The Child Reflective Functioning Scale (CRFS; Target, Oandasan, & Ensink, 2001) or Child Attachment Interview (CAI; Target, Fonagy, Shmueli-Goetz, Scneider, & Datta, 2000) could be used. Lastly, in order to evaluate his emotion regulation profile Emotion Regulation Checklist (ERC; Shields & Cicchetti, 1997) could be used.

In order to understand child rearing practices of his parents, Child Rearing Questionnaire (CRQ; Paterson & Sanson, 1999) could be used. Also, in order to understand his attachment patterns and the role of reflective functioning capacity of his parents and associations between attachment qualities and Asperger's syndrome, Adult Attachment Interview (AAI; Main, Kaplan, & George, 1985) and Parent Development Interview (PDI; Aber, Slade, Berger, Bresgi, & Kaplan, 1985) could be used in both in the beginning and end of the treatment.

In our study, we had limited information about child's personal history, his developmental level, affect regulation capacity as well as his parents' reflective functioning capacity. We think that when evaluating Asperger's syndrome, all of these aspects play important role in order to evaluate results coherently. Also we see the importance of a psychotherapy process without any change in therapists in order to provide continuity in the process. Therefore, it is recommended to apply pre and posttests regarding child's level of thought, attachment style and affect regulatory capacity as well as his/her parent's reflective functioning in a psychodynamic psychotherapy process with a stable therapist with children with Asperger's syndrome. Also with the light of these findings, a mentalization-based interventions and treatment techniques (Muller & Midgley, 2015) can be developed for children with Asperger's syndrome.

CONCLUSION

This study clarifies the dynamic relations between reflective functioning process, mentalization and affect regulation over the course of a long-term mentalization-based psychodynamic play therapy with a child diagnosed with Asperger's syndrome. It tries to explain how mental state talk of a child with Asperger's syndrome is promoted by RF adherence as well as therapist's mentalizing interventions. Also it tries to illustrate how changes in mentalization may relate to affect regulation in terms of child's level of thought and capacity to play. Through this study we have seen that holding the patient constant, although the therapeutic processes and mentalizing interventions work differently in every therapist and client dyad, they were still effective in developing capacity to mentalize. However, therapists' emphatic attunements to child's needs and developmental level played an important role for better treatment results in mentalization and affect regulation. We have also seen that play has an important role in the differentiation of self and other's mind as well as child's discovery of his inner world. Also, we have illustrated the needed process for affect regulation in children with Asperger's syndrome.

Although we are not able to change children's past experiences as well as their diagnoses, we have seen that children with Asperger's syndrome can develop differentiated mental states including emotion mental states of self and others in a long term mentalization-based psychotherapy. Also we have seen that children with Asperger's syndrome are not prone to emotional dysregulation but have tools to develop appropriate emotion regulatory strategies through the medium of psychotherapy.

This single case study provided us to look deeper into the specific interventions, mentalization process and affect regulation in psychotherapy process and important components of treatments of children with Asperger's syndrome. Even though, our study has limitations, the results offered significant clinical implications for further research. We hope that this study will encourage researchers to develop effective and promising tools in evidence based research on

the mentalization based psychodynamic treatment of children with Asperger's syndrome.

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