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THE ASSOCIATION BETWEEN COUPLE'S LEVEL OF
THEORY OF MIND, RELATIONSHIP SATISFACTION, AND COUPLE'S
COMMUNICATION PATTERNS

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Çiftlerin Zihin Kuramı, İlişki Doyumu ve İletişim Şekilleri Arasındaki İlişki

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*"Love looks not with the eyes,
but with the mind,
and therefore is
winged Cupid
painted blind"*

Shakespeare

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ABSTRACT

Theory of mind (ToM) refers to a set of intellectual human ability to understand that others have desires, beliefs, intentions, intuitions, plans, assumptions, emotions, ambitions, hopes, knowledge that is distinct from one's own. It also enables humans to understand, infer and predict other's behaviors in terms of mental states. This study aims to look at the potential effect of ToM on romantic relationship satisfaction and communication patterns. This association was observed in order to see whether a more efficient intervention technique that teaches theory of mind skills could be used in couples therapy. The sample includes 54 heterosexual couples who have been together for at least 6 months, and at most 15 years. Communication Patterns Questionnaire (CPQ), Relationship Satisfaction Scale (RSS) were given to participants to measure their communication patterns during the conflict and their overall romantic relationship satisfaction respectively. The participants' theory of mind ability was measured using the Reading the Mind in the Eyes Test (RME), it is important to mention that there are only a few studies that look at the theory of mind in a romantic relationship context. Results indicated that there was no significant correlation between the theory of mind and relationship satisfaction. Only demand/withdraw communication pattern was found to be significantly associated with the theory of mind. Further, female participants used higher levels of constructive communication when their partner had low-level of ToM skills. These results indicate that the theory of mind based approaches and skills training may be beneficial in couple therapy to prevent deconstructive communication patterns.

Keywords: theory of mind, mentalization, relationship satisfaction, communication patterns, romantic relationships,

ÖZET

Zihin kuramı, birinin başkalarına ait ve kendinden farklı olan arzu, inanç, niyet, iç görüş, umut ve bilgi dağarcıklarına sahip olduğunu anlamasına yarayan entelektüel insan beceri setlerini ifade eder. Zihin kuramı aynı zamanda insanın başkalarının davranışlarını akli durumları açısından anlamasını, öngörmesini ve çıkarım yapmasını sağlar. Bu çalışma, zihin kuramının romantik ilişki tatminine ve iletişimörntülerine olan potansiyel etkisine bakmayı hedeflemektedir. Bu bağıntı çiftlere zihin kuramı metotlarını öğreten daha efektif bir müdahale tekniğinin çift terapisinde kullanılabilirliğini ölçmek için incelendi. Çalışma en az altı ay, en fazla 15 yıldır birlikte olan 54 heteroseksüel çift ile yapıldı. Katılımcıların çalışma zamanlarındaki ve ilişkilerinin bütünündeki ilişki doyumlarını göreceli olarak ölçmek için iletişim yöntemleri ölçü ve ilişki doyum ölçü kullanıldı. Katılımcıların zihin kuramı becerileri gözlerden zihin okuma testi ile ölçüldü. Bu noktada zihin kuramını romantik ilişki minvalinde inceleyen yalnızca birkaç çalışma olduğunun altını çizmekte fayda var. Bu çalışmanın sonuçları zihin kuramı ile ilişki doyumu arasında kayda değer bir korelasyon olmadığını gösterdi. Yalnızca, talep etme/geri çekme iletişimörntülerinin zihin kuramıyla anlamlı ölçüde ilişkilendiği bulundu. Dahası, kadın katılımcıların, partnerleri düşük seviyede zihin kuramı becerilerine sahip olduğunda, daha yüksek seviyede yapıcılık iletişim kullandığı gözlemlendi. Bu sonuçlar zihin kuramı temelli yaklaşım ve beceri eğitimlerinin çift terapisinde yıkıcı iletişimörntülerini önlemek için faydalı olabileceğini göstermektedir.

Anahtar Kelimeler: Zihin Kuramı, mentalizasyon, ilişki doyumu, iletişim şekilleri, romantik ilişkiler

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INTRODUCTION

Human beings have goals, beliefs, intentions, and motives. As Spinoza states, people's drives can include hunger, thirst, curiosity, and exploration, which he calls appetites, and desire is conscious individuals being aware of those appetites. People are sometimes aware of their mental state and sometimes it is more of an unconscious state. They can also wish to keep their mental states intrapersonal or interpersonal during communication with others. People can be unaware of their unconscious mental states or aware of their conscious but private mental states such as desires, private thoughts and so on. Thus, it becomes even much harder to be perceived by others around them. However, we as human beings make inferences both of our mind and of the minds of others'. We use verbal and non-verbal cues, general knowledge about others', about ourselves, circumstances, and any other knowledge in order to make inferences about others' mental states.

There is no way of knowing objectively and fully the content of another person's mind. We are like scientists who construct a theory about others' minds using observable and unobservable data in order to analyze and make predictions about behavior. Premack and Woodruff (1978) stated that the human concept of mind is theory-like in that mental states are unobservable entities used to predict and explain behavior. They were the first ones to talk about the term Theory of Mind (ToM). ToM is a cognitive construct which explains a linked set of intellectual abilities that enables humans to first understand that others' have minds different than theirs and have beliefs, intuitions, plans, assumptions, emotions, ambitions, needs, hopes, knowledge, information, desires, and intentions that may be different. Second, by being aware of others' minds that have varying mental states which result in different kinds of behavior, ToM enables humans to not only explain, and make interpretations about the current behavior; but also "imagine a whole set of possible mental states and to predict what the person's next action would be" (Korkmaz, 2013).

In primate societies, social interaction enables long-lasting relationship with other group members, acquiring resources, maintaining protection from predators and competition. Social processing that makes this possible constitutes of perception of the social stimulus and an according response. The perception depends on face, emotion, voice, gaze, visual-spatial processing, emotion and goal recognition, motor representations, identifying intentions and goals and joint attention (Carruthers et al., 2015). More developed social cognition capabilities allow human beings to infer about others' minds and have ToM in a true sense. As the world we live in becomes more complex relations with others depend even more on ToM compared to primitive societies (Korkmaz et al., 2013).

Reviewing literature, it is seen that the theory of mind or mentalization has not been investigated from couple's perspective. Some authors mentioned in the literature review have investigated ToM from a theoretical perspective in couples (Josephs & McLeod, 2014). Theory of mind refers to one's capacity to understand others' internal states regardless of the particular relationship. Furthermore, it has an effect on understanding the behavior in terms of desires and beliefs, has a role in emotion regulation, emotional experience processing and so on. Many characteristics of theory of mind which are mentioned later make it a possible predictor of satisfaction in romantic relationships and communication patterns in couples.

This study aims to look at the potential effect of ToM on romantic relationship satisfaction and communication patterns of couples. Couples individual scores on understanding social cues, making social inferences can affect the way they resolve conflict, reach a consensus on common issues, and may affect the communication patterns of couples' that might lead to conflict or help to resolve conflicts. Assumed mind reading beliefs without efficient communication can lead to a decrease in understanding and increase conflict. Being able to separate one's own belief and others', which is a low-level ToM competency can lead to better differentiation and prevent false belief about mind reading which is a predictor of low relational satisfaction (Hamamci, 2005). Joint attention, mind reading, gaze following, social referencing, gestures, intuitive

thinking, self-awareness all have a huge impact on people's relationships. As Korkmaz et al. (2013) states insufficiently developed ToM causes people to be involved in disputes, misunderstandings, arguments, etc. This study focuses on the inter-individual differences in ToM, and its effect on couple's conflicts, and relationship satisfaction. It aims to help couples and family therapy by incorporating a social skills training and theory of mind teachings.



CHAPTER 1

LITERATURE REVIEW

1.1. THEORY OF MIND

Mental representations are a person's hypothetical internal mental model that symbolizes the external reality, the past, the future, hypothetical situations, etc. (Seidenfeld, 2014). Infants function in psychic equivalence mode. They believe that their internal state corresponds to the external reality. As children get older they come to understand that their own and others' mental representations do not correspond to the external reality and that the subjective experience will often be distorted. People's mental representations are linked to external reality, which means that they are not equated nor completely dissociated from each other. They can be correct or incorrect while a person can be aware or unaware of its accuracy. Thereby, an interpretation of a social situation can be different among people and be independent of their context. The human ability to represent, conceptualize, and reason about these mental representations is one of the most important achievements of human evolution (Malle, 2003). Theory of mind enables people to reason about these mental states.

1.1.1. Difference of ToM and other constructs

ToM, also known as mindreading is closely related to many other constructs such as empathy, mentalizing, emotional intelligence, insight, observing ego, social intelligence, etc. ToM is a cognitive construct with objective aspects (Korkmaz, 2013). Mentalization is the intellectual process which leads to ToM development. Korkmaz (2013) states, "an instance when ToM is actually used is mentalization, i.e. mentalizing is the verb which describes what happens in the process that produces what we call ToM" (p.609). Especially in psychotherapy ToM and mentalization are used interchangeably.

ToM is often confused with empathy which is awareness of others' feelings and followed by identification, concern, compassion response toward the other person. Empathy triggers the same feeling in the observer. It is a bottom-up process of emotion sharing which might even be considered to diminish the distinction between the self and the other, while ToM involves several top-down processes and focuses on the distinction of self and other (Korkmaz, 2013).

1.1.2. Development of TOM

Infants have innate abilities that make them able to learn about people. They are especially interested in human faces, voices, can distinguish their mothers face, recognize expressions on faces, perceive the direction of a gaze, etc. (Flavell, 2004). They are driven to attend and interact with people. Infants who are late in the first year start to learn that people have intentions. In a study by Tomasello (2003), they have found that 1-year-old infants have a real understanding of other person's intentions and goals. Other studies show that by 18 months, infants have some understanding of people's desires. By the end of infancy, they are capable of understanding when a person is in distress and try to comfort them (Flavell, 2004).

ToM development can be observed through a five step developmental scale which are understanding of desires (people's desires can vary on the same object) at age 2, understanding of beliefs (people's belief about the same situation can vary), knowledge-ignorance detection (something might be true; but some people may not know this), understanding false belief and references to thinking (something might be true; but some people do not believe it is) at age 3, and understanding hidden emotions (people can feel one way but show a different emotion) at age 4 (Korkmaz, 2013).

Theory of mind development in children is in a transition state around age 3 and becomes more or less solidified around age 4. A development that happens around age 3-4 is that children start to understand lies and the possibility of deceiving others. This means that they start to understand that something can be

different from objective reality. Also, perspective taking develops which enables them to detach from their own perspective and understand the others'. At age 4, children also become capable of understanding conflicting views, differences between 1st person experiences and of being told about a situation, and explaining events according to beliefs or desires. At age 5 they are capable of higher order ToM tasks such as having beliefs and reasoning about others' beliefs. At age 11, children know what can hurt others' and act accordingly. The ability to apply ToM into more complex situations in a more flexible way gives rise to complex social emotions (p.658). These developments such as perspective taking, understanding higher function ToM tasks, understanding that beliefs, intentions can be different than the objective reality further matures in adulthood for better communication and understanding of others. Being able to understand white lies, deception, being critical to self and others' without giving harm, seeing the self from others' eyes, small talk and most importantly humor requires a complete ToM ability to communicate in the society and to form relationships with others'.

The development of ToM is linked to the development of self-awareness and a self that is distinct from others. This, in turn, gives rise to realizing the similarities and common goals, dissimilarities, and possible conflicts of interests with others (p. 606), which makes the basis of all human relationships.

1.1.3. What affects ToM during childhood?

There are many factors that affect the development of ToM ability which are both environmental and genetic. However, some environmental factors can be effective in the development only if the neurobiological mechanism is intact. Some of the environmental factors that have a role in the development are family influences, in-family communication, the quality of family interaction, socio-cultural, socio-historical, socio-economical, number of siblings, trauma, and parental attachment (Korkmaz, 2013).

Amount of time the parents spend with the children is considered to be an important factor in ToM development, especially through maternal talk. Family

size is another factor that affects theory of mind development. Sibling conflicts, more social experience, and play due to the number of siblings, gives advantage over children who can only socialize with their parents. Interaction with siblings offers a rich database for building a theory of mind (Perner, 1994). In addition to family size, birth order has found to be another factor that affects the ToM ability in children. In a study by Farhadian (2010), they have observed 163 children who were 3.6 to 5.6 years old. 99 of the children were 1st born, 60 of them were 2nd born and 4 of them had 3 or more siblings. They have found that birth order was a significant predictor of ToM development, and performance. It might be possible that having older sisters/brothers facilitates ToM development in younger children earlier.

Parents' ToM, also enables them to be attuned to their child, and makes them better at reading the mind of their infant, understanding its needs, emotions, etc. and enables them to respond appropriately to these (Pear & Fisher, 2005). Parent's understanding that their infant is a mental agent, with a different mind than their own enables the infant to understand itself as a mental agent and enables self-distinction which eventually leads to the ability to theorize about others' minds. The parental style also has an effect on the development of ToM. It has been observed that parents who adopt authoritarian disciplinary styles have poor ToM capacities or disregard the child's thoughts, feelings, needs and so on. This is associated with poor development of ToM in children (Pear & Fisher, 2005). By referencing to the child's mental state using maternal mental-state talk parents help the development of child's ToM development. The more the primary caregiver uses the words 'think' and 'know', the better the children do on ToM tasks. This also shows the effect of language on ToM development. Language is also a good predictor for the advanced stages of ToM skills. Other than the parents, school has an important effect on the development of ToM especially due to the increased chance of socializing with peers. There are many other factors that could affect both the development of ToM during childhood and further solidification of it during adulthood because experience is a prominent factor in ToM development (Korkmaz, 2013).

1.1.4. Attachment and Theory of Mind

Peoples' theory of mind ability and capacity to interpret interpersonal behavior through mental states start to develop in the environment of early attachment relationships. Fonagy et al. (1997) look at the relationship between attachment and the development of forming a theory of mind and understanding self and others', and its role in self-organization. By exploring the meaning of others' actions through their mental states enables children to find meaning in their own psychological experience. This affects the capacity for affect regulation, impulse control, self-monitoring, and self-agency which are the foundations of self-organization. People differ in the extent they use unobservable phenomena to explain their' and others' behavior in terms of mental states. This affects the individual differences in self-organization (p.680).

As previously stated, the caregiver's ability to understand child's intentional stance and reflect it back to the child is a key determinant in the development of a solid theory of mind. One-year-old infants use a teleological stance (Fonagy, 1997). They can understand the goal-oriented behavior; but not in terms of the causes of the behavior such as beliefs, desires, etc. They explain the behavior in terms of the purpose it serves. As children start to understand desires, beliefs of self and others' they leave the teleological stance and understand goal-directed behavior in terms of mental states. According to Fonagy et al. (1997), this transition from a teleological stance to mentalizing model happens in the context of the first relationships. For example, an anxious infant is in a state of psychological and physiological confusion (p.684). The caregiver reflects the infant's anxiety, and which in turn leads to the infant being able to organize his or her experiences, start to learn what he/she is feeling, and eventually regulate and control his or her own emotions.

The caregiver provides a source of information to the infant's own mental states. A securely attached caregiver will mirror the child's mental state with attunement which serves to modulate the infant's unmanageable feelings. However, a dismissing caregiver might lack mirroring at all because child's

distress may evoke painful experiences or not be capable of creating a coherent mental image of the child's mental state (Ontai et al., 2008). A preoccupied caregiver might be able to mirror the child's mental state, but without being attuned to the feeling of distress, etc. or response according to his or her preoccupation with his/her experience. Both with dismissal and preoccupied caregiver, the child is not capable of seeing the accurate mental image of the self; but sees the caregiver's experience of self. The child fails to understand the mental states of the self, and later on of others'. In a study by Meins et al. (1998), 33 children who have been assessed according to their attachments during infancy were observed. They have found that at age 5 securely attached children performed better in mentalizing and false belief tasks. %85 of securely attached children passed the test while only 50% of insecurely attached children passed it. They come to the conclusion that securely attached mothers were more sensitive to child's mental state and treated them as individuals with minds. The relationship between secure attachment and theory of mind development is multidirectional and reciprocal.

Evidence suggests that children who engage in more pretend play and who engage in more interaction with peers and others show greater mentalization skills and emotion understanding (Fonagy, 1997). It makes sense that children who are securely attached are willing to engage more with others and the environment. The caregiver acts as a secure base as the child explores the surrounding environment while avoidant children have low engagement in what is going around them and anxious children do not feel safe enough to explore the environment. This ability of securely attached children to explore, engage in pretend play or playfulness enhances the understanding of mental states. Role taking in pretend play can be seen as early signs of theory of mind (p.688) because it enables the child to pretend to have some mental representations of others' and there are shared representations, which are intermental, different from objective reality and are held by both parties' minds.

Another way secure attachment affects theory of mind is by talking. Language is one of the most important factors in a fully developed theory of

mind. Attuned verbal interaction between the child and the caregiver supports thinking about feelings and intentions. As the secure child interacts with more people due to having a secure base, he or she has a better chance of practicing these skills and has a better source of ideas about the way the mind works. Social engagement support theory of mind development and secure attachment provides a base for more social engagement. Having a securely attached caregiver has an effect on both children's secure attachment and theory of mind development. An avoidant children may ignore the mental state of others, while a resistant child may be focused on his or her mental state (Korkmaz, 2013).

According to Premack et al. (1978) theory of mind strongly depends on the child's developing awareness of the psychological world of his or her attachment figures. As the caregiver acts toward the child as an intentional being whose behavior is driven by thoughts, feelings, beliefs, and desires the child starts to see her or himself this way. If the caregivers see the child mostly in a negative state, the child will no longer feel safe to see him or herself from the caregiver's point of view or see people as thinking. This is acquired as a defense mechanism by the child (Fonagy, 1995). In abused and neglected children theorizing about the mental state of others' may shut down because it becomes too disturbing to theorize or think about the attachment figure whom the child is so dependent on for love and support would treat the child in a cruel way (Josephs, 2014).

1.1.5. Changes in TOM during the lifespan

Theory of mind's most elementary constituents develop during early childhood. It becomes more complex at adulthood and its competency can be very different among neurotypical adults. The difference in the volume of parts of the ToM brain network can predict inter-individual differences in different ToM tasks (Klindt, 2017). The dual process theory of ToM suggests that fully developed TOM capacity relies on the specialized representation skills and executive resources for task-related processing of these representations. The representational system tracks the mental states in an automatic, fast and efficient

way and this part matures before cognitive control. This view sees reading minds similar to reading texts. Therefore, it should become more implicit and automatic as people grow older. In the study by Klindt (2017), they quantified the time course of development and decline of related cognitive functions (working memory, inhibitory control, and task switching), and assessed age related changes in the contribution of executive functions to TOM abilities. They have used a smartphone app called BRAiN'us which constituted of 6 games. First game Emily and the donuts (FB) is a variant of false-belief tasks. Triangles at the Box Office (anim) measures one's ability to recognize others' intentions and emotions from their overt behavior, Hide and Seek (HS) measures one's ability to predict others' behavior in the context of strategic social interactions. The app has three more games that evaluate one's working memory, inhibitory control, and flexibility in task switching respectively. In all games except HS, they find an increase around age 20 and a decline as people got older (U-shaped). They have found that low-level ToM competences, which is the ability to discriminate between one's own and other's beliefs, matures before executive functions while high-level ToM competencies mature after, and also their dependencies change throughout the lifespan. The contribution of executive functions to high-level ToM is more significant after its complete maturation and competencies can change over the lifespan. This data shows that ToM can be at different levels among different individuals at different ages according to their executive functions.

1.1.6. Neuroscience of Theory of Mind

Researchers have focused on finding the structural components of ToM, their interactions, specializations for processing social information, and the effect of early experiences on development, etc. Identification of the neural components, substrates, and networks of ToM, enable the understanding of effects of special education, training, and treatments on neurobiological changes by examining pre and post of a specific intervention. There are many specialized areas that have an

effect on ToM, both in the formation of self's intentions, beliefs, emotions, thoughts and also understanding of others'.

Yeates et al. (2013), mention three neuro-anatomical structures that have been identified for their role in mentalizing operations. The first one is temporo-parietal junction (TPJ). TPJ plays a role in following others' eye gaze which shows the need to understand others' intentions and desires in infants, and is one of the first steps in the development of ToM. TPJ's another role is supporting the ability to represent the world from different visual perspectives, which helps to see the difference in people's perspectives and thereby infer others' perspective with the help of frontal gyrus that enables the inhibition of one's own perspective. A second area that is identified is temporal poles (TPs) help produce a contextually- based general or moment-to-moment social knowledge about individuals or contexts. The third area is medial frontal cortex (MFC), which enables the understanding of perspectives that are different than one's own, inferring others' thoughts, and private intentions and actions.

People who have acquired brain injury (ABI) require professional support for intimate relationships, to be able to respond to their social, psychological and neuropsychological demands. Although many studies have been done investigating the effects of brain injury on couple's relationships; neuropsychological component for couples' therapy interventions has been overlooked. Yeates et al. (2013) has reviewed the literature on couples' outcomes post brain injury, looked at possible neuropsychological impairments due to ABI that can have an effect on the couples' relationships, and neuro-rehabilitation interventions that have been developed to treat interpersonal aspects of these impairments, and discussed how these interventions can be improved. The negative effects of ABI on intimate relationships have been observed in many studies. Although, many studies on brain injuries have looked at the effects on the survivor of an ABI, relational perspective on brain injury has increased recently (Bowen, Yeates, & Palmer, 2010). By incorporating systemic and family therapy to the effect of ABI, and its effect on intimate relationships, supportive strategies for communication between partners have been developed as an intervention

technique. (Bowen, Yeates, & Palmer, 2010). Yeates et al. have discussed that brain injuries that cause neuropsychological impairments in executive functions, memory, attention, language, and theory of mind skills lead to misattunement in the couple relationship. Yeates et al. (2013) have summarized the possible impact of mentalization impairment on misattunement within the relationship shown in Table 1.1.

Table 1.1.

Effect of Mentalization Impairments on Relationships

Neuropsychological Impairment	Form of misattunement in the couple relationship
Mentalization	<ul style="list-style-type: none"> • Misattunement of intentions within couple communication • Inaccurate inference of motives behind gestures (e.g., interpretation of neutral or positive intentions as malevolent) and creation of confusion and conflict • Missed early opportunities for the identification of meanings in complex, paradoxical social communication, resulting in conflict escalation. • Confusion of self and other perspective, conflict escalation and/or failed reconciliation. • Fewer switches from intense negative affective states/communication to meta-perspective with the relationship and/or other's experience in mind-conflict escalation.

Source: Yeates et al., 2013

Studies show that emotional, personality, and behavioral changes following injury create greater burden on the partner than physical changes (Yeates et al., 2013). Yeates et al. look at impairments focusing on

“communicative processes and shared representations and responses between people (“intersubjective space”), emerging from social interaction involving interacting neuropsychological functions in multiple brains” (pg.117) rather than at a level of social inputs and outputs for the individual with the injury. The intersubjective space, which is comprised of the shared representations and response between people, has been defined by (1) perspectival space, - mentalizing- and intentional decoding, (2) we-centric space, emotion recognition and affective attunement and (3) closing the loop, socially appropriate decision making and behavior. This intersubjective space emerges when social interaction occurs (Yeates et al., 2013).

Studies show that when three areas that are found to be related to the ToM abilities, as previously discussed, are damaged many abilities related to ToM are affected. Impairments in TPJ cause inability to view the world from different visual perspectives, prevent the observer to know the difference in another’s position, and infer another’s perspective. Impairment in right inferior gyrus prevents the person from inhibiting one’s own perspective during these operations. Another impairment due to ABI that could affect ToM is to TPs which can result in an inability to apply general and moment-to-moment knowledge of specific people in specific situations from social knowledge, narratives, and scripts. Impairment to the MFC damages the ability to anticipate future mental states of others, understand perspectives likely to be different from one’s own, what others are thinking, and their private, non-communicative intentions and actions of others’ and initiate instances of shared communication of intention. The authors argue that these impairments along with others can lead to neuropathology of couples’ relationships. They hypothesize that “a couple organized only by the immediacies of spoken and/or emotional communication may be prone to conflict escalation and will miss opportunities for reconciliation” (p.130) if that at least one of the partners is not able to step out of the “hot” immediate emotion and use cognitive and theory of mind skills to understand the other one’s hurt, intention, action, etc. and act accordingly. They have also found that partners of the survivor start to provide fewer cues to the survivor due to hurt and withdrawal creating

further hurt and withdrawal (Bowen et al., 2010). This shows that neuropsychological impairments cause negative interaction cycles according to couples therapy theory. As the survivor becomes less likely to catch upon cues and mental state of the other, and his/her intentions, the other partner withdraws due to feeling misunderstood and provides even fewer cues to the survivor, creating a vicious cycle.

Previous studies show that targeting attunement of goals, attentional foci, intentions, affects and responses between partners are the key to successful neuro-psychologically-based couple therapy. Other interventions that have been used with people who have ABI are social skills training and multi-model social skills training programs. Yeates et al. concluded that for neuro-psychologically-informed couples therapy interventions, three elements are essential. The first one is the clarification and explanation of each partner's intentional perspectives and affective states by taking the other partners' into consideration in a safe environment. The second is that survivor's need for clear social cues, and non-injured partner's criticism and withdrawal to this should be targeted. The last element is the role of mentalizing by both partners to prevent the escalation of negative emotions, and cycles and enables reconciliation. Authors also mention that emotionally focused therapy and mentalization-based family therapy are promising when treating couples' with ABI.

1.2. THEORY OF MIND IN RELATIONSHIPS

It is not possible to think of a person's life without considering the relational perspective. These relationships that are formed during the lifespan can differ from one another in terms of closeness, intimacy, etc. in a wide range. Emotional intimacy and close relationships have been considered a critical need for healthy human development (Gaia, 2002). Intimate relationships are considered to be most often composed of three components which are feelings of attachment, affection love, fulfillment of psychological needs, and interdependence of both partners, who have meaningful influence on one another.

(Kassin, et al., 2013). Intimate relationships differ on their success to meet these components. Romantic relationships are considered to be part of these type of relationships and contain these components. Romantic relationships have been investigated by researches and many factors such as personality characteristics, gender roles, demographic factors have been found to be associated to relationship satisfaction in couples (Jones et al., 1996). One of the key determinants of relational satisfaction is intrapsychic structures and processes shaped in the past and are activated by stimuli the person receives in the current relationship (Bowlby, 1973). These intrapsychic structures are conceptualized as internal working models by Bowlby (1973), and provide patterns of reaction in relationships. Internal working models are closely related to the mentalization process which enables processing of emotional and relational experience. The intrapsychic structures focus on recognizing and processing mental states of self and others'. Romantic relationships are the very place where two perspectives intersect. The intrapsychic refers to the activation of personal structures and processing of personal experience while interpersonal perspective relates to the activation of intrasubjective representations of two partners, and through their interaction, they affect the intrasubjective world of another and modify it mutually (Gorska, 2015).

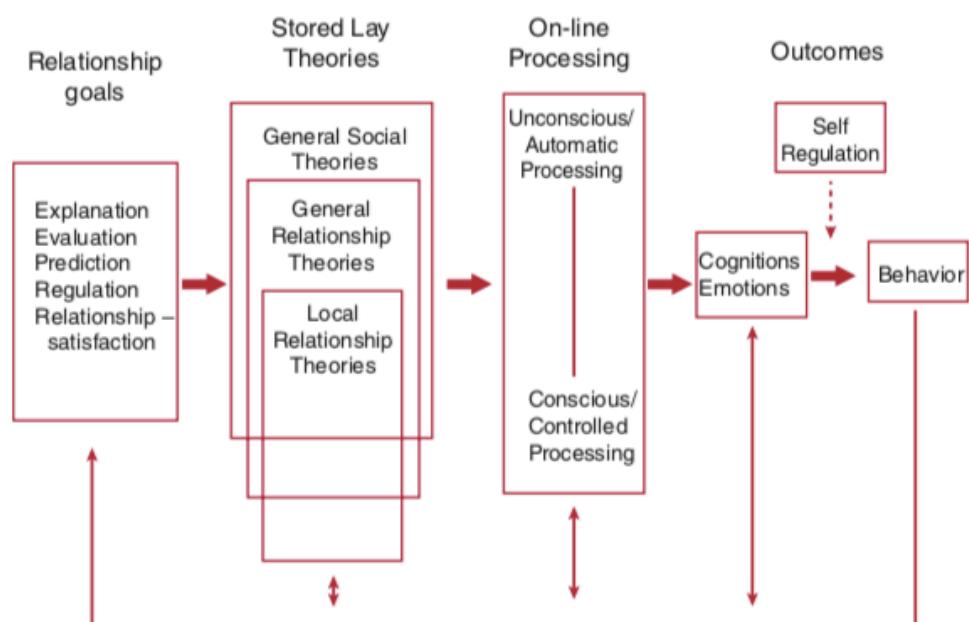
The satisfaction that each partner gets from the relationship is determined by the contents of both partners' mental structures which are in ongoing, reciprocal interaction with one another. Theory of mind enables the understanding of these mental structures during complex interactions between romantic partners. By being able to decentralize from one's own perspective, the person can more accurately mentalize the internal state of others'. By decentralizing and through accurate mentalization human beings can process emotional experience, and transform primitive and overwhelming affects into more complex, mature and controllable emotions (Gorska, 2015). Thereby, mentalization plays an important role in emotion regulation. In conclusion, these enable mentalization to play a key role in relationship satisfaction and a possible predictor of it.

Different individuals who are exposed to exactly the same stimuli may interpret it in many different ways. Development of self requires the understanding of a self that is distinct from others and thus realizing both the similarities and dissimilarities, common interests, and areas of conflicts (Korkmaz, 2013). Conflicts are normative and inevitable in relationships considering the differences in opinions and perspectives. Most of the research on conflict agree on its inevitability and it can result in positive or negative relational outcomes. Gottman (1994) argues that it is the way the partners argue is what depicts the relational outcome. He found out 4 common destructive communication patterns that spiraled the conflict and eventually predicted divorce. These four conflict patterns are contempt, criticism, defensiveness, and stonewalling. While conflict is unavoidable in relationships, destructive communication patterns during conflicts lead to negative relational outcomes. Couple therapy aims to replace destructive patterns with more productive, healthier ones. As ToM enables people to understand each other, it plays an important role in communication during conflicts and also during the resolution of these conflicts. Because people's minds are inaccessible to others', understanding others' depend on interpretations which can differ on the accuracy (Korkmaz, 2013). Individual differences on ToM ability and insufficiency in development of it, can lead to misinterpretations, which will lead to misunderstandings and conflicts. Mentalization helps humans to understand their misunderstanding. Skarderud (2007), argues that being misunderstood can lead to coercion, withdrawal, hostility, over-protectiveness or rejection. This might, in turn, lead to more misunderstanding by the other partner. Matured ToM skills helps the partner understand that his/her interpretation can be inaccurate, enables the understanding of the self and other better, makes it possible for the person to inhibit his/her own perspective in order to see the partner's perspective, to see the effect of his/her own mental state on the other and vice versa. All these characteristics of ToM, makes it a possible predictor of using constructive communication patterns during conflict and helps to be better at resolving conflicts.

1.2.1. Relationship Mind:

As people make inferences about their minds and others' and attribute mental states, in an intimate relationship these inferences about their partners' mind are ceaseless. They try to attribute mental states such as intents, desires, emotions to the other partner in order to understand his or her behavior. Therefore, theory of mind is a key element in intimate relationships as well. Fletcher et al. (2008), in their book *The Science of Intimate Relationships*, asks the question "what makes a relationship good or bad?" They try to investigate the reasons and causes behind people's judgments about their relationships. Figure 1.1. shows the mind of a person in a relationship depicted by Fletcher et al. (2008).

Figure 1.1.
The Relationship Mind



Source: Fletcher et al., 2008

The relationship mind develops first according to the existing theories about relationships (general social theories); then people form new theories about

their current relationship which are their local relationship theories. Fletcher et al. (p.43) give the following example:

Mary's partner gives her flowers, which makes her happy (Emotional outcome). Recently, she has begun to think her husband takes her for granted (Local Relationship Theory); but she has stopped herself from talking about this (Self-regulation). Thus, she recalls how her husband treated her at the beginning of the relationship (Conscious Controlled Processing) and thinks that her husband (George) is a loving person (Cognition Outcome) and decides to make her his favorite meal (Behavioral Outcome) (p.42).

In this example, Mary's general relationship theory is that close relationships need a lot of work. From feedbacks and outcomes, her general and local relationship theories are strengthened or weakened.

Forming intimate relationships has been a key role in most people's lives. The five relationship goals that are shown in the Figure 1.1. start the moment the partner is met. Mary forms a set of evaluation, prediction, regulation, relationship satisfaction goals for her husband from the day they first met. These relationship goals can also lead to various numbers of problems in a relationship. Mary's husband is worried about how she will react when he tells her that he will be late. His behavior will be shaped according to his understanding of Mary's mind in order to avoid negative consequences. For example, if he predicts Mary's response will be negative, he might apologize, bring flowers, etc. His behavior is shaped both by his understanding of his own mental states and by the way he predicts Mary's mind (p.42). Short term memory and long term memory play an important role in the husband's prediction. The relationship theories in Figure 1.1 shows a mental construct such as memories, attitudes, beliefs, motives, and goals that is relatively stable over time and have an effect on the person's behavior.

According to attribution theory, people attribute causes to their own and other people's behavior (Fletcher et al., 2008). In an intimate relationship people

constantly try to understand and explain each other's behavior. This requires the ability to theorize about the others' mind. Mary tries to understand his husband's intention, goal, motive in his mind, and his beliefs about herself that lead him to take this action. A negative or inadequate interpretation of the husband's intentions might lead to her responding negatively to husband's presumably good intentions of bringing flower which might lead to George preventing himself from doing kind gestures in the future. This, in turn, might lead to Mary's belief that George is taking her for granted and preventing her from understanding that George might feel refused because she got angry, she was not able to inhibit her self-perspective and see his. This further on might result in George stopping himself from showing his affection because he is unable to understand Mary's intentions which in return strengthens Mary's belief that she is being taken for granted; resentment towards George augments, and prevents her from reading George's mind further, and so on. This creates a negative cycle of inhibition of self-perspective and inability to understand the intentions, beliefs, and goals about the relationship of others'. Therefore, deficiencies in the ability of ToM, might lead to wrong attributions to others' behaviors which in turn might result in negative cycles in the relationship.

1.2.2. Emotional insight and Theory of Mind

Emotion awareness in both others and self is a significant factor in regulating social interactions. It enables the coordination of activity in groups, the formation of long-lasting relationships, and facilitation of pursuit of shared interests. Emotional awareness, emotion perception, processing, understanding, expressions are all part of emotion cognition, which can not be separated from theory of mind ability. Development of ToM enables better analysis of emotional content and expression of emotion. Understanding, identifying emotions in others and responding to them is basically a ToM requirement (Korkmaz et al., 2013). In turn, as seen in the children's attachment, and maltreated children the feeling of trust and other moods affect the use of ToM.

At age 3, children are able to attribute emotions to desires. This desire-based emotion is objective and dependent on the context. As children get older they learn that desires can be subjective and independent of context (Seidenfeld et al., 2014). Later development enables the understanding that all emotions have belief-based components rather than depending entirely on the objective reality. As children develop they gain a belief based emotion understanding rather than a desire based emotion understanding. A person will be happy if he believes he is, regardless of his desire being satisfied in objective reality. Being able to attribute emotions to beliefs, understand other's can feel differently in the same context and differently from the self is can only be achieved with development in emotion understanding and which requires understanding other's belief's and desires.

People can accurately judge a variety of specific, recently experienced emotions by facial expressions, tone of voice, body gestures, etc. in order to predict how people will behave. In a study, (Clark et al., 2017) 98 couples were investigated on their own recently experienced emotions, their perception of each other's recently experienced emotions, and the extent in which they had expressed the emotions they had experienced to their partner. It was previously found that people can detect strangers' emotions via tests, and can accurately detect their partners' emotions during conflict. People are often aware of how their partner generally functions in emotional situations and have the potential to interact most effectively with the partner even if they may be wrong about their partner's experiences in the particular situation (p. 204). In addition to this, the study shows that partners can project their own recently experienced emotion on to the other thinking that their partners may have felt this way without knowing their projection. This led them to the conclusion that in the study of couples 'both minds matter' and that perception of partner's emotions were both affected by what the perceiving partner was feeling and by the partner who is experiencing the emotion. Detecting and understanding emotions and intentions are a composite of ToM. Therefore, the development of ToM is an essential cognitive construct in the development of intimate relationships, and can also be studied interindividually rather than just intraindividually.

Anger is an emotional state which constitutes of “antagonism toward someone or something you feel has deliberately done you wrong” according to American Psychological Association (2019). It enables people to express negative feelings and can lead to finding solutions to problems unless it is excessive. However, increased blood pressure, etc. can lead to a weakening of cognitive functions. According to Bowlby (1971), anger is a form of separation protest. It is also argued to be used as a negotiation of dominance and regulation of these hierarchies with peers during early childhood (Hawley et al., 1999). Tomasello (1999) argues that the development of the ability to appreciate that others possess an independent mind and perspective than one’s own leads to more cooperative relationships. The ability to theorize about other people’s mind enables human beings to enable more cooperative relationships. The mentalizing capacity of humans is an adaptation that assists in sharing and cooperation while attachment is an adaptation for infantile safety. Josephs et al. (2014), focuses on ToM’s ability to help parents establish more secure attachments. It enables human beings to have a more cooperative and trusting relationship with their families, friends, and romantic partners. They suggest that anger management problems may be symptoms of a person utilizing a primitive theory of mind to understand both others and him or herself. When a person is angry they argue that only their own interpretation is true while the mental states of others’ are wrong, deny any defensive self-deception on their mental state while pointing out self-deceptions and self-serving biases of the other’s perspective, believe that their understanding of other’s mental states are direct representations of the reality, assume that when there are two opposing views, that only their perspective is true. During the anger arousal, the person sees the intentions of others as psychic equivalence in which the inner and outer realities are seen as equal. Therefore, only one of the perspectives, which is equal to the external reality can be true. This leads to intolerance of separate minds, and in terms of a teleological stance which causes the angry part to see the other part’s intentions as physical obstacles to be overcome rather than motives to be understood. During this state, fMRI studies

show that the medial prefrontal cortex's activation takes place that decreases mentalization activity (p.71).

The arousal of anger in one part leads to an automatic defensive response in the other making him/her ready for a fight or flight response. Listening stops as the person uses critical feedback, counter complaint, stonewalling for self-justifications. This prevents the attacked person from understanding the intentions, motives behind the other party's anger. Psychic equivalence and teleological stance in them is also activated that leads to a power struggle. Rather than the use of a sophisticated theory of mind both parties fight to win the power struggle until one gives up or becomes submissive.

Josephs et al. (2014) claim that acquisition of a developmentally more sophisticated theory of mind facilitates regulation of anger in various ways. First one is that, although patients with anger management problems are aware of how the other person's mental state affects theirs, they are not likely to be aware of how their angry state affects others' mental state. The regulation of anger will not be seen as a defeat or weakness and instead will be seen as invitation to cooperation. What appears at the surface may not be the underlying reality will be appreciated which can enable to see the other's perspective. The possibility that other's stubborn power struggle can be a response to their dysregulated anger that hides the underlying hurt feelings will be seen. They conclude that anger management requires reflection on both the mental state of others' and one's own. Being able to put one's own mental state in perspective enables both parties to be aware of this power struggle cycle rather than a constructive dialogue with respect to differing opinions.

Couples get into power struggles in an effort to fix each others' annoying character traits. Patients with anger management problems usually adopt these maladaptive behavioral patterns in their romantic relationships. These patterns can be seen as a symptomatic expression of primitive theory of mind and can be addressed and sophisticated alternatives can be offered in therapy (Josephs et al., p.73).

In couple's relationships, because two people can never see everything exactly the same way, differences in opinions can result in conflicts. According to Gottman, only one-third of these conflicts are resolved constructively. The psychic equivalence during anger arousal leads to intolerance of continuous conflict because it is assumed that anyone who does not share the other one's reality must be out of touch with reality and should be corrected. In order to tolerate these conflicts without the escalation of anger, partners need to appreciate that everyone possesses a mind of his/her own and opinions. Partners need to have a high tolerance for the separateness of minds to be able to talk about differing opinions, mental states. For example, the husband who withdraws to down-regulate anger which leads to the wife feeling rejected and unheard. She continues to assert her agency and pressing to have her viewpoint heard and the husband feels annihilated and withdraws, even more, leading to the wife being more unheard. When the wife looks at the husband from anger-driven tunnel vision and the husband from a defensive position they lack the capability to understand the underlying motives of each other's actions using primitive theory of mind skills. Josephs et al. conclude that a theory of mind focus on sessions can help patients better manage dysregulated anger by putting narcissistic insult in a broader perspective, better understand and empathize with the mental state of others by utilizing a more sophisticated theory of mind. With a developmentally more complex ToM, the wife can be able to understand the impact of an angry attack such as the activation of fight or flight response, fear, reactive anger, defensive self-justification, counter complaint or stonewalling rather than the impact of being heard and understood.

As discussed in previous chapters, mentalizing and theory of mind has been used interchangeably although there are certain differences in the meaning. Mentalization is defined as the "process of social cognition that involves making inferences about one's own behavior and the behavior of other people on the basis of unobservable mental states (e.g., beliefs, motives, emotions, intentions, desires, and needs)," and it "operates in two directions: towards one's own mental contents and towards the mental content of the other person" (p.394) in the study

done by Gorska (2019). The study aims to observe whether mentalization is a predictor of relational satisfaction. In order to measure mentalization and attachment's effect on couple satisfaction, they have given The Mental States Task, Thematic Appreciation Test, The Relationship Assessment Scale, The Experience in Close Relationships to 32 Polish couples. They have found that as the mentalization ability increase, the woman's relational satisfaction increased when their partner was anxiously attached. They have argued that this increase might be the result of being able to understand the motives, emotions, intentions of anxious partner better and be able to decentralize from the situation and be better at regulating their emotions as a result. Their capacity to interpret their partner's emotional states better irrespective of their emotional state enables them to see their partner's hyperactive strategies and not interpret them as threats. High level of mentalization ability enables them to perceive the behavior of the partner better from the partner's perspective rather than incorporating their own mind and perspective to it. This permits the partners to be able to interpret each other's intentions and prevents misinterpretations that could lead to conflicts. Thus making them better at emotion regulation. They have also found that man's ability to understand the partner's mental states did not affect their relational satisfaction although there wasn't any difference of overall mentalization capacity between man and woman.

In another study done by Jesee et al. (2018), they used reflective functioning to measure mentalization ability of parents because previous research had found a decline in marital quality across the transition to parenthood. They have looked and reflective functioning, which is a composite of ToM and co-parenting quality of partners. They have found that wives' higher reflective functioning to be associated with higher levels of positive marital and co-parenting interactions. Wives were more positive and supportive and less conflicted and undermining when they were better able to reflect on their experiences with their parents. These results show that reflective functioning is important in family functioning.

Safier (2003) explores how attachment, mentalization, and theory of mind can be used to enrich and expand the process of family therapy. Previously the focus of family therapy was separation and differentiation of family members. However, recently it has been argued that the premise of the family therapy should be increased connection to enable increasingly complex levels of relatedness. It has been found that affect regulation, interpersonal understanding, information processing, and provision of comfort are specific processes that enable increased relatedness and connection in families, and should be addressed in family therapy for a healthily functioning family. Safier mentions that we each have an internal working model of “family” that we have gained from our own experience which is called the representational family. He claims family members can start to understand these representational families and where they are coming from during individual therapy sessions. This way the clients get the opportunity to develop a theory of mind both for others and themselves. Consequently, this allows family members to consider relating differently towards each other and provide alternative explanations for understanding others and self (pg.262). Being able to recognize that each family member functions out of a particular theory of mind ultimately gives responsibility to each member in the role he or she can play to construct a better functioning family system. Eventually, the capacity to perceive others more accurately is dependent on perceiving the self-more accurately. As the family member explores their own and each other’s intentions, beliefs, motives, motivations, etc., they have a better chance of perceiving their own and other member’s experience in a certain situation. This causes the member’s understanding of the behaviors and his or her response to same behaviors. Safier offers a case example in which the first step is family member’s “sharing their own theory of mind” (pg.265) with each other and clarifying each other’s distortions. As the behaviors of each other become less mysterious, the overwhelming effect of it lifts. The therapist helps each member to focus on their own behavior, his or her own theories regarding his/her mind and of others. Safier (2003) concludes that secure attachment is a key element in family relationships and to be able to theorize about how we form and maintain these secure

connections by developing a theory of mind is an important development in the practice of family therapy.

1.3. CURRENT STUDY

1.3.1. Aim of the Study

The major aim of the current study is to examine the relationship between ToM and communication patterns of couples and relationship satisfaction. As discussed above theory of mind development has a huge impact on people's relationships, understanding of the self and thereby understanding of others'. Deficiencies in theory of mind skills lead to misunderstandings of others which in turn leads to arguments and unresolved conflicts. It also leaves the person that is misunderstood, alone, rejected, etc. This contributes to the cycle of withdrawal and enhances the misunderstanding and so on.

The present study aims to examine the relationship between ToM and relationships with a non-clinical group in a non-experimental, correlational and cross-sectional study. This study differs in the way that it investigates theory of mind from an interpersonal dimension rather than an individual perspective as in most studies. In addition the study aims to understand the role of Theory of Mind ability in romantic relationships and whether a specific theory of mind skills training could be used in couple's therapy.

1.3.2. Hypotheses of the Study

The hypotheses of the present study are listed below:

1. Level of ToM ability will be positively correlated with individual relationship satisfaction level.
2. Level of ToM ability will be associated with partners' communication patterns.
 - 2.1 Level of ToM ability will be positively correlated with constructive communication.

2.2 Level of ToM ability will be negatively correlated with partner demand self-withdraw communication pattern.

2.3 Level of ToM ability will be negatively correlated with self-demand partner withdraw communication pattern.

3. The level of ToM of an individual will be associated with partner's ToM ability.
4. The difference in ToM abilities of partners' will be positively correlated with constructive communication patterns.
5. The difference in ToM abilities of partners' will be positively correlated with the level of satisfaction from the relationship.



CHAPTER 2

METHOD

2.1 PARTICIPANTS

The sample includes heterosexual couples who have been together for at least 6 months, and at most 15 years. Convenience sampling method is used to find the couples. The participation is voluntary, and couples are contacted through mail groups. After Istanbul Bilgi University Ethics Committee's approval, the study is announced, and participants are found according to the criteria through related email groups, and colleagues. Participants who fit the criteria are given online scales using qualtrics.com, after getting informed consent from them. Each partner had to complete individual questionnaires separately.

Distribution of education level, birth order, and gender can found in Table 1. Sample consisted of 54 couples (54 female, 54 male). The average age of the female participants is 27.37 ($SD=4.01$) from a range of 20 to 37 years. The average age of male participants was 28.28 ($SD=4.51$) from a range of 20 to 41 years. The mean length of the relationships was 42.55 months ($SD=34.18$) from a range of 6 months to 144 months. 3.7% of the participants had primary education ($N=4$), 59.3 % of the participants were graduates of a university ($N=64$), and 37 % of the participants have higher education degrees ($N=40$). 63 % of the participants were first or only child ($N=68$) in the family while 37.1 % of the participants had siblings who were older than them ($N=40$). The sample consists of mostly highly educated, moderate to high SES couples'. Their occupation, length of relationship and age varies.

Table 2.1.

Descriptive Statistics of Covariates

		N	%
Education Level	High School Graduate	2	1%
	University Graduate	64	59%
	Postgraduate	36	33%
	Doctorate	4	3%
Birth Order	No siblings	30	28%
	1 st Child	37	34%
	2 nd or 3 rd Child	41	38%
Gender	Female	54	50%
	Male	54	50%

2.2 INSTRUMENTS

2.2.1. Demographic Information Form.

The form includes questions as regards the age, gender, level of education, working status, and relationship duration.

2.2.2. Communication Patterns Questionnaire (Christensen and Sullaway, 1984).

Communication Patterns Questionnaire (CPQ) measures communication patterns and behavior during three stages of a conflict. Three stages are when the conflict arises in the

relationship, during the discussion of the conflict in the relationship, and after the discussion of the conflict. The self-report measure consists of 35 questions that are answered on a Likert-type scale ranging from 1, meaning very unlikely, to 9 meaning very likely. The scale measures three subscales which are demand-withdraw communication pattern, constructive communication pattern, and Avoidance and withholding Communication Pattern. The scale is translated to Turkish by Malkoç (2001). Due to grammatical differences between Turkish and English, the Turkish version has been separated into different scales specific for male and female. The Turkish version is dropped to 25 9-point Likert-type items and consists of 5 subscales which are the Destructive Communication Pattern (DCP), the Constructive Communication Pattern (CCP), the Emotional/Logical Communication Pattern (ELCP) and the Aggressive Communication Pattern (ACP), and the Total Communication Score (TCS). Cronbach's alphas are computed separately for women and men and range from 0.65 to 0.80 and 0.57 to 0.85 respectively. For TCS Cronbach's alpha for women and men are 0.86 and 0.84 (Malkoç, 2001).

2.2.3. Relationship Assessment Scale (Hendrick, 1988)

Relationship Assessment Scale (RAS) is a scale that consists of 7 7-point Likert-type items and is developed by Hendrick (1988). The self-report measures the general satisfaction one receives from his or her own relationship. The response set ranges from 1 to 5. Higher scores indicate greater relationship satisfaction. The item-total correlation varies from .57 to .76. Turkish translation and adaptation of the RAS was conducted by Curun (2001). Cronbach's alpha of the scale was .86.

2.2.4. Reading the mind in the Eyes (Baron-Cohen, 2001).

Reading the mind in the Eyes is a scale that consists of 36 pictures of different actors. The pictures show only the eyes of actors which are conveying different emotions. The participants are asked to choose from the mental states that are given that best suits the picture. Because the answers include more complex emotions than scared,

sad, mad, happy, etc., it is used to measure the ability of theory of mind rather than just emotion recognition. Turkish translation and adaptation of the scale was conducted by Yıldırım et. al. (2011). The Cronbach's alpha was found to be 0.69, and two questions were discarded from the scale which increased the Cronbach's alpha to 0.72 (Girli, 2014).

2.3. PROCEDURE

This research makes use of a quantitative approach. For the purposes of this research, questionnaires are chosen to be able to collect reliable information from many couples to be able to collect information from multiple respondents in an efficient and timely manner. This study was no exception and questionnaires were a quick and effective way for the researcher to reach multiple respondents within several weeks. A general disadvantage of the questionnaires, however, is their fixed and strict format, which eliminates the possibility for more in-depth or abstract observation (Bell, 2005; Sarantakos, 2013). In line with this the questionnaires provided linear and clear results, but many elements from the research were left uncovered.

The participant will be asked to complete the survey package. The questionnaire for couples consisted of three parts. The first part of the questionnaire consisted of demographic questions, related to age, gender, birth order, education level, and relationship duration. The second part consisted of Relationship Satisfaction Scale, and Communication Patterns Scale. Participants were asked to answer the questions in terms of their main, current, romantic relationship. The third part uses Reading the mind in the Eyes Test (RME) to assess the theory of mind ability of the participants. Only the second part of the questionnaire differed for female and male participants, but consisted of same number of questions. The full scripts of the questionnaires are available in the Appendices.

2.4. DATA ANALYSIS

In this study, there is one main independent variable which is Theory of Mind ability, as measure by Reading the Mind in the Eyes scale. There are two different dependent variables: (1) Relationship satisfaction, as measured by Relationship Satisfaction, as measured by Relationship Satisfaction scale, and (2) Communication Patterns, as measured by Communication Patterns Scale. Based on the existing literature birth order, education level, age, and gender data are taken in the demographic form as the moderator variable.

For the analysis of the study SPSS was used to find a correlation between theory of mind and relationship satisfaction and ToM and communication patterns of partners'. Pearson Correlation Analyses was conducted to look at the relationship between (1) ToM and relationship satisfaction, and (2) ToM and different communication patterns. Regression analysis was used to observe the relationship between ToM and Partner Demand Self Withdraw subscale of communication patterns. Partial correlation was used to look at age, gender, birth order, education level effect The results from the questionnaires were presented in the format of tables and charts in results section and the major findings will be discussed in details in the discussion section.

CHAPTER 3

RESULTS

The findings of the study are divided into 4 subdivisions. The first one is descriptive statistics of the Relationship Satisfaction Scale, Communication Patterns Scale, and Reading the Mind in the Eyes Scale. Second division is Pearson's correlations for (1) theory of mind and relationship satisfaction and (2) theory of mind and communication patterns subscales.

3.1. DESCRIPTIVE STATISTICS

Before the analysis of the results, descriptive statistics of the scales were observed. Also the Cronbach alpha's of the scales were checked to look at internal consistency. Before the analyses, scale scores were computed and descriptive statistics were observed.

The minimum, maximum, mean and standard deviations for scale and subscale scores of the study variables are shown in Table 3.1. In addition to the initial examination of descriptive statistics, the distribution of each study variable was also examined. All variables were approximately normally distributed.

Table 3.1

Descriptive Statistics of RSS, CPQ, and RME

Scale	Subscale	Min	Max	M	SD
Relationship Satisfaction Scale	-	9	33	26.4	4.99
Communication Patterns Questionnaire	Constructive Communication	24	77	51.29	12.075
	Self-Demand Partner Withdraw	5	45	19.98	8.89
	Partner Demand	7	52	22.57	9.24

	Self Withdraw				
	Total Demand Withdraw	14	91	42.55	16.78
Reading the Mind in the Eyes Test	-	14	34	25.65	9.24

Further, based on the literature, age, gender, education level, relationship length and birth order were also included in the analyses as covariates. As reported in the Method section, 54 of the sample identified their gender as female (50%), and 54 as male (50%). The participants' ages ranged from 20 to 41 ($M = 27.82$, $SD = 4.27$), and relationship length ranged from 6 to 144 months ($M=42.5$, $SD=34.18$). 68 of the sample were only or first child in their families while 40 had one or more siblings older than them.

An independent-samples t-test was conducted to compare results of the Mind in the Eyes Test for males and females. There was a significant difference in the scores for females ($M=26.35$, $SD=3.33$) and males ($M=24.94$, $SD=3.54$); $t(106) = -2.129$, $p = 0.03$. These results suggest that gender does have an effect on theory of mind ability measured by The Mind in the Eyes Test. Specifically, the results suggest that females are better at The Mind in the Eyes Test than males.

3.2 ASSOCIATIONS OF THEORY OF MIND WITH RELATIONSHIP SATISFACTION AND COUPLE'S COMMUNICATION PATTERNS

The first hypothesis of this study is the expected association between theory of mind ability and relationship satisfaction in couples'. The second hypothesis is on the expected association between theory of mind ability and couple's communication patterns. There was significant gender difference on theory of mind scores. Therefore, partial pearson correlations with gender are conducted in order to test these hypotheses. Pearson correlation coefficients and significances are shown in Table 3.2.

Table 3.2.*Correlation of Eye Test with RSS, PDSW, SDPW, TDW, CC*

		RSS	PDSW	SDPW	TDW	CC
Eye Test	Correlation	-0.068	-0.253 *	-0.131	-0.125	0.06
	Significance	0.485	0.009	0.18	0.026	0.869

* $p < 0.05$, ** $p < 0.01$

3.2.1. Theory of mind and Relationship Satisfaction

Hypothesis 1: Level of ToM ability will be positively correlated with individual relationship satisfaction level.

A partial correlation was used in order to test the hypotheses. When we control gender on the relationship between theory of mind ability measured by the Reading the Mind in the Eyes test and relationship satisfaction in couples. There was no correlation between the two variables was found, $r=-0.068$, $n=108$, $p=0.485$.

3.2.2. Theory of Mind and Communication Patterns

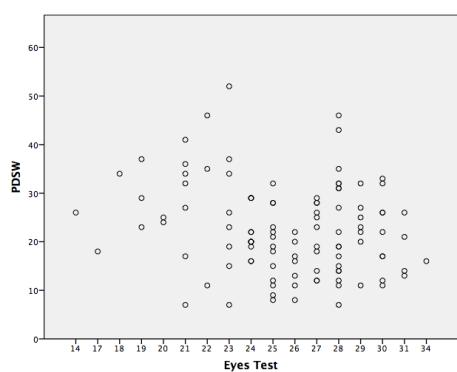
Hypothesis 2: Level of ToM ability will be associated with partners' communication patterns.

- 2.1. Level of ToM ability will be positively correlated with constructive communication.
- 2.2. Level of ToM ability will be negatively correlated with total demand withdraw communication pattern.
- 2.3. Level of ToM ability will be negatively correlated with partner demand self-withdraw communication pattern.
- 2.4. Level of ToM ability will be negatively correlated with self-demand partner withdraw communication pattern.

A partial correlation was used in order to look at the association between theory of mind and constructive communication. When we control gender on the relationship between theory of mind ability measured by the Reading the Mind in the Eyes test and constructive communication patterns in couples. There was no correlation between the two variables, $r=-0.06$, $n=108$, $p=0.869$. A Pearson product-moment correlation coefficient was computed, while controlling gender, to assess the relationship between theory of mind ability and self-demand partner withdraw communication pattern in couples. There was no correlation between the two variables, $r=-0.131$, $n=108$, $p=0.18$. Another Pearson product-moment correlation coefficient with controlled gender variable was computed to assess the relationship between theory of mind and partner demand self-withdraw communication pattern in couples. There was a negative correlation between the two variables, $r=-0.253$, $n=108$, $p=0.009$. A scatterplot summarizes the results in Figure 3.2.2.1. Overall, there was a strong negative correlation between theory of mind and partner demand self-withdraw communication pattern. Last, partial correlation was used in order to observe the association between total demand/withdraw pattern and ToM. When gender was controlled, a significant correlation between TDW and ToM was found, $r=-0.25$, $n=108$, $p=0.026$. Results indicated that as the person uses a higher-level of ToM, the amount of TDW pattern that he or she uses in before, during, and after the discussion decreases.

Figure 3.2.1.

Scatterplot of theory of mind scores and PDSW scores.



An additional hierarchical multiple regression analysis was conducted to control for gender and relationship length as they were significantly associated with the dependent variable. Gender was entered at stage one, theory of mind was inserted at stage two of the regression. Gender accounted for 3.8% of the variance and significantly predicted PDSW, $F(1,105) = 4.157$, $p < 0.05$. Theory of mind ($\beta = -.67$, $p < 0.01$) accounted for an additional 6.1% of the variation in PDSW and significantly contributed to the model, $F(1,106) = 7.165$, $p < 0.01$. Together, these two variables explained 9.9 % of variance in PDSW pattern of couples' indicating that ToM and gender are predictors of PDSW.

Another additional hierarchical multiple regression analysis was conducted to control for gender and relationship length as they were significantly associated with the dependent variable. Relationship length in terms of months was entered at stage one, gender was entered at stage two, theory of mind was inserted at stage three of the regression. Relationship Length accounted for 3.9% of the variance and significantly predicted TDW, $F(1,106) = 4.245$, $p < 0.05$. Gender accounted for 4.5% of the variance and significantly predicted TDW, $F(1,105) = 5.177$, $p < 0.05$. Theory of mind ($\beta = -.923$, $p < 0.05$) accounted for an additional 3.5% of the variation in TDW and significantly contributed to the model, $F(1,104) = 4.190$, $p < 0.05$. Together, these two variables explained 11.9 % of variance in TDW pattern of couples'. Results indicated that gender, relationship length, and ToM significantly predict total demand/withdraw patterns of couples.

3.3. THEORY OF MIND DIFFERENCES IN COUPLES AND RELATIONSHIP SATISFACTION

Hypothesis 3: The level of ToM of an individual will be associated with partner's ToM ability.

Theory of Mind abilities of both males and females of 54 couples were assessed with the Reading the Mind in the Eyes Test. The third hypothesis of the

study looks at the association of theory of mind abilities of partner's that are currently in a romantic relationship. A Pearson product-moment correlation coefficient was computed to assess the relationship between theory of mind ability of the females and the males that are in a relationship. There was no correlation between the two variables, $r=-0.055$, $n=54$, $p=0.695$. There's no association between one partner's theory of mind skill and other partner's theory of mind skill.

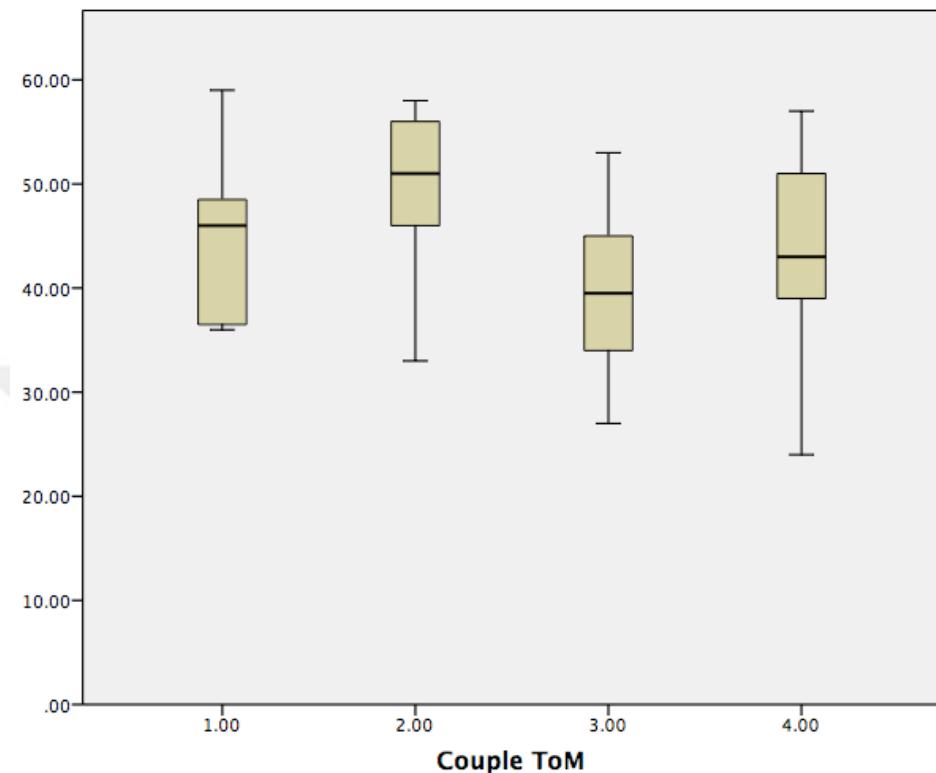
Hypothesis 4: The difference in ToM abilities of partners' will be positively correlated with constructive communication patterns.

The median of theory of mind scores for 54 couples are taken and the score is divided into two groups, according to the medians; low ToM group and high ToM group for both males and females. Then couples were divided into four groups according the two partner's high or low ToM; high ToM female with low ToM male (Group1), low ToM female with high ToM male (Group 2), both low ToM female and male (Group 3), and both high ToM female and male (Group 4).

A one-way between subjects ANOVA was conducted to compare the effect of Theory of Mind of couples on the female's constructive communication patterns for Group 1, 2, 3, and 4 [$F (3, 50) = 3.17$, $p = 0.032$]. Post hoc comparisons using the Tukey HSD test indicated that the mean score for Group 2 ($M = 49.75$, $SD = 7.33$) was significantly different Group 3 ($M = 39.70$, $SD = 7.53$) and Group 4 ($M = 44.14$, $SD = 7.98$). However, Group 1 ($M = 44.65$, $SD = 8.15$) did not significantly differ from the other three conditions. Taken together different levels of ToM between couples do have an effect on female's constructive communication patterns. Specifically, results suggest that when a female with low level of ToM ability is in a relationship with a male with high level of ToM ability, the women engage more in constructive communication patterns.

Figure 3.2.2.

Boxplot of Couple's theory of mind vs. constructive communication in females



Hypothesis 5: The difference in ToM abilities of partners' will be positively correlated with level of satisfaction from relationship.

A one-way between subjects ANOVA was conducted to compare the effect of Theory of Mind of couples on relationship satisfactions of females and males respectively and separately for Group 1, 2, 3, and 4 [$F (3, 50) = 0.831, p = 0.438$], [$F(3,50)=0.35, p=0.789$]. There was no significant association between different ToM levels of partners and relationship satisfaction.

CHAPTER 4

DISCUSSION

The major aim of this study was to explore the relationship between Theory of Mind skills with relationship satisfaction and communication patterns in a romantic relationship. This association was observed in order to see whether a more efficient intervention technique that teaches mentalization skills could be used in couples therapy. In the following sections, first the results of the study considering the literature will be discussed. Then the limitations, future directions and clinical implications will be reviewed.

Before going on to the discussion, it is important to mention that there are only few studies that look at theory of mind from a relational perspective. In addition, there isn't much empirical research that looks at the association between theory of mind and relationship satisfaction or communication patterns. Only in some studies theory of mind measured in attachment context was found to be associated with later on adult social functioning (Fonagy, 2002). Early attachment traumas that lead to poor theory of mind development are found to be associated with later on relational problems. Therefore, the few studies that are done on the subject are mostly with couples that have early traumatic experience with hindered attachment styles that led to undeveloped theory of mind skills later on in life. Therefore, the hypothesis in the current research are derived from theoretical studies, and studies that are done for people with psychological or neurodevelopmental disorders. There is lack of research done for healthy adults from a relational perspective on theory of mind construct.

4.1. THEORY OF MIND AND RELATIONSHIP SATISFACTION

A developed theory of mind ability refers to the capacity to “flexibly hold and reflect on emotions, cognitions, and mental states” (MacIntosh, 2013). It enables perspective taking, insight, empathy, being able to represent and regulate

emotions, intentions, and desires and thereby a self that is organized. Affect regulation is prelude to mentalization in which after its development transforms affect regulations (Fonagy, 2002). Disorganized affects and other inner states are regulated as the theory of mind develops. As it matures, misunderstanding of what a person truly feels, thinks, desires, believes, etc. decreases. It gives an individual the capacity to understand how mental states change, and develop, combine cognitive and affective parts of the self, regulate one's own distress, understand and use humor and be playful, and enhances the capacity to solve problems (MacIntosh, 2013).

Theory of mind not only has intrapersonal components which requires self-reflection but also an interpersonal component in which the person reflects on the mind of the other. It consists the curiosity to understand the minds that are different than one's own. Lack of theory of mind skills leads to the individual being unable to reflect on other's inner states, and make automatic assumptions about others, unable to regulate and understand other's distress, have rigid opinions on what other's are feeling or thinking. They can become overly focused on internal aspects of the self and external aspects of the other and can't consider the perspective of the self and other at the same time. They may be overly analytical or overly emotional when reflecting on mental states (Fitzgerald, 2017). Fonagy et al. (2003), in quasi-longitudinal study that uses interviews about the impact of trauma on mentalization in an attachment context found that it had an effect on adult relationships. As secure attachment develops, it provides the infant with the environment in which the theory of mind can develop. In turn, being able to mentalize is found to be the mediator of attachments effect on future adult functioning (Fonagy, 2006). It enables humans to have empathy, compassion for each other, to be vulnerable and open (Fitzgerald, 2017). These characteristics of theory of mind enables people to navigate in the social world, form and maintain healthy romantic relationships.

Many factors are found to be a predictor of relationship satisfaction in couples. One of the most important factors is in relation with Bowlby's attachment theory. Couples attachment styles affect their relationship satisfaction

and secure attachment shows a higher association with relationship satisfaction (Jones et al. 1996). As previously mentioned in the literature review, secure attachment in the infancy enables a better environment for mentalization development. It has been found that early traumatic experiences hinder the development of theory of mind and later on cause impairments in the adult romantic relationship functioning (Fonagy et al. 2003). Theory of mind development can be a mediator in the association between early attachment styles and adult relationship satisfaction.

Another important factor in relationship satisfaction is playfulness of couples. Hazar (2019) investigated the effect of playfulness on couple's relationship satisfaction by developing an 8-session intervention that focused on increasing couple playfulness. One of the themes that was found from the interviews after the intervention was an increase in couple's relationship satisfaction. Pretend play has an important role in the development of theory of mind. Later on being playful and being able to hold a shared representation that is different from the external reality has a huge impact on playfulness as adults. Humor appreciation and comprehension can be achieved through a developed ToM capacity and can even be used as an effective tool to detect variations in ToM skills in healthy adults (Aykan et al., 2018). Gottman's four horseman can be prevented by mutual respect for one another's mental states rather than feeling contempt, accept responsibility for one's own behavior, intentions, feelings, take time instead of stonewalling for better affect regulation, talk about one's own feelings using I statements instead of using criticism. All of these factors indicate that theory of mind capacity can be a predictor of relationship satisfaction in romantic relationships.

Considering the research on the literature the first hypothesis of the study was the expected positive association between theory of mind development and relationship satisfaction. Age, gender, education level, and relationship length were controlled in order to investigate the relation. Relationship length was assumed to have an effect on relationship satisfaction because it affects the judgment of partners and relationship in a systematic positively biased way

(Fletcher et al., 2008). However, no significant correlation between theory of mind and relationship satisfaction was found on the study. These may be due to limitations of the study. The small and uneven distribution of the sample is one of these limitations. The self-report measures that is used for relationship satisfaction can be a poor assessment scale due to social desirability. Aside from common limitations of using self-report as an assessment tool, an individual with low theory of mind skills, who lacks reflection on their own feelings, and thoughts might have a poor judgment on his or her own thoughts on feelings toward the partner. One of the items of Relationship Satisfaction Scale asks the participants to infer about one's feelings toward the partner and the relationship. A person with a lower developed ToM might be more inaccurate in self-report compared to someone who is better at understanding his or her own mental state. This might result in RSS unable to reflect the true satisfaction one receives from the relationship.

Another limitation is caused by the Reading the Mind in the Eyes Test. In developmental psychology, ToM is measured by false-belief tasks. Later developed tests such as Strange Stories, Faux Pas can be used to measure more complex components of ToM in children. These tests are further developed to be used for adults with clinical disorders and with autism. However, there aren't many tests that are being used for healthy adults. Although some of these like Faux Pas can be used for adults, ceiling effect makes it impossible to see the individual differences. One of the tests that is being used for healthy adults is Reading the Mind in the Eyes task, which is originally developed to assess ToM ability in children with Asperger Syndrome (Bosco et al., 2016). Later on more items and multiple choices were added to prevent the ceiling effect in healthy adults to be able to observe the individual differences. One limitation to RME which is used in this study is that RME, asks the participants to judge the emotion of the person in the image by the expression of only the eyes. It focuses only on the recognition of emotions which covers only a limited facet of ToM.

Bosco et al. (2016) argue that first characteristic of ToM to be considered, while developing a scale is the distinction between first-person ToM and third-

person ToM. First-person ToM refers to attributing mental states to oneself while third-person refers to attributing mental states to others. These are two different activities that require different kinds of knowledge and brain regions. A distinction related to third-person of ToM is being able to understand mental states of others' related to the self (egocentric), and independently from the self (allocentric). Another distinction is between first-order and second-order ToM ability, which are to be able to grasp somebody else's mental state, and to be able to infer about somebody else's thoughts about a third person's mental state respectively. Also there's a distinction between understanding beliefs, intentions, and desires of others', which are developed at different ages as previously discussed.

Fonagy et al.'s (2003) result indicate that the impact of trauma on mentalizing in attachment context had an effect on adult romantic relationships. This shows that the results cannot be replicated when mentalization is considered independently from attachment, and concluded that measuring mentalization in the context of attachment measures a distinctive component of social behavior. Reading the Mind in the Eyes test measures a limited aspect of theory of mind independently from attachment context. They have argued that individuals who are able to use mentalizing skills while thinking about their romantic partners can be better at managing these relationships better. They have used the term reflective functioning to operationalize the mental capacity to understand other minds, and used Reflective Functioning on Adult Attachment Interview (AAI-RF), and coded reflective functioning to measure mentalization during the attachment interview. This could be another reason that this study could not find a significant association between theory of mind and relationship satisfaction. Gorska (2014) defines ToM as the ability to attribute mental states to others in order to understand and predict social behavior by detection of and reasoning about mental states. Both mentalization and ToM have similar definitions but they are different in following areas. The first area is emotional arousal. When a person infers about the mental state of others using ToM, the person does not need to be involved in the emotional story of the person whose mind is being recognized.

Therefore, ToM does not activate attachment system, while it is a necessity for mentalization. Because mentalization and secure attachment is closely related, Fonagy et al. (2003) were able to use an attachment interview while measuring mentalization. The second is relational aspect. When ToM is used the other mind that is being inferred about does not need to be emotionally related to the subject. However, mentalization requires an emotional relationship. Gorska (2014) also argues that by understanding others' emotions, intentions, and beliefs, a person with the ability to mentalize can regulate his or her own emotions. Though, there aren't any similar result for ToM ability. The most important factor is that Tom requires taking perspective and understanding the influence of mental states on behavior but without the involvement of a relationship or the activation of an emotional state, while mentalization is considered as a term that is more like "an emotional ToM". In the study by Gorska (2014) they have looked at the difference in both mentalization scores and theory of mind scores for a group with borderline personality organization (BPO) and a control group. They have found that there was no difference in ToM scores while a difference was found between mentalization scores. They concluded that their hypothesis of independence between ToM and mentalization was confirmed. While the BPO group was on the mentalization task, their internal relation-emotional representations were activated and a tendency to defend against painful and overwhelming affect followed. No effect was seen when they participated in the ToM task. This difference might suggest that while mentalization causes an emotional arousal and requires an emotional relatedness to the other mind, ToM does not. Therefore, mentalization can be a better predictor for relationship satisfaction and ToM might not be good at capturing the emotional aspect of understanding other's minds, and thereby may fail at predicting relationship satisfaction because it is more of a cognitive construct.

4.2. THEORY OF MIND AND COMMUNICATION PATTERNS

The second hypothesis of the study was the expected association between ToM and communication patterns. Although, as previously argued ToM is

considered separately from the relation of the two people, it is one of the key factors in communication. Language acquisition is the factor that is responsible for the achievement of ToM. Therefore, communication, despite the relationship the people are in, is shaped by their capacity to reason about other's minds, and also their understanding of their own minds. Undoubtedly, unless one is capable of appreciating that others have different knowledge than one's own, there is limited need for communication (Gangestad, 2016). When ToM is observed through a relational aspect, conflicts that are bound to arise in a relationship should also be investigated. Conflicts are inevitable in a relationship; but the communication that is used is what helps them get resolved. For this reason, to look at the relationship between communication and theory of mind, a scale that measures communication patterns when an issue arises, during discussions of the issue and after the discussion of the problem between partners is used. Thus, this study hypothesis that there will be a positive association between theory of mind and constructive communication. Another subscale of the measure is the total demand withdraw pattern that couples use during their communications. This was hypothesized to have a negative association with theory of mind development.

The results indicated that there was no significant correlation between theory of mind and constructive communication. This outcome may be the result of the theory mind tests previously discussed shortcomings. However, constructive communication that is measured with this scale refers to making suggestions, compromising, perspective taking, and expressing feelings. Theory of mind is closely related with perspective taking and may be indirectly related to making suggestions, and expressing feelings. One reason that ToM wasn't found to be the predictor of constructive communication may be that while a person has the skills to effectively take perspective, understand the other, and offer alternative solutions, some other interpersonal and intrapersonal dynamics may be activated during the couple's discussion. Although one has the capacity to understand the other, this does not mean that he or she will be willing or able to use this capacity during that interaction. The reason that the individual's needs and intentions are not seen may have an effect on the individual being reluctant to

understand the internal state of the other, even though he or she has the capacity to do so. In some cases, he or she may also not be aware of the dynamics that prevents him or her from taking the other one's perspective. In conclusion being able to take the perspective of the other may not necessarily mean that a person uses this capacity during in intimate relationships due to other interpersonal dynamics, and perspective taking is also not enough to use constructive communication during conflicts. Therefore, having a developed theory of mind may not be enough to use constructive communication during a conflict.

Another hypothesis of the study was that there will be a negative association between total demand withdraw pattern and theory of mind. This deconstructive communication pattern refers to the times one partner demands while the other partner withdraws. This pattern was found to be negatively correlated with theory of mind ability. One of the reasons that ToM can be a significant predictor of TDW may be through psychic equivalence mode. Psychic equivalence in infants is replaced by a theory of mind development. If a person is thinking from a psychic equivalence, the mind should be equal to the external reality and therefore, no two minds can be different. This results in the incapacity to tolerate separate minds. Since there is only one external reality, only the individual's internal states are accepted and they should be accurate. Having a flexible mind and knowing that a person can be correct or incorrect in their beliefs is an essential part of social world. If a person sees through a psychic equivalence mode, the other person's perspective is not seen as something to be understood or reason about; but rather an obstacle to their own perspective. Therefore, these individuals may try to force their mind on the other instead of trying to understand it. This might result in one partner demanding his or her side while the other withdraws. Two subscales of total partner-demand withdraw pattern refers to the self-reported measure of partner demanding while the self withdraws and self-demanding while partner withdraws. A significant negative association between ToM and PDSW pattern was found in the study. There were no significant association between ToM and SDPW. A positive correlation was found between using PDSW and SDPW which means that if a person uses the pattern of

demanding while his/her partner withdraws she is more likely to use the pattern of withdrawing while the partner demands. Rather than someone always having the role of a demander or a withdrawer, the individual sometimes demands and sometimes withdraws. Thus, often follows this pattern of demanding and withdrawing when a conflict arises. Someone with a less developed ToM, when conflict arises will argue that only one of them can be right due to psychic equivalence, and be more likely to get stuck in a demand/withdraw pattern rather than using constructive communications. Since two different minds can be right at the same time, they should assert their own thoughts or other's thoughts will be asserted to them.

Since only correlation with ToM and PDSW and not with SDPW were found some other concepts should be taken into considerations. First if there is only one possible correct mind, then losing an argument means that their mind cannot represent the external reality as it should be. This might lead to the person withdrawing more because by arguing they have to take the risk of losing dependence on their own mind which must be an exact representation of external reality. Another thing to consider is that when the person is looking at things from a psychic equivalence perspective, he or she is more likely to infer what other person is saying to them as demands rather than trying to understand the other's perspective. Because these are self-reports of the partner's demand, someone with a low theory of mind is more likely to infer the behavior of the other in terms of demand when a conflicting opinion is presented to him or her by focusing on external aspects of the other and not understanding the internal aspects. As mentioned previously, ToM deficits may lead to individuals being overly emotional or overly analytical. Here, it is seen that they their analytical stand point which they focus on the external aspects of the other, and internal aspects of the self may have resulted them being emotionally withdrawn.

Another reason why a significant correlation between ToM and SDPW may not be found can be due to social desirability. Both male and female participants may be reluctant to present themselves as demanding in the relationship concerning that these are socially unacceptable behavior. They may

have difficulty in responding honestly in items such as “I threaten negative consequences and my partner gives in or backs down.” or “I call my partner names, swear at my partner, or attack my partner’s character.” These items show an attempt to fix the partner from “a teleological stance that focuses on changing the behavior rather than understanding the mental state that motivate the behavior, understanding one’s own role in provoking annoying behavior, or better understanding why one finds that behavior so intolerable in the first place” (Josephs, 2014).

Josephs et al. state that when one partner calls the other names or gives unflattering opinions about each other, ToM capacity helps in understanding the mental state that motivated this behavior. When there is no tolerance of the other having a separate mind, these unflattering opinions tend to seriously wound the person’s narcissism. Narcissistic vulnerability is found to be correlated with self-esteem threats and reacting with a defensive aggression (Cain et al., 2008). Therefore, they end up holding contempt for each other’s mental states for being out of touch with reality. They refuse to see that each partner is entitled to their own opinion without them “having to surrender their own independent sense of reality and without having to angrily demand validation of his or her own independent viewpoint” (Josephs, 2014). They may be prone to withdrawing rather than direct aggression. Narcissistic injuries were found to be associated with hostility and anger, which are cognitive and affective aspects of aggression, and less associated with behavioral components such as physical and verbal aggression. Increased narcissistic vulnerabilities may cause the individual to refrain from showing their aggression directly because they are afraid of rejection and have high interpersonal anxiety (Houlcroft et al., 2012).

4.3. THEORY OF MIND DIFFERENCES BETWEEN COUPLES

Dennet (1978) suggests that theory of mind is a cognitive construct that can be considered as the easiest way to understand a being’s complex behavior and predicting what they will do next. Being able to comprehend, reason and

predict another being's behavior, which Baron-Cohen (1995) has termed as mind reading consists of many benefits that are related to natural selection and reproduction success. Being able to foresee the other's attack, sharing of food, mating chance could have evolved in line with reproduction success. (Camargo, 2013). The ability to infer the mental states of others is a necessity in all social behavior. From an evolutionary perspective, the mating behavior requires sensitive and transient risk-laden situations, and may have only one chance for success. These judgments about others are done with very little information and are very important in being "able to secure a new mate or keep an existing partner – tasks which demand the ability to understand others thoughts and intentions" (Geher, 2016). Evolutionary psychologists argue that theory of mind development and language acquisition are key factors what separates humans from early ancestors and other primates. Accordingly, theory of mind capacity is argued to facilitate cooperation. Humans have developed the capacity to cooperate in large groups of unrelated people and thus increasing their productivity. Theory of mind also facilitates language and thereby the social transmission of knowledge which in terms of evolution causes further distinction from other species. Together with cooperation, being able to infer other's behaviors in terms of mental states is assumed to have an impact on managing alliances, and friendships which would result in individuals with higher theory of mind being at a selective advantage at these, increasing their reproductive success, and chances of keeping a mate (Durrant et al., 2011).

In line with evolutionary theories and assortative mating literature, couples are found to be quite similar in a variety of domains such as health, job, stress, family life, etc. (Fletcher, 2012). It was also argued that people are capable of judging different personality traits easily with little information for mate selection. Therefore, this study hypothesized that theory of mind between couples, in line with human adaptation, should be positively correlated. The Reading the mind in the Eyes Test results of both partners of 54 couples showed no significant correlation. Aside from the limitations of the study, the reason for no association between partner's ToM can be due to other factors such as attractiveness,

personality traits, status, trustworthiness may be better at predicting mate selection and keeping an existing partner (Fletcher, 2012).

In light of this, another hypothesis of the study was on the expected association between different levels of theory of mind of couples and their relationship satisfaction, and communication patterns respectively. Couples were divided into 4 groups which are high-level ToM male with low-level ToM female, low-level ToM male with high-level ToM female, both low-level ToM couple, both high-level ToM couple. Human beings may not be likely to infer about each other's understanding of one another from very little information and mate selection may depend many other factors. After having some acquaintance, and discovering their partner's ability to infer about their behavior may cause relationship problems later on. It was assumed that different levels of ToM that is acquired by partner's may elicit more problems and may be associated with low level satisfaction and with the usage of more deconstructive communication patterns. Results indicated that there was only association between couple's ToM difference with female's constructive communication patterns. Relatedness between female's ToM and constructive communication may depend on female's usage of perspective taking more when using constructive communication. One interesting finding of this result is that females tend to use the most constructive communication pattern when they have high-level ToM and their partners have low level ToM, which followed by the condition in which they have low-level ToM and the male partner has high-level ToM. The least constructive communication used by females is in both they and their partners have low-level ToM. This result is interesting in the sense that it is not in line with the expected condition in which both partners have high-level of ToM to be able to use the most constructive communication skills. This suggests that there may be other factors such as expectation of mindreading, anticipation of being understood correctly by the other partner may be intervening with the process.

4.4. CLINICAL IMPLICATIONS

There are some clinical implications derived from the current study despite the small sample size and other limitations described on the limitations section. Research shows that theory of mind plays an important and increasing role in the social world. One aspect of this social world is romantic relationships which plays a key role in people's lives. The capacity to mentalize about the others' mind prevents the conflict from spiraling to misunderstandings and enables them to be resolved by taking the other parent's perspective. This view is especially important in couple's therapy in which misunderstandings, not being able to understand others' intentions, desires results in growing conflicts between partners. With these in mind a therapist might help the couple by teaching basic mentalizing skills. The therapist should pay attention to the lack of taking the perspective of the other.

Being able to understand one's own mind a being able to express these desires, beliefs, intentions clearly to the other partner may prevent such misunderstandings. The therapists first focus might be on understanding the self as a mental agent. This will help the other partner who is theorizing about the mind of the other. By understanding the self-people can acknowledge and take responsibility for their actions in relationship.

The second important focus of the therapist might be to help clients understand each other's mind. By providing a safe environment, therapist enables clients to talk about their mental states which might lead to a better mutual understanding. A distinction in understanding other's mind is between understanding the other in reference to self and independently from the self. This distinction might enable clients to see their effect on each other's mental states.

4.5. LIMITATIONS AND FUTURE DIRECTIONS

The first limitation of the study is that correlational analysis and regression analysis has been done to look at the associations. Although there were some associations found between Theory of Mind skills and communication patterns, and theory of mind is found to be the predictor of those patterns, it is not possible to infer about the causality of this relationship.

The second limitation is self-reports. The data about relationship satisfaction and couple communication patterns were collected through online self-reports. Although couples were mostly not together when filling out these forms, they may have refrained from the other partner seeing their answers. Thus, the information given from the self-reports may be inadequate or missing. A qualitative research in a controlled room can be a better option for future studies to be able to see the actual genuine experiences.

The third limitation is related to the scale used to measure theory of mind in adults. By considering the previously discussed components of ToM, a Theory of Mind Assessment Scale (T.h.o.m.a.s.), which is a semi-structured open-question interview, has been developed (Bosco, 2016). Better way to assess people's theory of mind capacity can be done using an assessment scale like this that captures more facets of ToM.

The fourth limitation is the sample. The sample wasn't normally distributed in terms of education, age, social economic structure, etc. Because convenience sampling was used in order to collect data, the sample was not very diverse. A more diverse population can be more beneficial in seeing the effects of differences in theory of mind, age, education.

A suggestion for future directions of research on the topic might be collecting data from a more diverse and a bigger group of participants, to consider their attachment style's as well, and use of a more developed theory of mind scale.

CONCLUSION

This study is one of the first ones in looking at the relationship between theory of mind, relationship satisfaction, and couple communication patterns. Results indicated that there was a negative correlation between theory of mind ability and using deconstructive communication patterns expect SPDW pattern. The study aimed to investigate the relationship between ToM and relationship satisfaction; however, an association between these two variables were not found. Another aspect of the study was to observe whether different couple ToM levels had an effect on mate selection, relationship satisfaction, and communication patterns. Only an association between constructive communication in females was found to be related to the different levels of ToM in couples. These results indicate that there may be a possible association of ToM and unhealthy communication patterns that are addressed in couple's therapy. They also provide a base and recommendations for further research which might have an effect on clinical understanding of the relationship between couples during couple's therapy such as by providing a brief theory of mind based skills training and understanding.

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APPENDICES

Appendix A: Informed Consent Form in Turkish

Katılımcı için Bilgiler:

Tarih:/...../.....

Bu araştırma İstanbul Bilgi Üniversitesi, Klinik Psikoloji programı, Çift ve Aile Terapisi alt dalı öğrencisi Irmak Bakirezen tarafından Prof. Dr. Barış Korkmaz ve Doç. Dr. Ayten Zara danışmanlığında, zihin kuramı ile çift ilişkilerinden alınan doyum ve çiftlerin iletişim şekilleri arasındaki ilişkinin incelemesini amacıyla, yüksek lisans tez çalışması kapsamında yürütülmektedir.

Araştırma için sizden yapmanızı istediğimiz, size ilettığımız formlardaki her soruyu tek tek okuyarak size en uygun yanıtları vermenizdir. Bu çalışmaya katılmak tamamen gönüllülük esasına dayanmaktadır. Bu formu okuyup onaylamamanız, araştırmaya katılmayı kabul ettiğiniz anlamına gelecektir. Ancak, çalışmaya katılmama veya katıldıktan sonra herhangi bir anda çalışmayı bırakma hakkına da sahipsiniz.

Araştırmaya katılarak kişisel bilgilerinizin gizliliğine saygı gösterilecek, araştırma sonuçlarının bilimsel amaçlarla kullanımı sırasında da özenle korunacaktır. Veriler, kimlik bilgileriniz gizli kalmak koşuluyla bilimsel araştırmada kullanılacaktır.

Kişisel bilgileriniz ile verdığınız cevaplar, kayıtlarınız ve doldurduğunuz formlar araştırmacılar dışında hiç kimse tarafından görülmeyecektir. Kişisel bilgileriniz bu araştırmayı sonuçlarının kullanıldığı herhangi bir sunum ya da yayında yer almayacaktır.

Bu araştırmada sizden yaklaşık 20-25 dakika sürecek Demografik Form, Çift Uyum Ölçeği, İletişim Şekilleri Ölçeği ve Gözlerden Zihin Okuma Ölçeğini doldurmanız istenecektir.

Bu araştırmaya katılarak zihin kuramının çift ilişkisine etilerini gözlemlemeye katkıda bulundığınız için şimdiden teşekkür ederiz. Araştırmayı ilgili sorunuz olduğunda irmakbakirezen@gmail.com adresine mail atarak veya 05433816212 numaradan arayarak araştırmacı Psikolog Irmak Bakirezen ile iletişime geçebilirsiniz.

Yukarıda belirtilen bilgiler ve koşullar dâhilinde bu araştırmaya katılmayı kabul ediyorum.

Appendix B: Relationship Satisfaction Scale

Aşağıda romantik ilişkilerden sağlanan doyuma ilişkin ifadeler bulunmaktadır. Eğer halihazırda bir romantik ilişki içerisinde değilseniz, aşağıdaki maddeleri bir ilişki içerisinde olduğunuzu varsayıarak cevaplandırınız. Her bir maddenin ilişkilerinizdeki duygusal ve düşünürlerinizi ne oranda yansittığını karşılarındaki 7 aralıklı ölçek üzerinde, ilgili rakam tizerine çarpı (X) koyarak belirtiniz.

	Hiç karşılıamıyor						Çok iyi karşılıyor
1. Sevgiliniz ihtiyaçlarınızı ne kadar iyi karşılıyor?	1	2	3	4	5	6	7
	Hiç memnun değilim						Çok memnunum
2. Genel olarak ilişkinizden ne kadar memnunsunuz?	1	2	3	4	5	6	7
	Çok daha iyi						Çok daha kötü
3. Diğerleri ile karşılaştırıldığında ilişkiniz ne kadar iyi?	1	2	3	4	5	6	7
	Hiç bir zaman						Her zaman
4. Ne sıklıkla ilişkinize hiç başlamamış olmayı istiyorsunuz?	1	2	3	4	5	6	7
	Hiç karşılıamıyor						Tamamen karşılıyor
5. İlişkiniz ne dereceye kadar sizin başlangıçtaki beklentilerinizi karşılıyor?	1	2	3	4	5	6	7
	Hiç sevmiyorum						Çok seviyorum
6. Sevgilinizi ne kadar seviyorsunuz?	1	2	3	4	5	6	7
	Hiç yok						Çok var
7. İlişkinizde ne kadar problem var?	1	2	3	4	5	6	7

Appendix C: Communication Patterns Questionnaire

İLETİŞİM ŞEKİLLERİ ÖLÇEĞİ (KADIN FORMU)																																																																				
<p>YÖNERGE: Aşağıda sizin ve eşinizin ilişkinizde karşılaştığınız sorunlarla nasıl başettiğinizi ölçen sorular yer almaktadır. Her maddeyi okuduktan sonra o maddede belirtilen durumun kendiniz ve eşiniz için uygunluğunu düşününüz ve 1 (=hiç uyumuyor)'den 9 (=çok uyuyor)'a kadar sıralanan puanlar üzerinde size en uygun görünen puanı işaretleyiniz.</p>																																																																				
A. İLİŞKİYLE İLGİLİ BİR SORUN ORTAYA ÇIKTIĞINDA:																																																																				
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1.	Her ikimiz de sorunu tartışmaktan kaçınır.	1	2	3	4	5	6	7	8	9																																																										
2.	Her ikimiz de sorunu tartışmaya çalışırız.	1	2	3	4	5	6	7	8	9																																																										
3.	Eşim tartışmayı başlatmaya çalışırken, ben tartışmaktan kaçınır.	1	2	3	4	5	6	7	8	9																																																										
	Ben tartışmayı başlatmaya çalışırken, eşim tartışmaktan kaçınır.	1	2	3	4	5	6	7	8	9																																																										
B. İLİŞKİYLE İLGİLİ BİR SORUNU TARTIŞIRKEN:																																																																				
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1.	Her ikimiz de birbirimizi suçlar ve eleştiririz.	1	2	3	4	5	6	7	8	9																																																										
2.	Her ikimiz de duygularımızı birbirimize ifade ederiz.	1	2	3	4	5	6	7	8	9																																																										
3.	Her ikimiz de birbirimizi olumsuz sonuçlarla tehdit ederiz.	1	2	3	4	5	6	7	8	9																																																										
4.	Her ikimiz de mümkün olan çözüm ve anlaşma yollarını ararız.	1	2	3	4	5	6	7	8	9																																																										
5.	Eşim israrla kusur bulup üstelerken ve isteklerde bulunurken ben karşılık vermem, sessizleşirim veya konuyu daha fazla tartışmayı reddederim.	1	2	3	4	5	6	7	8	9																																																										
	Ben israrla kusur bulup üstelerken ve isteklerde bulunurken eşim karşılık vermez, sessizleşir veya konuyu daha fazla tartışmayı reddeder.	1	2	3	4	5	6	7	8	9																																																										
6.	Eşim beni eleştirirken, ben kendimi savunurum.	1	2	3	4	5	6	7	8	9																																																										
	Ben eşimi eleştirirken, eşim kendini savunur.	1	2	3	4	5	6	7	8	9																																																										
7.	Eşim bana bir konuda baskı yaparken, ben buna karşı direnirim.	1	2	3	4	5	6	7	8	9																																																										
	Ben eşime bir konuda baskı yaparken, eşim buna karşı direnir.	1	2	3	4	5	6	7	8	9																																																										
8.	Eşim duygularını ifade ederken, ben mantıklı yaklaşım, sebepler gösterir, çözümler ileri sürerim.	1	2	3	4	5	6	7	8	9																																																										
	Ben duygularını ifade ederken, eşim mantıklı yaklaşım, sebepler gösterir, çözümler ileri sürer.	1	2	3	4	5	6	7	8	9																																																										

	HİÇ UYUYOR	ÇOK UYUYOR
9. Eşim tehdit ederken, ben susar ve/veya geri çekilirim.	1 2 3 4 5 6 7 8 9	
Ben tehdit ederken, eşim susar ve/veya geri çekilir.	1 2 3 4 5 6 7 8 9	
10. Eşim bana kötü sözler söyler ve/veya hakareler eder.	1 2 3 4 5 6 7 8 9	
Ben eşime kötü sözler söyler ve/veya hakareler ederim.	1 2 3 4 5 6 7 8 9	
11. Eşim beni iter, bana vurur ve/veya tekme atar.	1 2 3 4 5 6 7 8 9	
Ben eşimi iter, ona vurur ve/veya tekme atarım.	1 2 3 4 5 6 7 8 9	
C. İLİŞKİYLE İLGİLİ BİR SORUNU TARTIŞTIKTAN SONRA:		
	HİÇ UYUYOR	ÇOK UYUYOR
1. Her ikimiz de birbirimizin sorunla ilgili düşüncelerini anlamış oluruz.	1 2 3 4 5 6 7 8 9	
2. Tartışmadan sonra her ikimiz de kendi köşemize çekiliriz.	1 2 3 4 5 6 7 8 9	
3. Her ikimiz de sorunun çözüldüğünü düşünürüz.	1 2 3 4 5 6 7 8 9	
4. Her ikimiz de tartışmadan sonra pes etmeyiz.	1 2 3 4 5 6 7 8 9	
5. Tartışmadan sonra her ikimiz de birbirimize özellikle iyi davranışmaya çalışırız.	1 2 3 4 5 6 7 8 9	
6. Eşim söylediğimi veya yaptığından suçluluk duyarken, ben kendimi incitilmiş hissederim.	1 2 3 4 5 6 7 8 9	
Ben söylediğim veya yaptığımdan suçluluk duyarken, eşim kendimi incitilmiş hisseder.	1 2 3 4 5 6 7 8 9	
7. Eşim hersey normale dönmiş gibi davranışmaya çalışırken, ben uzak dururum.	1 2 3 4 5 6 7 8 9	
Ben hersey normale dönmiş gibi davranışmaya çalışırken, eşim uzak durur.	1 2 3 4 5 6 7 8 9	
8. Eşim beni özür dilemek ve/veya bir daha yapmamam için söz vermeye zorlarken, ben buna direnirim.	1 2 3 4 5 6 7 8 9	
Ben eşimi özür dilemesi ve/veya bir daha yapmaması için söz vermeye zorlarken, eşim buna direnir.	1 2 3 4 5 6 7 8 9	
9. Eşim başkalarından (anne-baba, arkadaş veya çocuklarından) destek arar.	1 2 3 4 5 6 7 8 9	
Ben başkalarından (anne-baba, arkadaş veya çocuklarından) destek arırım.	1 2 3 4 5 6 7 8 9	

(a) 2 (K)

Appendix D: Reading the Mind in the Eyes Test

irrite olmuş

alaycı



endişeli

samimi

şen

rahatlatıcı



irrite olmuş

sıkılmış

muzip

ısrarcı



eğlenen

gevşemiş

çok istekli

ikna olmuş

ödü kopmuş

üzgün



küstah

sinir olmuş

ezilip büzülen

sinirli



şüphelenen

kararsız

dona kalmış

şAŞkına dönmiş



karşısındakine
güvenmeyen

ödü kopmuş

utanmış

suçluluk duyan



hayal kuran

tedirgin

aklı kalmış

sinirli



ısracı

derin düşüncelere dalmış

ezilip büzülen

kendinden emin



muzip

çökmüş

minnettar

cilveli



düşmanca

hayal kırıklığına
uğramış

ciddi

ezilip büzülen



afallamış

dikkat kesilmiş

sabırsız

dona kalmış



irrite olmuş

tefekküre dalmış

muzip

temkinli



küstah

güven veren

dikkat kesilmiş

içine kapanık



düşmanca

kaygılı

panik içinde

inanamayan



umutsuzluğa kapılmış

ilgili

dalgın

irrite olmuş



heyecanlı

düşmanca

kafası meşgul

minnettar

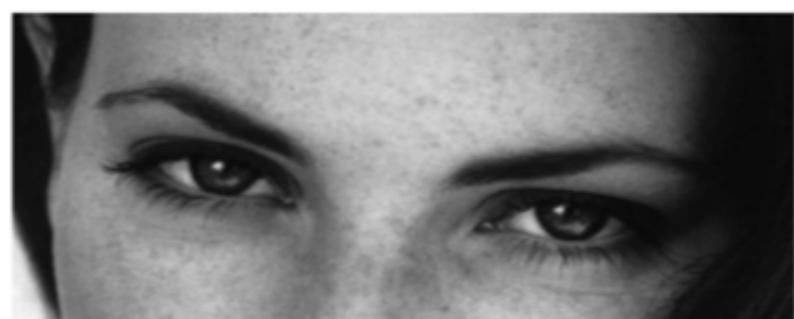


ısrarcı

yalvaran

utanmış

hayal kuran



kafası karışık

panik içinde

dominant

samimi



suçluluk duyan

dehşete düşmüş

küstah

minnettar



alaycı

çekingen

kararlı

eğlenen



dona kalmış

sıkılmış

kuşkulu

şefkatli



şen

dona kalmış

irrite olmuş

düşünceli



cesaretlendiren

rahatlatıcı

dona kalmış

şAŞkına dönmiş



karşısındakine
güvenmeyen

ödü kopmuş

derin düşüncelere
dalmış

telaşlı



cesaretlendiren

eğlenen

irrite olmuş

hayal kırıklığına
uğramış



sıkıntılı

itham eden

kararlı

beklenti içinde



tehditkar

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umursamaz

utanmış



şüpheci

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ödü kopmuş

eğlenen



pişman olmuş

cilveli

temkinli

ısrarcı



sıkılmış

dona kalmış

sinir olmuş

düşmanca



dehşete düşmüş

kafası meşgul

umutsuzluğa kapılmış

rahatlamış



içine kapanık

heyecanlı

mahcup

samimi



huzursuz

çökmüş

halinden memnun

mahcup



direnen

merak içinde

**ETİK KURUL DEĞERLENDİRME SONUCU/RESULT OF EVALUATION BY
THE ETHICS COMMITTEE**

(Bu bölüm İstanbul Bilgi Üniversitesi İnsan Araştırmaları Etik Kurul tarafından doldurulacaktır /This section to be completed by the Committee on Ethics in research on Humans)

Başvuru Sahibi / Applicant: İrmak Bakirezen

Proje Başlığı / Project Title: The association between couple's level of theory of mind on marital satisfaction, and couple's communication patterns

Proje No. / Project Number: 2019-20024-59

1.	Herhangi bir değişikliğe gerek yoktur / There is no need for revision	XX
2.	Ret/ Application Rejected Reddin gereklisi / Reason for Rejection	

Değerlendirme Tarihi / Date of Evaluation: 9 Nisan 2019



Kurul Başkanı / Committee Chair

Doç. Dr. Itır Erhart



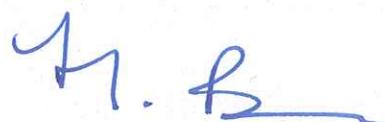
Üye / Committee Member

Prof. Dr. Aslı Tunç



Üye / Committee Member

Prof. Dr. Turgut Tarhanlı



Üye / Committee Member

Prof. Dr. Hale Bolak Boratav



Üye / Committee Member

Prof. Dr. Koray Akay